EDUCATIONAL CHANGE: PRINCIPLES AND GUIDELINES FOR PROGRAM IMPLEMENTATION IN SCHOOL DISTRICTS

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EDUCATIONAL CHANGE: PRINCIPLES AND GUIDELINES FOR PROGRAM IMPLEMENTATION IN SCHOOL DISTRICTS

by

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ABSTRACT

Research over the last several decades has shown that numerous efforts to implement program changes have failed or have been only partially successful. In addition, most school districts are uncertain as to how to implement changes and this uncertainty has contributed to a history of failure in program implementation.

This study develops principles and guidelines for program implementation in school districts, based on a comprehensive review of the literature on educational change. The principles of implementation are general conclusions about implementation developed from the literature; the guidelines for program implementation in school districts are developed from these general principles and are stated in behavioral terms with references to the actions of change facilitators at the district level. In all, 67 principles and corresponding guidelines for implementation are developed in this thesis.

Three different focuses are explored in the literature that is reviewed. A chapter on the conceptual parameters of the implementation perspective explores what the implementation perspective is and presents the vocabulary and categories, or ways of thinking, which are associated with that perspective. Some of the problems and polarities associated with the concept of implementation are also explored. General principles, and specific guidelines for district action, are developed from this chapter.

A chapter is devoted to exploring how people, particularly teachers, and organizations, particularly schools and school districts, respond to change. This chapter examines some of the limitations which these personal and organizational responses to change place upon implementation, and explores some ways in which these responses can be shaped or influenced so as to make implementation more possible. Further general principles, and guidelines for district action, are developed throughout this examination of how individuals and organizations respond to change.

Chapter four attempts to synthesize and expand upon the emphases of the previous two chapters by examining the interaction that occurs as the requirements of implementation confront the individual and collective responses of people. Further principles and guidelines for implementation are developed by examining what the literature says about this interaction.

The final chapter combines related elements from previously developed principles and guidelines, and presents a final synthesis and summary of the principles of implementation and the guidelines for effective program implementation in school districts.

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Chapter 1

NATURE OF THE STUDY

The Problem

Research over the last two decades has shown that local decisions and approaches to the implementation of innovations is possibly the strongest determinant of the success or failure of change efforts. Berman and McLaughlin (1978) concluded from the Rand Change Agent Study that "local decisions and choices, explicit or implicit, on how to put the innovation into practice....could spell the difference between success or failure, almost independently of the type of innovation or educational method involved" (p. vii). Furthermore, these local decisions and choices could determine "whether teachers would assimilate and continue using project methods or allow them to fall into disuse" (Berman and McLaughlin, 1978, p. vii).

The school district is the local agency which is most frequently in charge of planning and supporting program implementation in schools. While the individual school may be the unit of change, change is frequently the result of "system initiatives that live or die based on the strategies and supports offered by the larger organization" (Fullan, 1991, p. 73). Cuban (1984) refers to the "pivotal role that school boards and superintendents play in mobilizing limited resources [and] giving legitimacy to a reform effort" (p. 132). The "crucial interplay between central office and

school site" (Cuban, 1984, p. 132) is of paramount importance to the success of implementation efforts.

The importance of implementation approaches at the school district level is further reinforced by the manner in which program changes or change proposals are usually introduced in provinces of Canada and in some states of the United States. Following the adoption decision, into which a particular school district may or may not have had significant input, the ministry or department of education typically sponsors an orientation or pre-implementation session for representatives from the district level. Due to geographical and financial realities, as well as the restriction of numbers at such sessions, few representatives, and even fewer teachers, from any one district attend such sessions. Emphasis in such orientation sessions is generally on the nature and philosophy of the innovation rather than on strategies for district implementation. Fullan (1991) writes that the primary assumption about follow-up to such sessions is that "implementation is the responsibility of school districts, schools, and individual teachers" (Fullan, 1991, p. 276). In many cases, this is a necessary assumption given the limited personnel at the ministry or department level and the number and distribution of school districts.

Provincial ministries or departments can often be faulted in areas such as the process of adoption, the nature of orientation sessions and the frequent absence of effective

program reviews. However, the assumption by provincial ministries that school districts are primarily responsible for implementation is theoretically sound from the perspective of the change process, since facilitators at the local level can be much more effective than external facilitators in guiding the process of change (Fullan and Park, 1981).

Despite the emphasis of current implementation literature on local strategies for implementation, and despite the fact that current expectations in Canadian provinces and in some other countries place the primary responsibility for implementation at the school district level, coherent or comprehensive district approaches to implementation based on a sound knowledge of change processes frequently do not exist within school districts. Significant differences exist among school districts in their approaches to implementation, with many districts having no established system or approach at all (Fullan 1991; Fullan, Anderson and Newton, 1986).

District personnel can be extremely important in guiding the change process. Nevertheless, research has directed little attention to the role of district leadership in implementation, concentrating instead upon the local school site and the principal's leadership (Cuban, 1984; Fullan, Anderson and Newton, 1986). The existing research does suggest, however, that district office personnel are frequently unclear as to their roles in the change process, and that teachers are even more unclear as to what district personnel do (Hall, Putnam and Hord, 1985). District

superintendents frequently do not assume a strong curriculum role and instead are more involved in negotiations and conflict management (Blumberg, 1985; Goldhammer, 1977). Consultants at the district level in almost all instances have had little or no training in how to work with people within a process of change, and have acquired any expertise that they may have only through experience (Cox, 1983; Hall and Hord, 1984, 1987; Hall, Putnam, and Hord, 1985). While notable examples of district administrative and consultative leadership in curriculum implementation exist, the personnel in many school districts have, at best, an incomplete knowledge of basic principles of implementation or of how to translate such principles into effective district planning and support for implementation (Fullan, 1982, 1991). Likewise, many programs are implemented at the district level without any attempt to evaluate that implementation or to examine the process whereby teachers adapt programs to their particular needs and situations, and incorporate new approaches into their previous belief systems (Fullan, 1982, 1991; Fullan and Park, 1981; Leithwood and Montgomery, 1980, 1982). In the province of Newfoundland and Labrador, for example, a general uncertainty exists as to the actual impact of major curriculum changes such as those that have occurred at all grade levels in the province's language arts curriculum during the past decade.

Inadequate knowledge of effective implementation approaches at the district level, and failure to understand

the dynamics of change at the teacher's level of operation, together contribute to a situation in which school districts are frequently unclear as to how they should attempt to implement curriculum changes and equally unsure as to the results of whichever implementation plan they follow. The general absence at the district level, or for that matter at any level, of what Timar and Kirp (1989) call "a theory of institutional support" (p. 511) for curriculum implementation has resulted in a good deal of uncertainty among district and school personnel and has also contributed to a long history of failed implementation efforts in schools and school districts (Berman and McLaughlin, 1979; Fullan, 1991). There is, then, a need to determine the basic principles which influence implementation, and to develop comprehensive guidelines for program implementation in school districts.

Purpose

This study will attempt to formulate general principles and guidelines for curriculum implementation based on a comprehensive review of the literature relating to educational change. These general principles, along with corresponding guidelines for district action, are intended to provide direction for district personnel in the implementation of change in school districts. This study will attempt to answer the following questions:

1. What general principles need to be considered in curriculum implementation at the school and district level?

2. What guidelines for district action before and during implementation can be developed from a consideration of the principles of implementation? In particular, how can change facilitators at the district level best address teacher needs? How can change facilitators best influence people in other roles (superintendents, principals, etc.) so that the organization is more conducive to, and supportive of, program implementation?

Design of the Study

This study reviews the literature on educational change from three main perspectives: the conceptual parameters of implementation; the responses to change by people and organizations; and the interactions that occur as the requirements of implementation confront the individual and collective responses of people. At each stage of the study, principles of implementation and guidelines for district action are developed from the literature. A summary of these principles and guidelines for effective district responses to implementation is presented in the final chapter.

The principles of implementation developed from a review of the literature are stated in general terms. The guidelines for district action, which are developed from these principles, are stated in behaviourial terms with reference to the actions of change facilitators at the district level. For purposes of the statement of guidelines, the degree of district action recommended in each guideline varies according to the principle, since some principles of implementation are more within the domain and control of the school district than others. The term "change facilitator(s)" refers to the person or persons who have the primary responsibility for initiating, planning, and guiding the program change in the school district.

Specifically, the chapter divisions will be as follows:

Chapter 1 presents the nature of the study, the description of the problem, and the purpose and design of the study.

Chapter 2 explores the conceptual framework of the implementation perspective. It establishes from the literature what the implementation perspective is and presents the vocabulary and categories, or ways of thinking, which are associated with that perspective. Using that vocabulary and those categories, this section also presents some of the problems and polarities which are a part of the

implementation perspective. Some basic principles of, and guidelines for, implementation are developed from this examination of the conceptual parameters of implementation.

Chapter 3 examines what the literature says about how people, particularly teachers, and organizations, particularly schools and school districts, respond to change. It attempts to present some of the limitations which these personal and organizational responses to change place upon implementation, and some ways in which both can be approached or shaped so as to be more compatible to the requirements of the implementation concept. Some basic principles of, and guidelines for, implementation are developed from this examination of how people and organizations behave, or have the potential of behaving, when confronted with innovation.

Chapter 4 attempts to synthesize and expand upon the emphases of the previous two chapters, and the principles derived from them, by examining the factors that are operating when the conceptual requirements of implementation and the responses of people and organizations

interact. Further principles and guidelines for implementation are developed from what the literature says about this interaction.

Chapter 5 combines related elements from previously developed principles and guidelines, and presents a final synthesis and summary of the principles of implementation and the guidelines for effective district action during the implementation process.

Chapter 2

THE CONCEPTUAL PARAMETERS OF THE IMPLEMENTATION PERSPECTIVE

This chapter explores the conceptual framework of the implementation perspective. It establishes from the literature what the implementation perspective is and presents the vocabulary and categories, or ways of thinking, which are associated with that perspective. Using that vocabulary and those categories, this chapter also presents some of the problems and polarities which are a part of the implementation perspective. Some basic principles of, and guidelines for, implementation are developed from this examination of the conceptual parameters of the implementation perspective.

The Development of the Implementation Perspective

A Legacy of Failure

The appearance of literature relating to curriculum implementation is a relatively recent phenomenon of the late 1970's and 1980's (Fullan and Pomfret, 1977; Fullan, 1982; Fullan, Anderson and Newton, 1986; Hall and Hord, 1987; Leithwood and Montgomery, 1987; McLaughlin, 1987). Such recent literature presenting comprehensive guidelines for implementation follows an earlier documentation of failed attempts at implementation as well as the examination of a much smaller number of successfully implemented changes. Fullan (1982) writes:

> Remarkably, it is only in the past twelve years (since about 1970) that we have come to understand how educational change works in practice. In the 1960's educators were busy developing and introducing reforms. In the 1970's they were busy failing at putting them into practice. Out of this rather costly endeavor (psychologically and financially) has come a strong base of evidence about how and why educational reform fails or succeeds. (p. 5)

The failure of numerous educational innovations to influence actual teaching practice to which Fullan refers has been amply documented by a number of writers (Goodlad, et al., 1970, 1979; House, 1974; Mann, 1978a; Owens and Steinhoff, 1976; Sarason 1971, 1982, 1983; Smith and Keith, 1971). In many instances, this failure has been attributed to the fact that educational innovations have been only partially implemented or not implemented at all (Basch and Sliepcevich, 1983; Berman and McLaughlin, 1976, 1977, 1978; Charters and Jones, 1973; Common 1978, 1980, 1983a, 1983b; Gross, Giacquinta, and Bernstein, 1971; Hall and Loucks, 1977; Hughes and Keith, 1980; Pincus, 1974; Warren, 1976). Pincus (1974) describes many of these innovations as "ephemeral educational revolutions" which "routinely disappear or suffer sea-changes...between the adoption and the implementation" (p. 117). Common (1980) observes that school reforms made their appearances in scholarly articles, government documents, and school board policies but, for the most part, did not make their appearance in classrooms: "teachers were able to put the weather stripping on the classroom door and effectively shut out [the] cold winds [of] change" (p. 1). In reviewing the

results of attempted innovations, Mann (1978b) concludes: "It turns out, in a sense, that all those school people who have been saying 'you don't know my teachers, or my school, or my district' were right" (p. xx).

Of the innovations attempted in the 1960's and 1970's, it appears that attempts to change instructional practice through changing educational programs have fared worst of all. Traub, Weiss, Fisher and Musella (1972) commented that "the history of education is littered with the remains of programmatic innovations that have...all but disappeared" (p. 69). Leithwood and Montgomery (1987) conclude that "pedagogical innovations" aimed at influencing instruction have been extremely short-lived and less successful than attempts at organizational and administrative changes. Leithwood and Montgomery regard this as "a sobering experience" (p. 2) since classroom instructional experiences are so crucial to shaping students' learning.

Curriculum Development and Curriculum Implementation

McLaughlin (1987) writes that the discovery of "the implementation problem" in the 1970's came as something of a surprise to curriculum planners and analysts. To begin with, most efforts at curriculum and policy changes had concentrated on curriculum development (the writing of programs and "on paper" policy changes) and frequently overlooked the manner in which these "changes" were put, or not put, into practice (Dow

and Whitehead, 1981; Fullan and Park, 1981). It was assumed that once a program was developed and adopted, it would automatically affect educational practice in the manner intended by the developers. As Common (1980) points out, there was a failure to recognize that new curricula were not changes, but merely "proposals for change" which depended on implementation for their effect. Numerous experiences have since shown that the consequences of even the best developed and well funded curriculum initiatives depend on "what happens as individuals throughout the system interpret and act on them" (McLaughlin, 1987, p.172). The consideration of how individuals behave in an organizational setting as they interpret and "act upon" a curriculum proposal or program, why they behave as they do, and how educational leaders can plan to influence that behaviour is the focus of much of the literature on curriculum implementation (Fullan, 1982, 1991; Fullan and Park, 1981; Hall and Hord, 1987).

McLaughlin (1987) distinguishes between what he calls "first generation" and "second generation" analyses of the implementation problem. According to McLaughlin, the "first generation" analysts discovered the problem and sketched its parameters, establishing an "implementation perspective" (p. 172). "Second generation" analysts zeroed in more precisely on the relationship between policy or program and actual practice, and examined the variables involved in managing planned change.

One of the earliest and most comprehensive "first generation" studies of reported innovations in schools was conducted by Goodlad, et al. (1970). This study was significant not only because it contributed to "the base of evidence" to which Fullan refers but also because these researchers were among the first to make certain assumptions about what should be studied and how such study should be conducted. Noting that too much of the focus on curriculum inquiry has been on "what ought to be [rather than on] what is" (p. 29), Goodlad, et al. (1979) later wrote that "curriculum inquiry must move back to basics, and there is nothing more basic for study than what people practice or do, good or bad, right or wrong" (p. 46).

Goodlad and his associates talked to teachers and principals and attempted to observe what was actually happening "behind classroom doors" in 150 classrooms in 67 schools spread over 26 school districts (Goodlad, et al., 1970). One of their motivations was "to find out whether some of the more innovative educational practices recommended in recent years actually were finding their way into the schools" (p. 69). Although principals and teachers frequently claimed to have implemented various innovations, the researchers could find little evidence in their observations to support these claims:

> A very subjective but nonetheless general impression of those who gathered and those who

> studied the data was that some of the highly recommended and publicized innovations of the past decade or so were dimly conceived and, at best, partially implemented in the schools claiming them. The novel features seemed to be blunted in the effort to twist the innovation into familiar conceptual frames or established patterns of schooling. For example, team teaching more often than not was some pattern of departmentalization and nongrading looked to be a form of homogeneous grouping. Similarly, the new content of curriculum projects tended to be conveyed with the baggage of traditional methodology. (p. 72)

Goodlad, et al. (1970) noted that considerable confusion prevailed as to what had been implemented and what had not. In one instance, for example, teachers felt that they had moved from "graded" to "ungraded" classes while the researchers could observe nothing except a change of label. When the school staff decided to "return" to the traditional "graded" structure, Goodlad's observation captured the general confusion: "They returned to what they had never left, not knowing that what they had sought they never got" (Goodlad, 1969, p. 104).

House (1974) supports the finding of Goodlad, et al. (1970) that the adoption of an innovation does not mean that a change has actually occurred. House, Kerins, and Steele (1972) found, for example, in an evaluation of federally funded programs for the gifted in Illinois that 17 percent of school districts had no program at all and another 39 percent had programs rated as being of low or limited quality. Only 34 percent of the districts receiving funding had programs

that the researchers considered fair or good. House concluded that adoption of programs by no means implies implementation. Furthermore, along with Berman and McLaughlin (1979), House contends that what is reported as a successfully implemented innovation by an administrator may not be viewed in the same way by the teacher who is supposedly implementing the change. House writes:

> There is evidence that a superintendent's response is not an accurate indicator of what teachers are doing in the school district. Even assuming an accuracy that may not exist, superintendents', principals', and teachers' perceptions of innovation differ, and what a superintendent considers to be an innovation may have no effect on a classroom. The travel of innovative ideas among social networks of superintendents [has no] necessary relationship to classroom behaviour. (House, 1974, p. 39)

In studying the implementation of the "new math" in American schools, Sarason (1971) also encountered a discrepancy between what had been claimed and what was occurring in practice, although many school personnel were under the illusion that real change had occurred. He observed not only that the new math was being taught "precisely the way the old math was taught" (p. 3) but that the failure inherent in this fact went largely unnoticed:

> Many people continue to be unaware that basically nothing has changed; in addition, and perhaps more to the point, many of those who are aware that intended outcomes have not been achieved have no clear understanding of the factors contributing to failure. (p. 46)

Like those of Goodlad, et al. (1970), Sarason's conclusions are based on direct observations of many schools and many attempted innovations. Sarason tried to understand what was happening by placing himself in "a helping relationship" to schools and observed that "what one learns via the helping relationship is hard, if not impossible, to learn by other means" (p. 2). From numerous observations and discussions, Sarason concluded that "implemented changes quickly lose their innovative intent" (p. 121). His overall assessment of schooling was that "the more things change, the more they remain the same" (p. 2).

The Rand Change Agent Study

One of the most comprehensive studies of large-scale change efforts, the Rand Change Agent Study, was conducted in the United States between 1973 and 1977 (Berman, 1981; Berman and McLaughlin, 1974, 1975, 1976, 1977, 1978). Like the work of Goodlad and his associates, these studies were important not only for their findings but because of the researchers' contributions to methods of studying change and to the vocabulary of the implementation perspective. The researchers studied the end results of four federal "change agent programs" which had given funding to school districts for the purpose of creating, introducing and spreading innovative educational practices. This study involved 293 projects spread over 18 states and over 1,000 schools. Rather than

issuing one report on their findings, the researchers divided the study into two phases: the first phase focused on initiation and implementation, and the second phase studied the incorporation and continuation of a selected number of projects (Berman & McLaughlin, 1976, 1978).

In addition to providing a careful analysis of what contributed to the success or failure of change efforts, Berman and McLaughlin (1978) concluded in a general summary of their findings that "the net return to the federal investment was the adoption of many innovations, the successful implementation of few and the long-run continuation of still fewer" (p. vi). Berman and McLaughlin observed as well that success or failure depended primarily on how school districts implemented their projects and that "guidelines and management strategies of the federal change agent programs were simply overshadowed by local concerns and characteristics" (p. vi).

A frequent occurrence in the projects described by Berman and McLaughlin was what the researchers came to define as "cooptation" (1978, p. 16). Like the twisting of innovations into "familiar conceptual frames" (p. 72) that had been observed by Goodlad, et al. (1970), cooptation occurred when a school staff adapted a project to meet their own needs but failed to make changes in their own practices. A "coopted" project was thus emasculated and had little of its intended effects. According to Berman and McLaughlin (1978), cooptation was a frequent occurrence in instances where local organizers had paid little attention to the implementation

process. In contrast, implementation, the researchers theorized, was a process of "mutual adaptation" in which the project was adjusted to fit the local environment but the people and organization changed their practices in order to accommodate the change objectives of the project. Such changes in practice occurred most frequently when local implementation strategies included such features as teacher in-service, classroom assistance, regular meetings to discuss progress, teacher observation of other teachers using the innovation, and active principal participation.[1]

Of the importance of implementation strategies, Berman and McLaughlin (1978) write:

> Implementation strategies are the local decisions and choices, explicit or implicit, on how to put the innovation into practice. We found that these strategies could spell the difference between success or failure, almost independently of the type of innovation or educational method involved; moreover, they could determine whether teachers would assimilate and continue using project methods or allow them to fall into disuse. (p. vii)

In addition to studying how innovations fared in school settings, Berman and McLaughlin (1979) also reported on how school districts adapted to change. Their hypothesis, illustrated through an examination of several school districts, is that the very act of adopting innovations helps, ironically, to reinforce the status quo by deflecting external

[1] A third process, "nonimplementation", occurred when neither the local setting nor the project was adjusted to accommodate each other; in these instances, projects were often ignored and implementation efforts broke down.

and internal pressure for change. The pro forma adoption of an innovation is thus frequently a defense mechanism which allows the organization to survive unscathed by real change. During implementation, the innovation is adapted so that it reinforces rather than replaces existing patterns, and the organization perpetuates the illusion that change is occurring. Berman and McLaughlin (1979) write that "most school districts tend to adapt by altering their form while maintaining the status quo in their core beliefs and behaviour patterns" (p. 2). They conclude that "symbolic compliance is an ingrained pattern" (p. 18).

Other writers support Berman and McLaughlin's observatons. Pincus (1974), for instance, concludes that the system protects its values and practices by showing more interest in the language of innovation than in "the complexities of translating that language into innovative practice" (p. 125). Sussman (1971) states bluntly that schools and school districts "innovate" in order to get money or "to gain political credit for being 'innovative' (p. 51). Timar and Kirp (1989) warn that "reform can easily become its own cause because enacting reforms is easier than improving school performance" (p. 506).

The Implementation Perspective

Goodlad, et al. (1970, 1979), Sarason (1971), House (1974), and Berman and McLaughlin (1976, 1977, 1978, 1979)

were among those who drew initial attention to the implementation problem. But these researchers also contributed significantly to what McLaughlin (1987) calls the implementation perspective. Goodlad, et al. (1979), for example, although they use the term "curriculum planning" to include implementation, recognize clearly that such planning is a "significant human activity" (p. 4) which goes beyond curriculum development to encompass "the acts and actors as well as the ideas in the ongoing dramas" (p. 4). Their elaboration upon the "five substantive domains" (pp 58-65) which must be considered in curriculum planning helps forge the framework, if not the actual vocabulary, of implementation.

These domains are the ideal, formal, perceived, operational, and experiential curricula. The "ideal" curriculum is that planned by curriculum developers; the "formal" curriculum is that which is adopted by state or local school boards, which in many instances is the same as the ideal curriculum; the "perceived" curriculum is what various interest groups (teachers, parents, etc.) perceive to be adopted, and this perception may be different from what is in fact adopted; the "operational" curriculum is what teachers are actually teaching, which may be different from what they or others perceive it to be and different from the formal or ideal intention - it is "what goes on hour after hour, day after day in school and classroom" (p. 63); the "experiential"

curriculum is that experienced by children, which, again, may be different from what either the teacher or the developer intended and may be different as well for individual children.

Goodlad, et al. (1979) saw the need to study "domain-to-domain discrepancies" (p. 66), and the study reported in Behind the Classroom Door was, in fact, contrasting the operational and experiential curriculum to both the ideological and the perceived curriculum. The contribution of Goodlad and his associates to the development of implementation literature was in noting the discrepancies among these domains and in popularizing the research assumption that "whether or not what is intended gets to students and what they do with it are quite different from goals or objectives and important foci for inquiry" (Goodlad et al., 1979, p. 61).

Sarason (1971) likewise provides some of the foundation from which the implementation perspective is developed. He draws attention to at least two broad areas of concern which he feels need further study and which today guide much of the implementation literature. The first is our general lack of knowledge of the culture of a school and of how change occurs within it. Sarason writes that "we simply do not have adequate descriptive data on the ways in which changes are conceived, formulated, and executed within a school system" (p.20):

> I have known many...who were extremely clear about the changes they wished to effect...but whose clarity vanished when faced with the problem of implementation. (p. 20)

Secondly, Sarason asks "How does change occur in any complicated, highly organized setting?" (p. 10). What is missing as well, he says, is a general comprehensive theory of change to which the particulars of change in a school setting can be referenced.

In addition to establishing these parameters for further thought and research, Sarason himself points out many of the elements of school culture and principles of change which influence implementation: the working situation of the teacher, the importance of the principal, the scope of the change, the history of previous innovations, and the importance of a time perspective (Sarason, 1971, pp 212-226).

Berman and McLaughlin (1976, 1978, 1979) provide much of the "descriptive data" about change in schools which Sarason finds to be missing, and supply much of the vocabulary still used in the implementation literature. One of the earliest definitions of implementation - implementation as a process of "mutual adaptation" - originates from these studies. Their identification of many of the factors influencing successful implementation at both the school and district levels form the foundation of later writing on implementation. In a sense, Berman and McLaughlin, and other participants in the Rand studies bridge the gap between first generation and second

generation analysts and make important contributions to both stages of analysis.

Despite these advances, some of the literature of the mid 1970's shows an urgency and an impatience because theorists had not yet translated their increasing knowledge of the problem and of the change process into a comprehensive theory of planned change. Although ongoing work by Berman and McLaughlin (1978), and Fullan and Pomfret (1977), would soon answer some of his concerns, Kritek (1976) observes that much of the "change literature" had so far focused on the natural diffusion and adoption of innovations rather than on planned change. Lamenting the "dearth of literature" on implementation, Kritek writes:

> Judging by the complaints of cynics (and realists) regarding the paucity of actually functioning innovations, the problems of implementation are well known. Yet the literature dealing with implementation has, until recently, been almost nonexistent. Complaints and frustrations have not been transformed into serious efforts to define the problems associated with the implementation process or to pinpoint the variables responsible for the success or failure of program implementation. (p.86)

The urgency in the 1970's to develop a more comprehensive understanding of how to plan for implementation is not confined to the field of education. Pressman and Wildavsky (1973), in writing about the delivery of social programs generally, comment on the lack of literature on implementation planning, despite widespread concern about the seeming inability to implement governmental programs.

Williams (1980), while still recognizing implementation as the "substantive problem" in the delivery of all social service programs, nevertheless identifies the area of educational curriculum as the most studied and most promising program area with regards to the development of a comprehensive implementation plan. Williams refers to the work of Fullan and Pomfret (1977) as central to that development.

Fullan and Pomfret (1977) noted the "singular lack of curiosity" that existed about what happened to an innovation "between the time it was designed and various people agreed to carry it out, and the time that the consequences became evident" (p. 337). Implementation, they felt, had been viewed as a "black box" where "innovations entering one side somehow [produced] the consequences emanating from the other" (p. 337). By narrowing their concern to what occurred within this "black box", Fullan and Pomfret helped to move the focus from a general awareness of change to the more specific issue of understanding and planning for implementation. They reviewed fifteen studies (including some of the Rand Change Agent studies) of educational innovations, extracting from these studies the data and description that are pertinent to the implementation process in particular. From a synthesis of these studies, Fullan and Pomfret isolated fourteen "determinants of implementation" (p. 367). These determinants or factors fall under four main headings: characteristics of

the innovation, strategies of implementation, characteristics of the adopting unit, and characteristics of the "macro-sociopolitical units" (external agencies). Fullan and Pomfret are careful to point out, however, that recognition of these fourteen determinants "do not constitute a theory of implementation" (p. 368). They see their work as a step in that direction but warn that "much more conceptual development is required in order to formulate a comprehensive and coherent theory of implementation" (p. 368).

Managing Change

Drawing upon the identification of problems by earlier analysts and the foundations in concept and vocabulary provided by their work, the implementation literature of the 1980's and 1990's has moved towards the development of more comprehensive plans for managing change through the implementation process. Fullan and Park (1981) and Fullan (1982), for example, drawing on the work of Berman and McLaughlin (1976, 1978, 1979), Fullan and Pomfret (1977), and other writers have presented some fifteen factors which interrelate in a fluid manner to affect planned changes. These factors relate to the nature of the change itself, people and characteristics at the school and district levels, and factors external to the system. Focusing on the identification of teachers' concerns during the implementation process, Hall and Hord (1987) and other contributors have

developed the Concerns Based Adoption Model (CBAM) of implementation. This model identifies the "Stages of Concern" of teachers so that change facilitators can assist at each stage; it monitors the "Levels of Use" of an innovation so that teachers can be assisted in achieving more complete use of a program or innovation; and it includes the use of "Innovation Configurations" to define and achieve consensus as to the nature and degree of implementation desired in a new program. Leithwood and Montgomery (1982, 1987), promoting the need for clarity at each of the stages and in all of the dimensions of implementation, and the need to assist teachers throughout the process of achieving such clarity, have focused on the development and use of an "Innovation Profile", which is designed and implemented by teachers with the aid of change facilitators and which provides a detailed profile of what should happen at any particular stage of implementing a particular innovation.

The development of such detailed and comprehensive plans for facilitating implementation characterizes "second generation" analysis of the implementation issue. Such approaches, which incorporate the slow and arduous development of implementation knowledge and method, are now being promoted by state governments and ministries of education. At a recent conference on educational change and implementation strategies arranged for educational leaders by the Department of Education of the Government of Newfoundland and Labrador,

Fullan (1989) characterized our search for knowledge about implementation. The 1960's was a period in which we "adopted" curriculum without implementing it. The 1970's provided, primarily, some examples of failure in implementation while the 1980's provide some examples of success, from both of which we can draw useful conclusions. The 1990's, says Fullan, is the decade in which, using what has been so painfully learnt, we have the potential to "manage" change.

Fullan (1991) and others focus as well on the distance that we still have to go if we hope to "manage" change. Timar and Kirp (1989) feel that "while much attention has been paid to the absence of a theory of instructional technology, surprisingly little attention has focused on efforts to develop a theory of institutional support and development" (p. 511). Hall and Hord (1987) observe that innovation development plans in most cases still fail to take into account "the complementary set of steps necessary to ensure that the innovation is used" (p. 10). Hall and Hord believe that innovation developments should include "a parallel set of policies and procedures" (p. 10) aimed at implementation.

Berman and McLaughlin (1979), Fullan (1982, 1991), Hall and Hord (1987) and others also agree that no particular curriculum change is as important as developing the capacity within an organization to implement successive curriculum changes. The real management of change, it would seem, is the institutionalization within schools and school districts of

successful approaches to implementation. This requires change in the culture and traditions of many schools and school districts (Berman and McLaughlin 1979; Fullan, 1991; Fullan and Hargreaves, 1991; Sarason, 1971, 1982).

Definition of Curriculum Implementation

Definitions of implementation flow from the perspectives on implementation that have been developed over the last two decades. Out of this literature emerge some common perspectives as to what implementation is as well as some tensions arising from different emphases.

Using an Innovation

Pressman and Wildavsky (1973) quote the Webster and Roget dictionary definition of implementation: "to carry out, accomplish, fulfil, produce, complete". Webster's (1976) dictionary also says that to implement is "to give practical effect to and ensure of actual fulfilment by concrete measures" (p. 1134). Pressman and Wildavsky are clear about their perception of implementation: "Implementation does not refer to creating the initial conditions....Lack of implementation should not refer to failure to get going but to inability to follow through" (p. xiv).

Dow and Whitehead (1981) describe implementation as "the putting to use of an innovation" (p. 1) and Common (1978) refers to it as "the activity of translating curriculum plans

into practice" (p. 17). Fullan (1982) writes that "it is necessary to contend with both the what of change and the how of change" (p. 4). The proof, says Fullan (1982), is "in the putting" (p. 6). McLaughlin (1976), and Fullan and Pomfret (1977) have described this implementation or "putting to use" stage as the area between inputs and outputs, between the adopting of a program and its end results, an area which until recently was largely unexplored and proceeded without intervention (Fullan and Pomfret, 1977). Kutner (1983) defines implementation as "the connection between goals and objectives... and the actions necessary to achieve them" (p. 438). Fullan and Park (1981) write that implementation consists of "alterations from existing practice to some new or revised practice (potentially involving materials, teaching, and beliefs) in order to achieve certain desired learning outcomes" (p.10).

A Process Involving People

Implementation is a process rather than an event (Dow and Whitehead, 1981; Hall and Hord, 1987). Implementation takes time and "there are phases and steps in the process that can be used to plan and pace change" (Hall and Hord, 1987 p. 9). It is clear as well that the process of implementation involves people and what they do and think. Fullan and Park (1981) write that implementation has frequently failed because it has "overlooked people...in favour of things" (p. 13). According to Fullan and Park, planning for implementation

involves "planning and co-ordinating a multi-level social process involving...people" (p. 1). Presenting a very specific view to which people are central, Hunkins and Ornstein (1989) describe implementation as "an interaction process between these who have created the program and those who deliver it" (p. 106). Fullan (1983) writes that implementation "is the process of putting into practice an idea, program, or set of activities which is new to the people attempting to bring about the change" (p. 216).

Relearning and Resocialization

The process of implementation involves changes in people and what they do. Hall and Hord (1987) state that "to change something, someone has to change first" (p. 10). The effectiveness of an innovation "depends on whether teachers and others change to incorporate the new practice" (p. 10). Hall and Hord theorize that therefore "attention must be given to individuals" (p. 10). Fullan and Park emphasize the degree to which adults (teachers and other personnel) must relearn during the implementation process. Implementation, they write, is "a process of learning and resocialization over a period of time involving people and relations among people in order to alter practice" (Fullan and Park, 1981, p. 24).

Role Changes and Organizational Changes

The process of relearning and resocialization to which

Fullan and Park refer involves changes in the roles of individuals and in the organization itself. Fullan and Pomfret (1977) write that "curriculum change usually necessitates organizational changes, particularly changes in the roles and role relationships of those organizational members most directly involved in putting the innovation into practice" (p. 337). Gross, Giacquinta, and Bernstein (1971) define implementation in organizational terms; it is, they write, "the extent to which organizational members have changed their behaviour so that it is congruent with the behaviour patterns required by the innovation" (p. 16). Berman and McLaughlin (1976, 1978) would disagree with one element of this definition in that they see implementation as a process of "mutual adaptation" in which the organization changes as it encounters the innovation but the innovation is also adjusted to fit its setting. From this viewpoint, however, implementation still involves "the confrontation of the curriculum with the instructional reality" (Common 1978, p. 17), thereby necessitating a complex interaction in which the organization and its people change in order to accommodate the innovation.

Gap Reduction

Implementation changes the behaviour of individuals and organizations over time so as to put some new or altered practice to use. Leithwood and Montgomery (1982, 1987) regard

this process of implementation as "gap reduction" (1987, p. 17). The "gap" might be defined as "the discrepancy between practices defined as full implementation and practices actually being pursued by teachers" (1987 p. 17). Put another way, the gap is that between "images" (of what the curriculum experience should look like when fully implemented) and "outcomes" (p. 158). Leithwood and Montgomery emphasize that "the gap is filled by people occupying many different roles" (p. 158). Implementation or "planned educational change" involves "altering their actions as required to reduce the gap between images and outcomes" (p. 158).

Summary

The literature highlights the factors involved in implementation: putting a curriculum plan into practice, altering existing practice, changing people's behaviour through relearning and resocialization, changing the organization by affecting the roles of individuals, reducing the discrepancy between what is and what is planned to be, accepting all of these as a process involving planning and assessment over time. By combining these factors, we can arrive at a working definition of implementation. **Implementation is a process involving a change in the behaviour of people and organizations as they attempt over time to achieve some new or altered practice. In specific educational terms, the implementation of curriculum is a**

process involving a change in the teaching practices and beliefs of teachers and the organizational norms of schools and districts as they attempt over time to put into practice a new or revised educational plan.

Subprocesses of Innovation

Most educational theorists and researchers identify three stages within the innovative process. Fullan (1982) refers to the phases of adoption, implementation, and continuation. Fullan and Park (1981) distinguish between (1) planning, or "pre-implementation activities", (2) implementation, or "the phase of altering practice", and (3) revision, or further development (p. 36). Wright (1982) likewise refers to a "three stage process" (p. 170): the decision to implement, early use, and full use/renewal.

Building on the findings of the Rand studies, Berman (1981) gives one of the most complete analyses of the progression involved in the implementation and institutionalization of innovations. Berman refers to mobilization, implementation, and institutionalization as subprocesses (rather than "stages") of innovation. His belief is that the term "stages" connotes a rational planning process whereas in fact this is often not the case in school districts. Also, Berman says that "stages" implies a linear metaphor with the process proceeding from discrete stage to discrete stage; in fact, says Berman, the process is "a

complex iterative...one" (p. 265). Planning, for instance, which is an aspect of mobilization, often continues throughout the innovative process and is inextricably related to implementation. Finally, Berman feels that the term "subprocesses" more accurately captures "a flow of events punctuated by choice opportunities" (p. 265) which is closer to the real situation than the image of careful step by step decisions and helps avoid an overly simplistic view of the decision-making process. According to Berman, the subprocesses of mobilization, implementation, and institutionalization are inextricably linked to each other, and frequently intersect each other through the complexity of planning and the actions of people during the process of innovation.

Berman (1981) defines mobilization as "the process whereby the system prepares for a change in state" (p. 266). While it may include the decision to adopt, mobilization neither begins nor ends with this decision. Mobilization activities, says Berman, can occur intermittently before, during, and after activities associated with implementation and institutionalization. Furthermore, mobilization is "a highly political and conflictual process" (p. 266) not the cold rational decision-making that is sometimes unintentionally conveyed.

Berman defines implementation as the process whereby the system attempts a change in state; it "comprises the activities of users attempting to use an innovative idea" (p.

266). Institutionalization (referred to by others as continuation or renewal) is "the process whereby the system stabilizes a change in state" (p. 266).

Mobilization

Berman (1981) writes that some innovations have straightforward beginnings and that in these cases mobilization can be easily traced from (a) a problem to (b) an innovative idea for solution to (c) adoption. For many innovations, however, "no simple or single decision flow can be found" (p. 267). In some instances, for example, the decision to adopt can be made by forces outside the school district so that those mobilizing for the change have not been party to the decision to adopt a particular innovation.

Berman's review of the literature suggests that mobilization includes at least four functions:

1) Policy image development
2) Planning
3) Internal support generation
4) External support generation.

Policy image development refers to the development of an awareness of a problem and the generation of proposals for solutions. Berman and McLaughlin (1975) found little evidence of such behaviour in many projects of the Rand studies. They further found that innovations which began opportunistically

(because money was available), or which began without local involvement in the assessment of needs and the planning of solutions, generally fared poorly in implementation.

When adoption of an innovation occurs without significant input from a particular school district, the challenge to individuals mobilizing for implementation within the district is to relate the innovation to a district need and create an acceptance of it. Berman's review does locate instances in which "solutions define problems" (p. 269) and successful implementation occurs despite the absence of local involvement at the very beginning. Fullan (1991) writes:

> Poor beginnings can be turned into successes depending on what is done during implementation. Promising start-ups can be squandered by what happens afterwards. (p. 64)

While relating the innovation to district need is crucial, Fullan (1982) indicates that wholesale participation during the early initiation phase can even be counter-productive in some instances and can squander energies better used during implementation. Rather than widespread teacher involvement in an adoption decision, what is more important is that the decision itself be a good one which teachers view as a reasonable solution to a need, and that participation and involvement grow as mobilization progresses and implementation begins.[2]

[2] Issues relating to adoption are examined more fully in chapter 4. See "The Adoption Process", pp. 194-198.

Planning, the second function of mobilization, includes assignment of personnel and resources, and establishing objectives and procedures for the implementation of the innovation. Berman's research indicates that school district planning for implementation is "extremely difficult to do well and is inadequate as currently practised" (p. 269).[3]

Finally, those mobilizing for implementation must seek both external and internal support for the innovation. Internal support would include the support of board members, district office staff, teachers, and administrators; external support would include the support of parents and the community. Gaining such support is a political and communicative process as participants and planners seek consensus and direction both on the meaning of the innovation and its priority within the school district.

The success of implementation is very much affected by the nature of the mobilization process. Implementation is influenced not only by the manner in which the innovation is adopted but also by the nature of the planning that precedes and accompanies implementation, as well as the internal and external support that can be generated by those who are managing or spearheading the change.

[3] Planning for implementation is discussed in more detail in chapter 4.

Implementation

Implementation, like mobilization, is a complex political and social process involving the actions of people within an organizational context. The manner in which the managers and facilitators of implementation attempt this task will depend upon their views of human beings and organizations as well as the context in which implementation is being attempted. Writers such as Gross (in Gross et al., 1971, and Herriott and Gross, 1979) and Zaltman, Florio, and Sikorski (1977) see implementation essentially from the managerial perspective. Within this model, administrators attempt to overcome resistance to change and to take administrative actions that allow implementors to be successful. Other writers (Elliott and Adelman, 1974; Fullan, 1982, 1991; Goodlad, 1975; Hall and Hord, 1987; Moore et al., 1977; Sarason, 1971, 1982) view implementation from a learning perspective: teachers attempt to learn new behaviour and the school and school district learn how to change and utilize their structures to best facilitate and support this learning. Berman's (1981) review also finds evidence of a bargaining perspective: implementation is a conflictual process in which bargaining among various stake-holders determines what is done.

Berman regards all three models as different aspects of implementation. While the managerial and bargaining aspects of implementation are certainly important factors, most current literature on implementation (Fullan, 1991; Hall and

Hord, 1987; Hunkins and Ornstein, 1989; Leithwood and Montgomery, 1987; Sarason, 1982, 1990) emphasizes a learning process in which the behaviour of people changes over time and in which the focus of managing and bargaining is to facilitate this relearning and resocialization.

The view of implementation held by key personnel in the school district will influence the nature of planning for implementation, as well as the direction and success of the implementation effort.[4] Berman (1981) also says that regardless of the model(s) used, adaptation and clarification are two of the key processes which must occur during implementation. Adaptation refers to changes in the innovation or in the site as the innovation confronts its setting; clarification refers to the ongoing effort to understand what the change means in practice.[5]

Institutionalization

Theorists and researchers recognize that implementation efforts have little permanent impact unless the innovation is

[4] The district's approach to implementation is explored further throughout this study. See "Organizational Responses to Change", pp. 136-157, and "District Administration and Consultative Support", pp. 198-213.

[5] For further discussion of adaptation and clarification, see "Fidelity and Mutual Adaptation", pp. 65-93 of this chapter, and "Clarity", pp. 169-175 of chapter 4.

institutionalized. (Berman, 1981; Berman and McLaughlin, 1978; Fullan, 1982, 1991). As Miles (1983) says: "Without some sense of 'built-in ness' the fate of innovations is in doubt" (p. 14). The struggle to move from simple adoption to a focus on implementation has been so consuming that researchers are only now focusing on institutionalization or continuation. Miles (1983) quotes from the findings of Huberman and Crandall:

> In the chronicle of research on dissemination and use of educational practices, we first put our chips on adoption, then on implementation. It turns out that these investments are lost without deliberate attention to the institutional steps that lock an innovation into the local setting. New practices that get built into the training, regulatory, staffing and budgetary cycle survive; others don't. Innovations are highly perishable goods. (p. 14)

Berman and McLaughlin (1977) and Berman (1981) identify assimilation and incorporation as two processes essential for institutionalization. To assimilate means "to take in and absorb as one's own" or to "receive into the mind and consider and thoroughly comprehend" (Webster's Dictionary, 1976, p. 132). For teachers assimilation means a change in belief as well as the incorporation of new practices into everyday routines. Some degree of assimilation into belief patterns is necessary before teachers can make the further revisions and refinements in practice which are also a part of the continuation or institutionalization process.

School districts need to incorporate the new practices necessitated by the innovative process into their procedures for budgeting, personnel allocations, and other support services. Just as mobilization affects the implementation effort, the approaches pursued during implementation affect institutionalization. Berman (1981) argues that "change developed during implementation is unstable, isolated or merely symbolic unless assimilation and incorporation occur to a high degree" (p. 274).

Yin, Herald, and Vogel (1977) maintain that in order for "routinization" or incorporation to occur, an innovation must survive a number of "passage completions" and "cycles". Examples of a passage completion could be the transition of a project from government to board funding; an example of "cycle survival" might be surviving the departure or introduction of new personnel. Miles (1983), drawing on the work of Yin and others, lists some of the "supporting conditions", as well as the passage completions and cycle survivals that are necessary at the school and/or the district level if institutionalization is to occur (see Table 1, p. 43).

The most effective implementation process is one that progresses with a view towards institutionalization. Such a process provides for thorough assimilation of innovation practices and beliefs by teachers using the innovation, as well as for incorporation of supporting features into the everyday and long term functioning of the organization.

Incorporation requires establishing continued funding for resources, establishing training programs for new personnel, and other considerations outlined in Table 1.

Factors Supporting Institutionalization
Supporting Conditions:
Is a core (vs. peripheral) application
Operating on regular, daily basis
Provides benefits, payoffs to users
Competing practices eliminated
Receives support from: Administrators, Users/staff, Clients
Passage Completion:
Goes from soft to hard money
Job description becomes standard
Skills required are included in formal training program
Organizational status is established/part of regulations
Routines established for supply and maintenance
Cycle Survival:
Survives annual budget cycles
Survives departure or introduction of new personnel
Skills are taught in successive cycles
Achieves widespread use throughout organization
Survives equipment turnover or loss (includes materials)

Table 1: Factors supporting institutionalization. Adapted from Miles (1983), p. 16.

Summary

An examination of the subprocesses of innovation indicates that these are not linear but relate to each other in a fluid manner, that the nature of the mobilization effort influences both implementation and institutionalization, and that a focus on the eventual institutionalization of the innovation is one of the principles of sound implementation practice.

The process of mobilization influences the success of implementation. In particular, the nature and quality of planning and the internal and external support for the innovation that is generated during the process of mobilization are crucial to implementation.

The view or model of implementation that is held by change facilitators and administrators will influence the nature of planning and the success of implementation. Current literature emphasizes that implementation is primarily a learning process for individuals and organizations and promotes a "learning model" of implementation.

Institutionalization of the innovation should be considered at the mobilization and implementation phases. Sound implementation approaches encourage assimilation of new practices by teachers and incorporation of supporting features within the procedures and operations of the organization.

Principles of Implementation

The principles of implementation and corresponding guidelines for implementation developed from these principles are listed below. Some principles are stated tentatively early in this review and are confirmed or further specified and extended in other sections.

The first statement in each item (Principle) presents a principle of implementation derived from a review of the literature. The second statement in each item (Guideline) is a guideline for implementation at the district level which follows from this principle and which is stated in behavioural terms with reference to the actions of change facilitators at the district level. The degree of district action recommended in each guideline varies according to the principle, since some principles of implementation are more within the domain and control of the school district than others. While guidelines for the behaviours of other agencies could conceivably be derived from some of these principles, guidelines in this study apply only to the actions of change facilitators at the district level who may, however, have some influence on these other agencies.

The term "change facilitator(s)" in this instance refers to the person or persons who have the primary responsibility for initiating, planning, and guiding the program change in the school district. While in many cases such persons are non-line district consultants, the term "change facilitator" is not intended to preclude facilitators who may be in line

positions or to preclude the use of administrative influence by the facilitator during the change process.

(i) Principle: What occurs during mobilization is crucial to the success of implementation.

Guideline: During mobilization, change facilitators at the district level should work to relate the innovation to district need, acquire internal and external support for the innovation, and plan carefully for implementation according to other principles outlined in this review.

(ii) Principle: The manner in which an innovation is adopted influences implementation.

Guideline: During mobilization, change facilitators should, if possible, influence the adoption process and decision so that it is advantageous to implementation; if district change facilitators have no influence on the adoption decision,

they should work to maximize at the district level those aspects of the adoption decision which are advantageous to implementation and to minimize those aspects which may be disadvantageous to implementation. (This principle and guideline, stated tentatively here, is further supported and extended in principle [xlv].)

(iii) Principle: The view of implementation held by those mobilizing for implementation, and the model practised by the school district, will influence the success or failure of implementation efforts.

Guideline: Change facilitators should view implementation as primarily a learning or relearning process which occurs over time, promote this view at all levels within the school district, and plan and support implementation according to a learning model of change. (This

overriding principle and guideline, stated tentatively here, is further confirmed and supported by principles [vi], [xi], [xii], and [xiii].)

(iv) Principle: The institutionalization or continuation of an innovation depends upon the degree to which teachers assimilate new practices and the degree to which the organization incorporates those practices and procedures which support the innovation into its daily and long-range operations.

Guideline: Change facilitators should work during implementation to ensure assimilation of the practices of the innovation into teacher beliefs and routines, and incorporation of innovation requirements into the funding, training, and other procedures of the organization.

Dimensions of Implementation

The recognition that there are various dimensions to implementation originates with early researchers who observed that only one dimension of implementation (a change in materials) had occurred in numerous so-called innovations. House (1974), for example, distinguishes between "variation innovations" and "reorientations". A "variation" innovation, such as the introduction of a new textbook, does not necessarily require changes in teachers' behaviour. A "reorientation", however, requires "new shifts in teacher behaviour and violate[s] conventional classroom demands" (p. 80). House notes that proposed "reorientations" often do not specify how to meet the new demands or provide resources for doing so, with the result that the reorientation is converted into a mere "variation" of conventional classroom practice "with the innovation being transformed into something conforming to the exigencies of the teacher's world" (p. 81).

Materials, Behaviours, and Beliefs

Sarason (1971) recognizes clearly that implementing change is more complicated than changing instructional materials. He writes that "we have the new math, but we do not have these changes in how teachers and children relate to each other that are necessary if both are to enjoy, persist in, and productively utilize intellectual and interpersonal

experience..." (p. 48). For Sarason, any change in programs has as its objective a corresponding change in "existing behavioural regularities" (p. 75) and "existing teacher-child regularities" (p. 86); these are the most important criteria for deciding the degree to which the intended outcomes of implementation are being achieved. Sarason observes that "when one examines the natural history of the change process, it is precisely these regularities that remain untouched" (p. 86). Furthermore, says Sarason, if the thinking of those using the new materials does not change, the likelihood of changes in behaviour is drastically reduced. Sarason stated that there is a "remarkable blindness" on the part of those planning for curriculum change to the fact that "one is confronted with the extremely difficult problem of how one changes how people think" (p. 193).[6] Those who would attempt change must begin by being attentive to "what and how and why [teachers] think as they do" (p. 193).

Owens and Steinhoff (1976), Berman and McLaughlin (1978), Sussman (1971), and Galton (1980) have noted that full implementation must be more than just a change of materials. These other aspects of change, however, are not as easy to achieve. Owens and Steinhoff (1976) write that it is "easier to change curriculum...than it is to change methods of instruction" (p. 44). Sussman has noted that "the material parts of a culture

[6] For an examination of the difficulty of change from the perspective of the individual, see chapter 3, pp. 97-110.

are easily changed but values are not" (p. 50). In examining school districts, Berman and McLaughlin (1979) observe that "most school districts tend to adapt [to curriculum and other changes] by altering their form while maintaining the status quo in their core beliefs and behaviour patterns" (p. 12). Form (or materials), behaviour patterns (or strategies of instruction), and beliefs (or thinking) thus emerge from the literature as different aspects or dimensions of implementation. What emerges as well is the awareness that it is more difficult to influence teaching approaches and beliefs than it is to change materials.

Fullan and Pomfret (1977) were among the first to actually use the word "dimensions" in describing implementation. They write that "there are at least five dimensions of implementation in practice - change in materials, structure, role/behaviour, knowledge and understanding, and value internalization" (p. 336). Fullan and Park (1981) and Fullan (1982) reduce these dimensions to three. Describing implementation as a "multidimensional" process, they theorize:

> At least the following three kinds of changes are at stake: possible use of new or revised materials; possible use of new teaching approaches (e.g., teaching strategies); and the possible incorporation of new or revised beliefs (e.g., philosophical assumptions and beliefs underlying the particular approach). (Fullan and Park, 1981, p. 6)

Fullan and Park maintain that virtually every curriculum change states or implies these three dimensions of change "whether we refer to language arts, geography, history, science, or special education" (p. 7). Implementation, they state, "refers to whether or not these alterations occur in practice" (p. 8). It is clear as well that "any individual may implement none, one, two, or all three dimensions" (p. 8):

> A teacher could use new curriculum materials in the classroom without using related teaching strategies (e.g., teaching inquiry-oriented materials in a lecture-oriented format). Or a teacher could use at least some of the teaching strategies and materials without coming to grips with the underlying beliefs. (p. 8)

Although Fullan and Park do not present this as a possibility, it seems possible as well that a teacher could possess all or part of the desired belief system without knowing all of the strategies or approaches necessary to put those beliefs into practice. Also, it is possible that a poorly developed program in some instances may not include the materials suitable to operationalize its own stated belief, even though those beliefs may be internalized and accepted by the teacher.

Changes in Approaches and Beliefs

Fullan and Park (1981) believe that the three dimensions (materials, approaches, beliefs) represent a scale of increasing complexity of implementation:

> Materials, most visible and tangible of the three, are the easiest to produce and to use literally. Alterations in teaching approach or style present greater difficulty when significant new skills must be acquired or additional time to plan must be found. Changes in beliefs are yet more difficult to bring about: they challenge the core values held by a person regarding the fundamental purposes of education, and they are often not explicit or recognized, but rather buried at the level of unconscious assumptions. (p. 9)

Fullan (1982) reiterates this point:

> The use of new materials by themselves may accomplish certain educational objectives, but it seems obvious that developing new teaching skills and approaches and understanding conceptually what and why something should be done, and to what end, represents much more fundamental change, and as such takes longer. (p. 35)

Fullan and Park (1981) give a compelling argument for attempting to influence all dimensions of implementation by placing the discussion in the context of students' experiences in the classroom:

> Why worry about all three aspects of change? Why not be satisfied to produce better curriculum materials and encourage their use in classrooms? The answer is simply that such a limited change would unlikely result in the kind or amount of student learning usually aspired to by a curriculum guideline or policy. Curriculum materials alone focus the student on particular types of content. The teacher's behaviour shapes the learning experiences of students as they confront that content. And the teacher's belief system provides a set of criteria or a screen for sifting valuable from not so valuable learning opportunities that inevitably arise spontaneously during instruction. (pp. 9-10)

While changes in teacher belief are essential to implementation, the relationship between behavioural changes (evidenced in altered teaching approaches) and changes in belief is a complicated one. We tend to think of beliefs changing first with a change in belief leading to new behaviour. In many instances, the process does work this way. However, there is considerable evidence to indicate that many teachers learn beliefs, and certainly clarify and fully internalize beliefs, through experience (Fullan and Park, 1981; Hall and Hord, 1987). In these instances, trying new practices or attempting new strategies lead the user to question one's beliefs about instruction. Hall and Hord (1987), in the context of their "Levels of Use" and "Stages of Concern" continuums, suggest that teachers who are just beginning to teach a new program are at the level of "mechanical use". At this level, "the user is primarily engaged in a stepwise attempt to master the tasks required to use the innovation" (p. 84), and help offered should be primarily in line with this concern rather than with philosophical or "belief" concerns. In later levels of use (refinement, integration, renewal), the user is more likely to fully integrate some of the practices into a belief system, and reassess fundamental beliefs as he/she plans the future use of materials and approaches.

The least that can be concluded with regard to the interrelating dimensions of "belief" and "approach" is that

certainly in any complex curriculum change the altering of belief does not occur all at once but continues while approaches are being attempted. Indeed, the very fact that this all-important change in belief is not only operationalized but also confirmed, acquired, refined, or assessed during and after the use of materials and approaches is what makes the implementation process both necessary and possible. It is during implementation efforts, as teachers try new approaches, and discuss and consider the meaning and success of these approaches, that the assistance of peers and others can be most helpful in achieving success. This has significant implications for in-service and implementation strategies, the function of monitoring, and the behaviours of change facilitators.[7]

While changes in "materials, approaches and beliefs" are now commonly accepted dimensions of implementation in much of the literature, researchers and analysts are still expanding the number of dimensions and refining their description of them. In 1983, Fullan (in a paper in which he acknowledged input from Leithwood) wrote of four dimensions: possible use of new materials; possible changes in structure (grouping in the classroom, use of teacher aides, etc.); possible use of new teaching approaches; and possible incorporation of new or

[7] Each of these factors is examined separately in chapter 4.

revised beliefs. While the addition of "changes in structure" can perhaps be considered a subcomponent of "teaching approaches", its addition nevertheless illustrates the fluid state of our assumptions about which dimensions are entailed in implementation. More importantly, perhaps, this addition recognizes that a change in structure and organization is one of the defining elements of implementation.

Innovation Profiles

Fullan (1983) notes that "for any given program the different particular dimensions or components must be defined more specifically in relation to the program" (p. 217). This line of thinking is pursued most completely by Leithwood (1981, 1986) and Leithwood and Montgomery (1982, 1987), whose "Innovation Profiles" are more detailed and program specific than the "Levels of Use" developed by Hall and his associates. While the "Levels of Use" is a single fixed-stage conception of stages intended to apply to all new programs, Leithwood and Montgomery's Innovation Profiles are "a set of procedures for defining stages that are specific to a particular new curriculum" (Leithwood and Montgomery, 1987). These profiles are collectively produced plans for implementation which take into account the dimensions of implementation as well as the steps necessary in order to achieve, over time, full implementation in each dimension. Leithwood's (1981) assumption is that the extent to which the dimensions (and the

stages of implementation of each dimension) can be precisely defined will determine "the effectiveness of both teacher use of a new program and the approaches which are used to facilitate implementation" (p. 25). The involvement of teachers in identifying the important dimensions of implementation of a particular program, and the various stages from present practice to full implementation in each dimension, is crucial to the success of this process.[8]

Leithwood's Innovation Profiles employ the concept of dimensions to work with teachers in actual implementation, and depend on an elaboration of the dimensions for their specificity. In 1981, Leithwood identified nine dimensions: platform or image, objectives, student entry behaviours, assessment tools and procedures, instructional material, learner experiences, teaching strategies, content, and time. In 1987, Leithwood and Montgomery reduced these to seven, with the following explanations of each:

1. Goals/Image: The broad outcomes aspired to for students within a program.

2. Objectives: The specific outcomes which the teacher must work toward with students.

3. Content: The topics and information used by the teacher in pursuing the objectives.

[8] The importance of teacher involvement in planning and decision-making during implementation is further examined throughout this study. See pp. 127-133, 139-144, 150-153, 214-225, and 259-265.

4. Teaching Strategies: Patterns of teacher practices designed to facilitate student learning directly.

5. Instructional Materials and Resources: Characteristics of materials and resources that the teacher makes available to students to facilitate achievement of the objectives.

6. Assessment Tools and Procedures: The ways in which the teacher arrives at estimates of the students' levels of achievement and progress.

7. Classroom Management: Practices used by the teacher to manage time, space, and routines in the classroom.

(Leithwood and Montgomery, 1987, p. 31)

In some ways, these seven dimensions can be seen as a further elaboration upon Fullan's (1983) dimensions of materials, structures, approach, and belief. "Goals" or "image" deals with belief; also, the examination and negotiation of belief occurs as teachers, consultants, and administrators collectively establish the meaning and sequence of all of the other items in relation to a particular innovation as the innovation profile is written and operationalized. "Approaches" is expanded to include teaching strategies, assessment tools and procedures, and possibly selection of content. The expansion of dimensions in this manner provides a framework for working with teachers in an attempt to enhance clarity of thought and action as each dimension of implementation is attempted for a particular program. The emphasis on one dimension over another will be

determined by the nature of the particular program or innovation; and the establishing of this emphasis, as well, is a part of the clarifying process which occurs as teachers and change facilitators collaborate in the development of the innovation profile.

Dimensions and Determinants of Implementation

Innovation profiles provide a structure whereby planning, discussion, and implementation strategies can be applied to each of the dimensions of implementation. Such implementation strategies, while extremely important (Berman and McLaughlin, 1978) are not the only determinants of successful implementation. Fullan and Pomfret (1977), Fullan and Park (1981), Fullan (1982, 1991) and other researchers have identified characteristics of the innovation, characteristics of the adopting unit (school and district), and characteristics of "macro-social political units" (Fullan and Pomfret, 1977) or external agencies as other important determinants of implementation. Wright (1982) concludes that "there is interaction among the dimensions of implementation...and the determinants of implementation" (p. 100). Using the five dimensions and four determinants outlined by Fullan and Pomfret (1977), Wright has developed a matrix (Table 2) showing the possible interactions among the dimensions and the determinants of implementation.

This conception goes beyond planning for classroom implementation in each dimension to the consideration of

Determinants of implementation	Dimensions of implementation				
	Change in material	Change in structure	Change in role/behaviour	Change in knowledge and understanding	Change in value internalization
Characteristics of innovation					
Strategies					
Characteristics of adopting unit					
Characteristics of macro-social political units					

Table 2: Matrix for the consideration of the interaction of determinants and dimensions of implementation. (Wright, 1982, p. 101)

numerous political and social factors which may affect implementation in one or several of the dimensions. The adopting unit, for example, may welcome the change in materials but may have certain characteristics such that change facilitators can predict that a change in structure will be resisted. In some instances the beliefs ("understanding and value internalization", Wright, p. 101) of the innovation may be at odds with the traditions, prejudices or conventional wisdom of the community ("the macro-social political unit", Wright, p. 101). The nature of the innovation itself may present greater problems for one dimension of implementation than for another.

Planning for implementation of a particular innovation is not just a matter of considering how each of the determinants will affect implementation, but also of predicting how each of the determinants will relate to each dimension of implementation. Important considerations such as the level of support and understanding from within or outside the organization may vary greatly according to which dimensions of implementation are being talked about. A consideration of the dimension of implementation is therefore crucial to organizing and controlling the complex set of factors affecting implementation so that implementation is more likely to occur.[9]

[9] These factors are explored more fully in chapter 4, "Factors Affecting Implementation".

Summary

The literature relating to dimensions of implementation has progressed from an initial recognition that a change of textbooks or materials alone does not substantially affect classroom practices to the use of detailed profiles which trace the steps to full implementation in each of seven identified dimensions. Whether those planning for implementation use the concept of Leithwood and Montgomery's (1987) Innovation Profiles or adhere to other procedures for implementation, the recognition nevertheless exists in the literature that the capacity of our implementation plan to influence teaching strategies, organizational patterns, and basic beliefs about instruction is essential to any attempt at planned change. Change facilitators can best influence these strategies, patterns, and beliefs by working closely with teachers during, and not only before, implementation; in addition, assisting teachers in planning, attempting, and assessing implementation efforts along each of the dimensions increases the likelihood of more significant changes in approaches and beliefs.

Each of the dimensions of implementation interacts with and is influenced by the determinants of implementation. In particular, school or community characteristics may be such that there is more support for or resistance to one dimension of implementation than another. Change facilitators need to identify these interrelationships and take them into account

when planning for implementation and making decisions during implementation.

Principles of Implementation

The principles of implementation developed from the literature and the corresponding guidelines for implementation that can be concluded from these principles are listed below.

(v) Principle: Program implementation involves possible changes in teaching materials, instructional and organizational practices, and underlying beliefs.

Guideline: (a): Change facilitators should ensure that in-service and ongoing implementation strategies are designed to assist teachers in the use of materials, the alteration of practices, and the revision of beliefs.

Guideline: (b): Change facilitators should ensure that the evaluation and monitoring of implementation focuses on the nature and degree of change in use of materials, instructional and

organizational approaches, and underlying beliefs.

(vi) Principle: Changes in approaches and belief are more difficult than changes in materials and usually occur only after implementation has begun.

Guideline: Change facilitators should be patient and allow time for these changes, and should work with teachers during the implementation process, giving special attention to the dimensions of belief and approach. Change facilitators should discuss beliefs and plan approaches with teachers to facilitate their growth in these dimensions.

(vii) Principle: There is an interaction or interrelationship between the determinants of implementation (the innovation, strategies, setting, and external influences) and the dimensions of implementation (materials, approaches, and beliefs).

Guideline: Change facilitators should attempt to identify these interactions during implementation planning and seek to maximize positive interactions and minimize and counteract those interactions which may threaten a particular dimension of implementation.

Fidelity and Mutual Adaptation

The Debate: Fidelity versus Mutual Adaptation

There is "a dilemma and tension" (Fullan, 1982, p. 31) running through the educational change literature in which two different emphases or perspectives are evident: the "fidelity perspective" and the "mutual adaptation" or evolutionary perspective. Fullan (1982) distinguishes between the two perspectives in this way:

> The fidelity approach to change, as the label indicates, is based on the assumption that an already developed innovation exists and the task is to get individuals and groups of individuals to implement it faithfully in practice - that is, to use it as it is "supposed to be used" as intended by the developer. The mutual-adaptation or evolutionary perspective stresses that change often is (and should be) a result of adaptations and decisions taken by users as they work with particular new policies or programs, with the policy or program and the situation of the user mutually determining the outcome. (p. 31)

Prior to the discovery of implementation concerns, the developers of educational programs and others involved in education held what could be called a fidelity perspective, even though the term itself had not yet appeared in the literature. Their idea was that an innovation was developed, tested, and revised by an individual or group outside the school and then offered to practitioners who were expected to use it as intended (Roberts, 1978, p.7). In a sense, though, this viewpoint was a little outside the current concern regarding perspectives on implementation, since many theorists at that time not only believed that this was the way things should be, but believed as well that this process was occurring successfully in practice. Research and data indicating that many innovations were only partially implemented or not implemented at all (Berman and McLaughlin, 1976, 1978; Goodlad, et al., 1970; Sarason, 1971) forced theorists to examine these assumptions.

Some earlier studies of educational change (for example, Miles, 1964) had recognized the importance of "adaptation". But beginning with Berman and McLaughlin's (1974, 1975, 1976) use of the term "mutual adaptation", nearly all of the literature supporting the "implementation perspective" acknowledged the necessity and/or desirability of some "adaptation" of programs to fit particular settings (Fullan, 1982; Leithwood and Montgomery, 1987). The "tension" seemed to relate to the degree that programs or policies should be

adapted and the extent to which implementation could, or should, be "faithful to" the original intention and design. Leithwood (1986) has called this issue of fidelity versus mutual adaptation "the great debate" (p. 98) in current implementation literature. The substance of that debate, says Leithwood, concerns "the extent to which it is possible and desirable to specify, at the outset, clear expectations for the full implementation of an innovation including the consequences for students" (1986, p. 98).

As in other instances, some of the factors which have led to this "debate" were observed by earlier writers before the vocabulary of current implementation literature had been developed. House (1974) describes some of the realities which make it extremely difficult for an innovation to be implemented exactly as intended by the developer:

> If one compares the original innovation with its implementation, it looks impure, more like a mongrelization of noise, because of the perversity of the receiver. But that is only because the sender sees just the pure light of his own message. The receiver, the teacher, sees a melange of messages travelling to him over his own personal social networks. He integrates them, as he understands them, based on his own reference groups. (p. 14)

Writing much later, Bird (1984) sees the issue in a similar way. A proposed program or solution, says Bird, is "a collection of words" (p. 72) but these words frequently mean something slightly (or sometimes significantly) different to others than they do to the author or developer:

> This is not to say that others cannot read, or will not read, or on reading will not attribute significance and behave in a manner predictable to writers. It is to say that no one pays as much attention to a piece of writing as its author, that language is slippery, that persons with different training and experience will read in different ways, and that persons with other jobs and pressures will not assign the same priority to the writings as did the writer. (p. 72)

The difficulty, Bird adds, is not that the words of the innovation mean too little but that they mean "too much, from too many perspectives, to too many people" (p. 73).

The process which House, Bird, and others describe becomes a problem for those initiating change when the messages become so dispersed, the words have so many meanings, or users of an innovation are subjected to so many conflicting or competing pressures that the impact of the innovation affects practice only marginally or not at all. As previously noted, Goodlad, et al. (1970), Sarason (1971), House (1974), Berman and McLaughlin (1976, 1977, 1978) and other researchers observed numerous instances in which this seemed to be exactly the case.[10] This situation led Berman and McLaughlin (1974, 1975, 1976, 1978) to make a number of distinctions which, among other things, defined implementation as "mutual adaptation" and initiated the sometimes controversial discussion surrounding the meaning and value of this concept.

[10] Put another way, these are often instances in which materials may be adopted but teachers' approaches and beliefs are unchanged by the innovation; therefore, implementation has not really occurred.

Mutual Adaptation

Berman and McLaughlin wrote that the many instances in which there was little or no evidence of an innovation in practice were examples of either "cooptation" or "nonimplementation" (1976, p. 352). Cooptation occurred when an innovation was adapted either through resistance or indifference to its objectives but little or no change occurred in the behaviour of the users; in this "one-way" process, the innovation was "swallowed up" by the site.[11] Nonimplementation occurred when neither the innovation nor the institutional setting was changed; there was no accommodation of one to the other. This could occur especially when the commitment and/or strategies necessary to adapt the innovation to its local setting, or vice versa, were absent so that the innovation just did not take root. If cooptation was a one-way process, nonimplementation could be called a "no-way" process.[12]

In contrast, implementation, according to Berman and McLaughlin (1976, 1978), implied "interactions between the

11 Nicodemus (1976, 1977) has referred to this process as "assimilation to the familiar"; Leithwood (1981) describes "cooption" as a process in which "features of innovations consistent with conventional practice became the focus of attention and important novel features of the innovation are ignored" (p. 34).

12 In many instances of nonimplementation, says Leithwood (1981), the innovation is so novel that in the absence of vigorously pursued implementation strategies, it "receives downright rejection" (p. 34).

project and its setting" (1976, p. 352). The setting is adapted to accommodate the objectives of the innovation but the innovation is also adjusted to fit the particular site. In this interaction, "specificity of project methods and goals should evolve over time in response to local conditions and individual needs" (McLaughlin, 1976, p. 349). McLaughlin writes that the concept of "mutual adaptation" is "an organizational rather than a technological perspective and focuses primarily on the development of the user, rather than on the prior development of the educational treatment or product" (p. 349). In implementing any curriculum, what is important is not "the teachers' ability to behave in one particular way," but that teachers be able "to recognize the range of behavioural alternatives open to them, ascertain which ones are applicable to a given setting, and change accordingly" (Fullan and Pomfret, 1977, p. 363). The adaptation of the innovation, then, is a normal and necessary occurrence during implementation:

> This approach assumes that local variability is not only inevitable, but a good thing if a proposed innovation is to result in significant and sustained change in the local setting. (McLaughlin, 1976, p. 349)

Berman (1981) writes as well that the very attempt to obtain high fidelity may "create implementation problems" (p. 264) if such fidelity is pursued without regard to the nature and demands of the setting.

Berman and McLaughlin's (1976, 1978) defining of implementation in terms of mutual adaptation was in a sense revolutionary because it recognized that the influence of the local setting and of individual teacher discretion could neither be circumvented nor ignored in the implementation process. This stood in direct contrast to a "pure" fidelity approach which, at its most extreme, advocated "teacher-proof" packages aimed at standardizing implementation across project sites by deliberately attempting to reduce the possibility of teacher discretion in interpreting the curriculum (McLaughlin, 1976, p. 349). Berman and McLaughlin's definition of implementation also contrasted with earlier definitions which had stressed the extent to which organizational members changed their behaviour so that it was "congruent with the behaviour patterns required by the innovation" (Gross, et al., 1971, p. 16), but had not allowed for the adjusting of the innovation itself.

The initial appeal of the "mutual adaptation" concept was that it seemed to be a sensible way of allowing for and dealing with certain inevitabilities. McLaughlin (1976) observed, for instance, that some kinds of innovations in particular required teachers to work out their own styles and classroom techniques within a broad philosophical framework. No program could be expected to package or specify all of these considerations in advance. The specific goals and methods could only be "made concrete over time by the participants themselves" (p. 340).

Williams (1980), referring to the delivery of social service programs generally but including educational programs, writes that policies and programs "can only determine the desired direction ...of travel, not the actual terrain" (p. 18). Sound performance "demands the flexibility of on-the-spot discriminatory judgements in rendering services" (p. 17). Williams observes as well that "whatever technical approach is used, the central implementation problem will be adapting that approach to meet the political, bureaucratic, organizational, and technical demands and needs in a particular setting" (p. 16). Referring specifically to schools, Williams is aware that these adaptations are often made necessary not only by the classroom setting but by the whole political and social dynamics of a particular school district:

> If a complex new educational approach is to be tried in a local school system, the combination of a particular superintendent, principals, teachers, parents, students, interest groups, and so on will raise special problems far too complex to predict in the sense of determining an immediate solution. Rather, any solution must be derived by various institutions at the local level. The major determinant of the path of implementation at the local level is the institutional process in which delivery approaches are worked out by particular organizations or localities in terms of their interests, needs, and power. (p. 16)

But "mutual adaptation" was more than just a recognition of the inevitable. It was also seen as releasing the potential of teachers and schools as they contributed to the

curriculum by their adaptations of it. Fullan and Pomfret (1977) conclude that "local experimentation should be encouraged during implementation to develop variants of innovation in which specific goals and means are seen as *consequences* of explanation, negotiation and 'development in use'" (p. 391, their emphasis). Fullan (1983) makes the point that modifications, far from being harmful, may reflect needed improvements in the program itself. Berman and McLaughlin (1976, 1978) cite the development of local materials as one of the successful strategies of implementation. They note as well that the value of such development is not as much in the end result as in helping teachers to understand and work through concepts and take "ownership" through their own contributions. Connelly and Ben-Peretz (1980) go even further in suggesting that the very use of the term "implementation" casts teachers in the role of "adapters" rather than the "full partners" that they should be. Ben-Peretz (1975) argues that since it is always necessary to elaborate further on any innovation and since users may have different objectives for its use, the best curriculum is that which has rich possibilities for a wide variety of uses; curriculum, then is "the embodiment of a potential ...that can be discovered and revealed" (p. 151). Shipman (1974) proposes that a curriculum should have so much flexibility that it will function only as a broad framework within which each school makes its own translation.

The acceptance of mutual adaptation as a process of implementation meant as well that success in implementation could no longer be measured in terms of fidelity (Berman, 1981). Instead of measuring the degree to which the implemented innovation replicated the originally conceived intention, alternative measurements "based on the expectation that adaptation will - and ought to - take place" (Berman, 1981, p. 264) were now necessary. According to Berman (1981), such measures should be of a multiple nature, including measures of outcomes "not intended or anticipated in the original goals" (p. 264). Berman also suggests that we assess implementation by finding means to measure the process itself rather than focusing only on the impact or final outcomes.

Concerns Arising From Mutual Adaptation

Despite widespread support, there is also in the literature a current of uneasiness and discontent with at least some of the interpretations of mutual adaptation. Some, but not all, of these concerns are in response to what may be considered the "extreme" interpretations of the concept. In response, for instance, to Shipman's (1974) suggestion that "it may be the catalytic effects of projects that are important, rather than the more limited impact of their specific curriculum objectives" (p. 176), Fullan and Pomfret (1977) ask: "When does variation in use become so wide that the original idea is unrecognizable?" (p. 358). Bolam (1975),

while by no means advocating a fidelity approach, wonders at what point an adaptation becomes so significantly different from the original that it should not bear the same name.

Mann (1978b) likewise sees some adaptation as inevitable but does not see it as the window of opportunity which some theorists seem to do. Mutual adaptation, says Mann, "represents the price charged by the site for accepting any of the project's means or goals" (p. xxv):

> It now seems clear that projects and sites are locked in a kind of arm wrestle to change the other before they are changed by the other.... These events are captured in the phrase "mutual adaptation" but the real flavour comes through best with the addition of the adjective "partisan." (p. xiii)

Mann seems to feel that in many or most instances the site changes project features faster and more thoroughly than the project can change the site, and he equates the "eventual mutual adaptation fate" of innovations with "the project's inevitable decay" (p. xxvi).

Hall and Hord (1987) also ask "How much mutation is allowable before the innovation is no longer recognizable?" (p. 40). They question as well the degree to which local facilitators should encourage local users to adapt innovations. Hall and Hord regard the popularity of the concept of mutual adaptation in the 1970's as in part a reaction to the "teacher proof" orientation of innovations in the 1960's. They view the emphasis on production of local

materials as a "cottage industry orientation" which has led in some instances to "each local school...creating its own, home-grown program" (p. 116). This orientation, they feel, is being abandoned in the late 1980's in favour of more district wide and statewide efforts because it has not created the kinds and degree of change which its proponents had hoped.

Perhaps Bird (1984) best expresses the underlying discomfort which some others share about the manner in which mutual adaptation is frequently interpreted. He articulates the fear that mutual adaptation can be somehow too comfortable, that one has given up too much, or else is not doing enough:

> Mutual adaptation has an agreeable political and social flavor: it grants a measure of deserved respect both to the proponents and to the adapters of an innovation and therefore lets them meet on equal terms. It allows them to relax a bit; if there is no alternative to significant diminution of the innovation (if not of the host school), then the participants can keep trying but can regard modifications with equanimity.
> ...But there are flies in the balm....Mutual adaptation inevitably implies a reduction in the integrity of the innovation and perhaps in the integrity of the host school as well. (p. 70)

Bird writes that program designs "require some minimum of integrity to produce their intended effects" (p. 70):

> [Program designs] rely on assumptions. Their propositions are related. They combine parts. If their characteristics are not sufficiently realized, there is no reason to expect a program design to produce the intended result. (p. 70)

Bird concludes that "there is a limit to adaptation beyond which little good, particularly little replicable good, can be expected" (p. 70).

Leithwood and Montgomery (1987) are particularly unsympathetic to views taken by some proponents of mutual adaptation which suggest that the innovation does not need to be developed beyond a rudimentary level before implementation begins, or that the shape which an innovation ought to have will be discovered only during the implementation process. They reject as well the notions that full implementation could take many different shapes or that it cannot be predicted in advance.[13] In fact, Leithwood and Montgomery (1987) refuse to characterize such views as properly belonging to the "mutual adaptation" school of thought, and refer to them instead as the "laissez-faire" alternative:

> Proponents of this orientation appear to be defending the professional autonomy of implementors (teachers) or arguing for an "emancipatory" educational process extending to teachers or are concerned about the ethics of planned change or are overwhelmed by the complexities of the implementation process. We are sympathetic to most of these issues, but this orientation to implementation (even well intentioned) is inadvertently mischievous and possibly irresponsible. Radical as the laissez-faire

[13] It is worth noting that what Leithwood and Montgomery specifically object to is the notion that this is a desirable situation which educators should try to create. They do, however, acknowledge that such instances frequently occur and that often those planning for implementation have little choice except to proceed in this fashion due to lack of clarity about the innovation, few resources, or other adverse conditions.

> alternative appears to be, when its essential characteristics are identified, it approximates in practice to the norm that has been followed (usually unintentionally) in most past attempts to implement classroom change. The lack of success of these efforts is now well documented, whatever one's preferred criterion of success might be. (p. 15)

Leithwood and Montgomery (1987) see this approach as essentially an abdication of responsibility on the part of researchers and others who should be helping schools and teachers during the implementation process:

> This orientation assumes that change is good in its own right, places most of the burden of discovering effective practice on the shoulders of the teacher, absolves the research community from its responsibility of sharing in the discovery of effective practice, and consumes time and effort that might otherwise be spent on activities contributing more to student growth.(p. 15)

Accommodating Mutual Adaptation

What solutions or consensus does the implementation literature offer to the dilemma which has been presented? What answers are there, if any, to the question of the extent to which it is possible, or desirable, to specify clear expectations for implementation and to achieve these expectations? If adaptation is to occur, should we try to "manage" or "shape" it?

The first conclusion that can be reached by a review of the literature is that the "pure" fidelity approach, in which any and all practices deviating from those specified are

dismissed, is incompatible with the current implementation perspective. Leithwood and Montgomery (1987), who insist that it is necessary to describe full implementation in as detailed a manner as possible and whose Innovation Profiles have sometimes been associated with the fidelity perspective, nevertheless see the fidelity approach as a "straw-man alternative" (p. 15) and explain perhaps more convincingly than many others why it can never be a real alternative:

> Certainly, no innovation developer could fully prescribe those practices in which a teacher actually engages during the moment-to-moment interactions that constitute use of the innovation. Spontaneous responses to unpredictable classroom events remain a basic feature of virtually all classroom practice. Few innovation developers hope to anticipate more than a small proportion of a teacher's planning decisions; they cannot know what a teacher knows about the students, the classroom conditions, the principal's expectations, and the like. Yet these factors must be considered by the teacher in his/her planning, with the potential for producing a richer, more detailed and suitable rendition of the innovation in that teacher's classroom and for introducing practices quite unrelated to the innovation. (pp. 15-16)

A second consensus arising from the literature is that the degree to which it is possible or desirable to specify and achieve clear expectations for implementation, thereby limiting variation, depends very much on what is being implemented and the context in which it is being implemented. This was recognized from the outset by McLaughlin (1976), who noted that classroom organization projects by their very

nature required an adaptive process because they cannot be "specified or packaged in advance" (p. 340). Huberman and Crandall (1983) recommend that with validated innovations it is sensible to emphasize faithful implementation at the beginning and to accommodate variation in later stages; with an innovation that is not well-proven they feel that more variation should be fostered at the outset. Berman (1980) writes that some educational problems are amenable to programmatic (or explicit) solutions, while others require more complex, adaptive resolutions over time. Berman (1980) identifies five "situational parameters" which determine whether one should attempt a "programmatic approach" with a higher degree of attempted fidelity or an "adaptive approach" with a greater acceptance of variation (see Table 3).

Situational Parameters	Implementation Approach	
	Programmed	Adaptive
Scope of change	minor	major
Certainty of technology or theory	certain (within risk)	uncertain
Conflict over policy's goals and means	low	high
Structure of institutional setting	tightly coupled	loosely coupled
Stability of environment	stable	unstable

Table 3: Situational parameters and implementation approaches (Berman, 1980, p. 214)

From this, it would appear that a relatively minor change involving a tested or relatively certain technology is amenable to a "programmed" approach to implementation provided there is little conflict among participants over the goals and methods of the innovation, and provided that the general environment is stable and the institutional setting tightly organized and controllable (tightly coupled). In contrast, an uncertain or unproven technology or theory involving a major change in an already unstable environment would require a more adaptive approach, especially if there is a high degree of conflict over the innovation and the institutional setting is poorly organized or uncontrollable. Various combinations of the above factors would require those planning the implementation process to determine the degree to which they could, or should, specify clear expectations for implementation and expect to achieve them. What is important in this situation is being able to determine what can realistically be achieved in implementation and knowing how to achieve it.

Leithwood (1986) agrees with Berman that the orientation which planners follow in implementation should be determined by the kind of program and the context in which it is being implemented; if there is fault, says Leithwood, it "lies not in the approach but in the conditions which support that approach" (p. 101). Leithwood offers six "conditions" which affect the degree of fidelity that is feasible or desirable,

and he expands Berman's implementation approaches from two to three. Leithwood's "fidelity" perspective equates with Berman's "programmed" approach, and his "adaptation" perspective with Berman's "adaptive" approach. Leithwood's third perspective, "muddling through" (p. 101), has many of the characteristics of what Leithwood and Montgomery (1987) refer to as the "laissez-faire" approach. Table 4 outlines the assumptions and practices underlying each of the three perspectives; Table 5 indicates variations of the six conditions under which each perspective might be appropriate.

In practice, Leithwood (1986) says, school boards that are "muddling through" might offer an introductory session to teachers on the general nature of a program, give principals responsibility for implementation without assisting them with training or resources, and occasionally ask teachers how things are going while letting the initiative for implementation "quickly [devolve] upon the classroom teacher" (p. 99). School boards that follow the "adaptation" perspective ensure that consultation assistance is provided if schools require it, provide schools with instruments for monitoring implementation, and expect schools to report their progress in a defensible manner. According to this perspective, both the school and central office share some responsibility for initiating implementation and for decisions about how it will proceed. School systems that approach implementation from a "fidelity perspective" develop detailed plans showing when and how each stage of implementation will

Alternative Perspectives On the Implementation Process

Assumptions	Muddling Through	Adaptation	Fidelity
1.Role of innovation	Stimulates change	Provides a partial solution	Is the solution
2.Implementors	Proactive	Responsive	Passive
3.Content	Does not figure in decisions	One important consideration in decisions about change	Dominates decisions about change
4.Outcomes	Unpredictable	Partly predictable within range specified by innovation	Predictable; as specified by innovation
5.Nature of change process	Incremental; direction uncertain	Incremental:growth in a valued direction	Non-incremental an "event"
6.Pivotal change strategy	Negotiations among all stakeholders	Participative. intermediate range planning	Strategic planning from the top
7.Actions required for full implementation	Determined by implementors during the process	Loosely specified at outset; modified during the process	Can be fully specified at the outset

Table 4: Assumptions underlying alternative perspectives on the implementation process. (Leithwood, 1986, p. 100)

Alternative Perspectives On the Implementation Process

Conditions	Muddling Through	Adaptation	Fidelity
1.Agreement about goals	little agreement	considerable agreement, but refinements needed for some groups' interests to be served	broad consensus about goals to be achieved by all or almost all
2.Importance of goals	peripheral to school's responsibilities	crucial to some people but not considered so by others	crucial to school's responsibility
3.Clarity of problem	weak data; problem still poorly defined	elements of ambiguity remain and unambiguous	data identifying problem is strong
4.Validity of innovation	effects not well-known in circumstances like those of implementor	still questions about effect in implementor's context but some evaluation has been done	carefully field-tested in circumstances like those of implementor
5.Availability of other solutions	other viable solutions are available	appears to be the best among a number of possibilities	no serious competitors
6.Availability of resources	serious deficiencies in resources available to implementors	some but not all resources needed are available or not all resource needs have been determined	most resources needed for implementation are available to implementors

Table 5: Conditions under which each alternative orientation towards implementation would be warranted. (Leithwood, 1986, p. 101)

proceed, provide long-term staff development necessary for implementation, and have routine procedures for assessing the degree of implementation in schools and for assisting schools in achieving more complete implementation. In this approach, the initiative for implementation usually comes from central office, although teachers can be involved in the central planning and decision making in all of the above procedures.

Leithwood (1986) regards the adaptation perspective as the "same, middle ground" (p. 99). Not only, he writes, is it a compromise "based on what is possible" (p. 100); it also permits some self-direction for implementors while recognizing the need for central leadership. Unlike the "muddling through" perspective, successful adaptation requires the innovation to be reasonably well developed at the outset but assumes (unlike the fidelity perspective) that it will have to be modified to fit the local context. As much as Leithwood and Montgomery (1987) reject the "laissez-faire" approach as a "preferred" method of operation, Leithwood (1986) concedes that because of the great variety of situations in which school and district personnel find themselves, sometimes "muddling through is often the way implementation does and ought to proceed" (p. 101). For example, an untested and uncertain innovation developed in response to an ill-defined problem in an environment where there are competing solutions, little agreement about goals, few resources for implementation, and the overall feeling that the whole effort

is peripheral to the school's responsibilities, places implementation planners in a position where it is doubtful whether they can, or indeed should, attempt anything other then "muddling through". Leithwood's contention, though, is that despite the existence of situations such as the one just described, "muddling through" should not be used under the wrong conditions: "Why muddle through when you are clear about your goals and have in hand a well-tested innovation that will achieve the goals?" (p. 101). Likewise, in rare situations where there is broad consensus on the crucial importance of a well-proven innovation which is acknowledged to be practically the only available solution to a clearly defined problem, and nearly all the necessary resources are available for implementation, then something closer to a fidelity perspective can, and should, be attempted (see Table 5).

Leithwood (1986) further suggests that there is no reason why a single perspective should prevail in all aspects or dimensions of the implementation of a particular innovation. Innovations, and the implementation of them, are often complex. Leithwood writes that we may have to "muddle through" some aspects of the process, be adaptive in our responses to other aspects, and adopt a fidelity perspective for some other elements. Thus, some features of an innovation, which are clear and readily achievable, may be considered non-negotiable and not subject to adaptation; other

features may be open to slightly different methods of achieving goals, so that some adaptation may occur; and still other features of the same innovation may be so uncertain that participants just have to "muddle through" for a time. Leithwood (1986) and Leithwood and Montgomery (1987) stress, above all, though, that the challenge is to use whichever positive "conditions" are available to achieve the maximum clarity in planning and achieving whatever adaptation is to occur.

Mutual Accomplishment

The literature indicates that at least some adaptation of programs is essential during implementation, and, secondly, that the degree of adaptation that those planning for implementation should expect or encourage depends upon what is being implemented and the conditions surrounding the attempted implementation. A third recognition in the literature, inherent in much of what has already been noted, is that the adaptive process itself can be influenced and to an extent controlled, and that the final accommodation that is made between program and classroom is not an inevitable retreat from program goals but depends instead on how well the adaptive process is guided. (Bird, 1984; Fullan, 1982; Hall and Hord, 1987; Leithwood and Montgomery, 1987).

Mutual adaptation, it appears, is not as much "something that happens" as it is "something that we make happen". The

results may be quite different depending on which view is held, and some of the debate over mutual adaptation may have as much to do with this distinction as with anything else (Bird, 1984). Those seeking change can work to change the site as well as the project so that the "fit" between the two, through active effort, represents the most productive accommodation that can be achieved. From the beginning Berman and McLaughlin wrote of the importance of "adaptive implementation assistance" (1978, p. 41). House (1974), though writing before much of the present debate, offers one solution to the confusion over goals and methods that seems to occur when the teacher receives competing messages about an innovation: "In these rare cases when innovator and teachers work closely together, the teacher's view may be very close to the inventor's, blocking other messages" (p. 14). Bird (1984), in observing that the words of a proposed solution often meant "too much, from too many perspectives, to too many people" (p. 73), saw as well that the challenge was to work with the site "to make these words mean less and mean the same to proponents and adapters" (p. 73).

Bird's observations came from working with the Delinquency Prevention Research and Development Program, a comprehensive effort involving significant changes in the structure and practices of the schools involved. Bird and his associates attempted to work actively with schools and teachers to implement this program. His view of mutual adaptation is at the root of that effort:

> What is required is a solution, an organization of the innovation and the school, in which the essential requirements of both are met. This is not likely to be a simple graft or attrition of the two. It is likely to be a third, new creation. Mutual adaptation, at first glance a comfortable reconciliation of diverse forces in implementation, at a second look becomes a highly demanding undertaking that is unlikely to be comfortable for its participants. (Bird, 1984, p. 70)

For Bird, mutual adaptation is "mutual accomplishment" in which proponents of a solution work with schools to "create the conditions in which the design [of the program] can be realized" (p. 71). The challenge is not as much to protect a paper plan from erosion as to discover ways "to do what [is] needed, both from the point of view of the innovation and the point of view of the school" (p. 73).

Bird and his associates theorized that "until a new practice is being used effectively and routinely, one must assume that the opportunity to use it, the skill to use it, and the rewards for using it are absent and must be created" (p. 72). Accordingly, they set about to train teachers, provide opportunities for experimentation, and create an environment where there was more motivation to use the program. Bird writes as well that implementors are constantly faced with the choice "between reducing the rigor of the program and finding the conditions under which its requirements [can] be maintained" (p. 72). In these instances, says Bird, the program does not have to be scaled down if the support can be increased. The choice made by Bird

and his associates was always to increase support and seek to create those conditions under which the objectives of the program could be met.

Bird writes that the "mutual unpredictability" governing people's actions as the site receives an innovation can be turned to "mutual accomplishment" if proponents and facilitators of change hold an active view of the mutual adaptation process and work to create opportunities. Therefore, authors and proponents of solutions are valuable "not so much [for] their brilliance as [for] their presence and participation" (p. 73). Also, says Bird, the school setting is rich in possibilities if the proponents of change are willing to work within it. The challenge in the school setting is "not to squeeze the most out of scarce possibilities but to organize an overabundance of them" (p. 72). Bird concludes:

> Under conditions common in many schools, it appears, staff receive so little support for experimentation with their practices that they are likely to adapt, sometimes severely, any innovation suggested to them. Provided little support, they are likely to be stingy with the proponents of any innovation. But in the presence of persistent efforts to make shared sense, to pursue the variety of relevant goals of a faculty, and to provide adequate support, they can be generous. Organizing that support will be no small accomplishment; it will be a mutual accomplishment of the proponent and the adopter. The prospect of that accomplishment, rather than the risk of adaptation, will be the more fruitful focus of proponents' efforts. (1984, p. 82)

Like Bird (1984), Leithwood and Montgomery (1987) believe that what happens during the process of mutual adaptation depends on the kinds of help and assistance that are offered to teachers. Moreover, they believe that structures can be established within which mutual adaptation becomes more guided and systematic:

> There is a role for the developer/researcher in discovering elements of generally effective practice and expressing them though an innovation of some sort. Similarly, there is a role for the teacher (or group of teachers) in judging the value of the innovation for his/her students and in shaping it in ways that allow it to be made more effective in context. However, if this adaptive process is undisciplined, the chances of losing the essential contributions of the researcher or developer are high. There needs to be a framework within which systematic adaptation can occur. (p. 16)

Much of the recent literature attempts to provide the "frameworks" for "systematic adaptation" to which Leithwood and Montgomery refer. The "Levels of Use" and "Stages of Concern" frameworks, which are part of the CBAM model, are, in a sense, attempts to guide and support the adaptive process from the perspectives of the requirements of the innovation and the concerns of the users, respectively (Hall and Hord, 1987). The Innovation Profiles approach developed by Leithwood and Montgomery (1987) is in fact a disciplined procedure which provides a framework for adaptation. By defining what constitutes full implementation in each dimension for any particular program, and describing as well

the stages along the path to full implementation, the Innovation Profiles not only provide a clear direction that approaches the fidelity perspective, but also incorporate in their creation the results of organized and disciplined mutual adaptation as people discuss how particular goals and objectives can be realized in the rigors of the school setting, and help each other to achieve that adaptation in practice. Innovation Profiles, and other frameworks for adaptation, are meant to assist teachers in achieving what Williams (1980) calls "a better structure for discretion" (p. 17).

Summary

The discussion in the literature regarding fidelity and mutual adaptation has moved through various stages. Before the development of the implementation perspective, the fidelity approach was unchallenged in the literature although virtually nonexistent in the field in terms of successfully implemented innovations. The concept of mutual adaptation recognized that those planning for implementation would have to contend with the power and complexity of the setting. This concept, however, was received cautiously by those who believed that it too readily legitimized the diminution of program goals and who felt that some proponents of mutual adaptation were advocating a "laissez-faire" approach. After nearly two decades of consideration, the literature appears to

conclude that at least some adaptation is natural to implementation, that the degree of fidelity that is possible depends upon the nature of the innovation and the context in which it is to be implemented, and that the success of implementation will depend largely on the ability of the proponents of innovations to provide and participate in a disciplined framework for systematically guiding the adaptive process so as to realize the best capabilities of the innovation and the setting.

Principles of Implementation

The principles of implementation and corresponding guidelines for implementation that can be concluded from these considerations are listed below:

(viii) Principle: The degree of fidelity that is possible or desirable during implementation will depend upon the nature of the program (quality, clarity, complexity, etc.) and the nature of the setting (teacher readiness, base of support, resources, implementation strategies, etc.).

Guideline: Those planning or facilitating implementation should determine, or

set up a process for determining, the degree of fidelity to program design that should be attempted for the various elements of a proposed innovation.

(ix) Principle: Greater fidelity to program goals and more successful and meaningful adaptations occur when change facilitators work actively with teachers in clarifying objectives and changing the setting or the program to fit each other.

Guideline: Change facilitators should work actively with teachers to change the setting so that it is more conducive to program goals, or to adapt the program so that it is suitable for a particular situation.

(x) Principle: In the implementation of complex changes, there is a difference in the degree of fidelity to program goals that is achieved by different teachers, and also a difference in the

degree of fidelity in implementation for different aspects of the innovation.

Guideline: An evaluation of implementation efforts should determine the degree of fidelity to various aspects of program intentions as well as the nature and quality of the adaptations that occur.

Chapter 3

PERSONAL AND ORGANIZATIONAL RESPONSES TO EDUCATIONAL CHANGE

A metaphor of sorts may serve to indicate the shift in focus which occurs at this point in the study and to show the connection to what has preceded. The concept of implementation itself is an innovation, a new construct. So far this study has focused on where it came from, and why; what it is, and what its dimensions are; whether, or under what conditions, its shape is clear and focused or vague and indeterminate. But the literature focuses as well on those who are affected by implementation, and on how we might expect them to behave, individually or collectively. From this perspective, the difficulty in bringing about changes in the dimension of belief, for instance, is seen not as much as a problem for the innovation as it is for the individual who is undergoing a belief change. It is the nature of personal and organizational responses to change which will determine many of the principles of implementation.

Curriculum implementation requires changes in what individuals do and think as well as changes in the organizations within which they work (Berman and McLaughlin, 1976, 1978; Fullan, 1982, 1991; Hall and Hord, 1987). Basch and Shepcevich (1983), in studying the potential users of a curriculum, write that researchers can study responses to change from "both an organizational and an individual

perspective" (p. 22). Deal (1984) labels these two perspectives as "individual" and "structural":

> The first has origins in psychology and social psychology....To make schools different we need to focus on the attitudes and beliefs of people and the norms that develop in small social collectives.
> The second perspective directs attention to the formal side of schools as organizational settings....Organizational characteristics - patterns of the social setting - become the primary targets of change as a direct strategy for improvement. (p. 125)

Deal sees these two perspectives as supporting each other: "underneath both is a collection of assumptions about how people and organizations work" (p. 126).

Implementation and the Personal Response to Change

Implementation is a process of resocialization "involving people and relations among people" (Fullan and Park, 1981, p. 23) and a process of learning "in which adults are the chief learners" (p. 24). As Hall and Hord (1987) state succinctly: "To change something, someone has to change first" (p. 10).

Sarason (1971), and Leithwood and Montgomery (1987) observe that curriculum implementation implies a role change for individuals within the organization and they recognize the personal transition that is involved in such a change. Naslund (1989) writes: "Since change directly affects people and their role in the process, individuals must be the focal point when implementing any new programs" (p. 20).

Some understanding of the impact of change upon individuals is necessary if those planning and managing change are to more adequately assist teachers who are implementing new programs. Teachers are often perceived as being resistant to change when in fact it may be the change facilitators who are not sufficiently attuned to what change means to the front-line individual in personal terms (Fullan, 1982, 1991; Fullan and Park, 1981). Much of what appears to be resistance is in fact a result of lack of planning, and failure by managers or change facilitators to take into account the personal and professional supports that individuals need in order to effectively implement program changes (Fullan and Park, 1981, p. 13). The implementation process, write Fullan and Park, has frequently overlooked people in favour of things "and this is why it fails more times than not" (p. 13).

The Conservative Impulse

Marris (1974) writes that all people, to a greater or lesser extent, experience what he calls "the conservative impulse" (p. 5). This impulse to defend the predictability of life is "a fundamental and universal principle of human psychology" (Marris, 1974, p. 2). Because of this impulse, any significant change involves loss, anxiety, struggle, and temporary dislocation, for "the will to adapt to change has to overcome an impulse to restore the past, which is equally universal" (Marris, p. 5).

As Marris sees it, "the conservative impulse" is in one sense an impediment to change but is also necessary if change is to be real and meaningful, "for without continuity we cannot interpret what events mean to us, nor explore new kinds of experience with confidence" (p. 2). New realities must be assimilated into existing structures before they become meaningful and useful to us. Resistance to change, writes Marris "[is] as fundamental an aspect of learning as revision, and adaptability comes as much from our ability to protect the assumptions of experience, as on our willingness to reconsider them" (p. 16).

Marris argues that the conservative impulse has been misunderstood by many who attempt to promote change:

> We tend to explain conservatism away as ignorance, a failure of nerve, the obstinate protection of untenable privileges - as if the resistance could be broken by exposing its irrationality. But when we turn to the experience of people in society as they struggle to maintain their hold on life, the conservative impulse appears more pervasive and profound....It is as necessary for survival as adaptability: and indeed adaptability itself depends upon it. For the ability to learn from experience relies on the stability of the interpretations by which we predict the pattern of events. We assimilate new experiences by placing them in the context of a familiar, reliable construction of reality. This structure in turn rests not only on the regularity of events themselves, but on the continuity of their meaning (pp. 5-6).

Referring more specifically to the school setting, Hunkins and Ornstein (1989) echo many of Marris' sentiments:

> It may seem that curriculum specialists face insurmountable problems. But resistance to change is good, because it requires change agents to think carefully about the innovations and to consider the human dynamics involved in implementing programs. Having to "fight" for change protects the organization from becoming a proponent of random change and educational "bandwagonism". (p. 111)

Fullan (1982) writes that our failure to recognize the anxiety and struggle that the individual experiences during the change process as a natural and inevitable phenomenon has meant that we tend "to ignore important aspects of change and misinterpret others" (p. 25). House (1974), Sarason (1971), and other writers recognize that there are immense personal costs involved for teachers in embracing change. Hall and Loucks (1978) confirm that "change is a highly personal experience" (p. 38) and that this fact is often overlooked:

> Staff developers, administrators, and other change facilitators often attend closely to the trappings and technology of the innovation and ignore the perceptions and feelings of the people experiencing the change process. The personal dimension is often of more critical importance to the success or failure of the change effort than is the technological dimension. Since change is brought about by individuals, their personal satisfactions, frustrations, concerns, motivations, and perceptions generally all play a part in determining the success or failure of change initiative. (p. 38)

The Process of Reintegration

The change process is so difficult because, a "crisis of reintegration" (Marris, 1974, p. 166) must occur as people

adapt to what is new. Marris (1974) maintains that there is no substitute for allowing people the opportunity to discuss, argue about, and internalize the change:

> No one can resolve the crisis of reintegration on behalf of another. Every attempt to pre-empt conflict, argument, protest by rational planning, can only be abortive: however reasonable the proposed changes, the process of implementing them must still allow the impulse of rejection to play itself out. (p. 166)

Attempts by those managing change to pre-empt this process can only be counter-productive:

> When those who have power to manipulate changes act as if they have only to explain, and when their explanations are not at once accepted, shrug off opposition as ignorance or prejudice, they express a profound contempt for the meaning of lives other than their own. For the reformers have already assimilated these changes to their purposes, and worked out a reformulation which makes sense to them, perhaps through months or years of analysis and debate. If they deny others the chance to do the same, they treat them as puppets dangling by the threads of their own conceptions. (Marris, p. 166)

Marris (1974), Sarason (1971, 1990), Fullan (1982, 1991), Fullan and Hargreaves (1991) all imply that this "profound contempt for the meaning of lives other than our own" during the relearning that must occur within the change process is the root cause of many failed change efforts. Sarason (1990) writes that "teachers cannot create and sustain the conditions for the productive development of children if those conditions do not exist for teachers" (p. xiv). Fullan (1991) warns that

those managing or facilitating change should not assume that theirs is the only version of what should be implemented: "one of the main purposes of implementation is to *exchange your reality* of what should be through interaction with implementors and others concerned" (p. 105, his emphasis). Any significant innovation, writes Fullan (1991), requires individual implementors to "work out their own meaning through a *process of clarification*" (p. 105, his emphasis). Hunkins and Ornstein (1989) write that "a successful change agent knows how people react to change and how to encourage them to be receptive to change" (p. 112); those leading the implementation effort must understand "the interpersonal dimension of leadership" (p. 112). Ornstein and Hunkins (1988) elaborate on this point:

> Most people resist change before they accept it, especially if they are content with the existing program or organization. Curriculum leaders need to anticipate initial resistance to change and deal with concerns and questions about change. They need to deal with how people feel about change, conflicts that may surface, what can be done to lessen anxiety associated with change, and how to facilitate the change process. (p. 71)

Principles for Managing Change

Marris (1974) suggests three principles for managing change which flow from his concept of the "reintegration" that must occur during the change process. First, any process of reform must expect and, indeed, encourage conflict: "whenever

people are confronted with changes, they need the opportunity to react, to articulate their ambivalent feelings and work out their own sense of it" (p. 156). Fullan (1991) confirms that conflict and disagreement are not only inevitable but fundamental to successful change: "Since any group of people possess multiple realities, any collective change attempt will necessarily involve conflict" (p. 106).

Secondly, any process of change must recognize the worth of different kinds of experience (Marris, 1974). Sarason (1971) believes that many attempts at change have been self-defeating because of "the tendency for change proposals to emanate from on high without taking into account the feelings and opinions of those who must implement the changes, i.e., the teachers" (p. 221). Abbott, in the forward to Wolcott's (1977) study, writes:

> Certainly school people can benefit from outside help....But they will benefit only if they receive help in doing what they think needs to be done, in doing what they believe in doing. They need to be partners in a venture, not the victims of that venture....Would-be 'change-agents' should listen. (p. xi)

Thirdly, there must be time and patience during the process of change "because the conflicts involve not only the accommodation of diverse interests but the realization of an essential continuity in the structure of meaning" (Marris, 1974, p. 156). Fullan (1991) writes that the total time frame from initiation to institutionalization is lengthy; even

moderately complex changes take from three to five years, while major restructuring efforts can take five to ten years (p. 49). Sarason (1971) writes that patience is required by those managing or facilitating change because what the teacher is undergoing is a change in perception of role:

> What is at issue, but rarely clearly stated, is how the change process can enable the teacher to perceive her role differently, that is, to perceive the role not as threatened or derogated but as expanded in scope and importance. Any conception of change that does not explicitly recognize that changing perception of role is never an easy task and that it cannot be accomplished by legislation or regulation - or by virtue of laudable goals or the pressures of external reality - is likely to result in strengthening the rigidity of role boundaries. (p. 161)

Recognizing Stages of Concern

There is clearly a place for what Sarason (1971) calls "a helping relationship" (p. 2) in assisting individuals who are adapting to change. Yet attempts to help teachers with this transition have often failed because facilitators have either not understood or not started from the perspective of teachers' needs and concerns (Loucks and Hall, 1979).

Adapting to change is not something that is done in one chunk but in a series of steps in which a different kind of concern is experienced and a different kind of help is needed at each step (Hall and Hord, 1987). Not all individuals reach these stages at the same time so that the kind of help that is appropriate for one individual at any one time may not be

useful to another, reinforcing once again the truly personal nature of change. (Fullan, 1991; Hall and Hord, 1987).

Much of our knowledge about the stages of concern has been drawn from Fuller's (1969) study of the predominant concerns of teachers from the beginning to the completion of their training programs. Fuller found that initial concerns were personal. Individuals were concerned, for example, about whether they could really do what was required of them and how it would affect their personal lives. This was followed by a stage in which teachers were absorbed with task concerns, i.e. just how something was supposed to be done. Finally, teachers were concerned about the impact of what they were doing. Hall, Wallace, and Dossett (1973), Loucks and Hall (1979), Hall and Hord (1987) and others associated with the Concerns Based Adoption Model of Implementation (CBAM), have used and expanded upon Fuller's work to trace the stages of concern which teachers experience during implementation.

Many attempts to help teachers have failed because facilitators have been concentrating on the philosophy of the innovation while potential users have been trying to internalize what the innovation means in personal terms or getting a grasp on the "mechanical" use of the innovation (Fullan, 1991; Hall and Hord, 1987). Sarason (1971) has written that most in-service fails to deal at all with personal concerns: "we try to think these concerns are not there" (pp. 42-43).

Current developments in curriculum implementation have sought to use our knowledge of how individuals adapt to change to assist teachers in the change process. The "Stages of Concern" (Table 6) continuum, which is part of the Concerns Based Adoption Model, presents seven steps or emphases in concern as a teacher moves from unawareness of an innovation to full implementation. The "Levels of Use" (Table 7) continuum also traces the use of an innovation through seven corresponding stages.

As Table 7 indicates, after "orientation" and "initial training", the first use of an innovation is a "mechanical" one in which implementation can sometimes be disjointed or superficial. Users then move to a stage of greater independence, then an integration of their efforts with those of others, and finally a renewing or refinement of approach. Each level of use requires a different kind of help, and each level also raises different concerns which teachers must talk through or work through. Hall, Wallace and Dossett (1973) write: "Both Levels of Use and Stages of Concern are aspects of the same developmental process. At each Level of Use there should be a congruent stage of concern if adaption is progressing satisfactorily" (p. 16).

Other contributions to implementation approaches, such as Innovation Configurations (CBAM) and the Innovation Profiles promoted by Leithwood and Montgomery (1987), are further attempts to help teachers "reintegrate" changes into their own

Stages of Concern

0	Unaware: No indication of awareness that the innovation exists. There may be interest in similar innovations or a complete absence of awareness or interest in the area.
I	Awareness: Indicates a general awareness of the innovation. The potential adopter is likely to inquire about obvious characteristics of the innovation and of himself in relation to it in various non-specific ways. May even include expressions of concern about the possible personal conflict or threats.
II	Exploration: Indicates exploration of the roles played by the individual user and of the demands placed upon him; also includes exploration of role in relation to the reward structure of the organization and exploration of potential conflicts with existing structures or personal commitment that have financial or status implications.
III	Early Trial: Indicates user's exploration of his performance and manipulation of materials and time.
IV	Limited Impact: Indicates user's exploration of the total impact of innovation on clients in his immediate sphere of influence.
V	Maximum Benefit: Indicates user's exploration of the total impact of the innovation in an institutional context on learners and users.
VI	Renewal: Indicates user's exploration of new or better ways to reach the same goals or new goals.

Table 6: Stages of concern about a curriculum innovation after Hall, Wallace and Dossett (1973)

Levels of Use

0	Non-Use: State in which the user does not know that the innovation exists.
I	Orientation: State in which the user is acquiring information about the innovation, its value orientation, its demands upon him, and the user system.
II	Initial Training: An action state in which the user is being trained in the logistics and use of the innovation.
III	Mechanical: A stage of implementation where users are engaged in pilot use of the innovation. The user is engaged in a stepwide attempt to master the tasks required by the innovation, often resulting in disjointed and superficial use.
IV	Independent: A state of innovation usage where the user handles the innovation well as an individual with quality impact on learners in his immediate sphere of influence, yet fails to integrate his work with the total system's effort.
V	Integrated: Stage in which the user is actively seeking ways to combine his efforts in using the innovation with colleagues to achieve a collective impact on all learners within an institution.
VI	Renewing: The stage of use of an innovation in which the user re-evaluates the quality of use of the innovation, seeks new alternatives to achieve impact on learners, examines new developments in the field, and identifies new goals for himself and the institution.

Table 7: Levels of use of a curriculum innovation after Hall, Wallace and Dossett (1973)

beliefs and practices as they work collaboratively with each other and with change facilitators to achieve clarity as to how an innovation can best be implemented. These are organized attempts to respond to the need for clarity both in terms of the individual's concern and the requirement of the innovation.

Developments such as Innovation Profiles and the LOU and SOC continuums are examples of organizational responses and procedures which attempt to deal with personal responses to change. They are also examples of how these two aspects of change are closely related.

Summary

The literature on educational change indicates that we have underestimated the degree to which change affects individuals. Successful curriculum implementation requires that teachers have opportunities to discuss and debate the meaning of the change in personal and professional terms, and that managers of change have patience with, and respect for, teachers as they reintegrate new concepts and practices into previous beliefs and habits, and undergo what amounts to a change in role.

These changes in belief and role perception occur incrementally over time. Teachers pass through several identifiable stages of concern during implementation (relative to self, task and impact) and these stages of concern

correlate with the levels of use of an innovation. Change facilitators who wish to assist teachers in the difficult process of reintegration can only do so by focusing during pre-implementation and implementation on the ongoing needs and concerns of users; these concerns change during the various stages of implementation and are different for different people. Organized systems for identifying teachers' concerns and levels of use, and for profiling what an innovation will look like in practice serve to help teachers through the various stages of implementation and to maintain ongoing clarity and assistance in attaining the goals of implementation.

Principles of Implementation

The principles of implementation and corresponding guidelines for implementation that can be concluded from these considerations are listed below:

(xi) Principle: Changes such as those involved in the implementation of new programs provoke personal responses of anxiety and uncertainty as individuals acquire new roles and beliefs.

Guideline: Those planning for implementation should recognize that time and

patience are required as people make this personal transition (Confirmation of principle [vi] and extension of principle [iii]).

(xii) Principle: The process of reintegrating changes into the larger framework of thinking is essential for implementation and should not (and cannot) be circumvented.

Guideline: Change facilitators should allow and provide opportunities for teachers to discuss, argue, and express concerns about the change that is being implemented, both before and during the implementation phase.

(xiii) Principle: Teachers' concerns during the implementation process usually occur in stages (relative to self, task, and impact) which also relate to the levels of use of an innovation.

Guideline: Attempts by change facilitators to assist teachers should be geared to

the appropriate need or stage of concern if such attempts are to be useful.

(xiv) Principle: Since change is a highly individual process which depends on the nature of the individual and the setting in which he/she works, different teachers will be at different stages of concern or different levels of use even though they began implementation at the same time.

Guideline: Change facilitators should allow for such differences in concerns and levels of use and provide individual assistance that is appropriate to the individual need or level of use.

The Teacher's Response to Change

The process of reintegration which Marris (1974) describes is difficult at the best of times. The characteristics of many schools and the nature of the teacher's work environment can further influence how change will be accepted. The teacher's perspective on his or her

work, and the teacher's perspective on change, influence the manner in which implementation should be approached and the possibilities for success.

This section first explores the conditions in which teachers work and how they view these conditions. It then examines the implications of these circumstances to the implementation of change.

Overload

Fullan (1982, 1991), and Fullan and Hargreaves (1991) write that most teachers cannot keep up with all of the demands that are placed upon them:

> Teachers and principals are dangerously overloaded. More "social work" responsibilities, greater accountability and having to deal with a wider range of abilities and behaviours in their classrooms are now all part of the teacher's lot. Also, because of the knowledge explosion, and because of what we now expect teachers to cover in the curriculum, the values and style of the one classroom-one teacher tradition are no longer relevant. (Fullan and Hargreaves, 1991, p. 4)

Fullan and Hargreaves (1991) cite other factors which add to the teacher's stress and workload: mainstreaming of special education students, changing ethnic composition in classrooms, unstable home and community conditions, poverty and hunger. In view of Schon's (1971) observation that getting used to change involves "confronting more information than you can handle" (p. 12), the teacher at first glance does not seem

ideally situated for embracing additional information and responsibility.

Many teachers, based on previous negative experiences with reforms, perceive curriculum changes as fragmented solutions or bandwagon shifts which add to their already impossible workload. Fullan and Hargreaves (1991) write:

> The solution becomes the problem. Innovations are not making the teacher's job more manageable. They are making it worse. Overload of expectations and fragmented solutions remain the number one problem (p. 4).

Sarason (1971) describes the life of the teacher as one in which constant giving is required, often under considerable strain and pressure while the teacher gets little in return:

> Constant giving in the context of constant vigilance required by the presence of many children is a demanding, draining, taxing affair that cannot easily be sustained. Even where it is sustained on a high level it still does not always prevent guilt feelings because the teacher cannot give all that she feels children need. (p. 167)

To sustain giving at such a high level "requires that the teacher experience getting" (Sarason, 1971, p. 167). Unfortunately, due to the relative isolation in which many teachers work,[14] the sources for "getting" are indirect and infrequent:

[14] See "Isolation", pp. 118-121 of this chapter.

> One can get from children but this is rarely direct; one can get from colleagues and administrators, but this is even more infrequent. One can get from oneself in the sense that one feels one is learning and changing and that this will continue, but this crucial source of getting is often not strong enough to make for a better balance between giving and getting. (Sarason, 1971, p. 167)

Sarason (1971) writes that one of the consequences of a marked disparity between giving and getting is "the development of a routine that can reduce the demand for giving" (p. 168). Such a routine can lead to the "routinization of thought and action" which allows little time or room for innovation. Unintentionally, routinization can also lead to boredom and an "identity among days" (Sarason, 1971, p. 163).

Sarason (1971) shows how the teacher's feeling of overload can influence any attempts at change in the following description of a specific change effort:

> At the beginning of the relationship, usually initiated by the teacher around a problem child, we would frequently sense an ambivalence: wanting discussion and help and yet fearful that we would be putting more demands on the teacher to do and give more. (p. 168)

Inherent in the solution to this ambivalence is one of the basic principles of change in schools: teachers are more likely to give of their time and commitment in the interest of improvements when they are convinced that others in "a helping relationship" (Sarason, 1971, p. 2) are also genuinely willing

and able to give and to share (Berman and McLaughlin, 1978; Bird, 1984; Sarason, 1971, 1982). Sarason continues:

> This ambivalence would not dissipate until the teacher recognized that we were asking for more giving but we were prepared to give as well - by being in the classroom, giving time, being available, and obviously being interested and concerned. It was only after the dissipation of the ambivalence that some teachers could tell us what it was like constantly to feel that one has to give with little expectation either that one will get or that what one will get will be direct or predictable....A good part of whatever success we have had in working with teachers was due to the fact that we were giving to them and this was atypical in the working lives of the teachers. (1971, pp. 168-169)

Control and Self-Worth

House (1974) writes that a teacher experiences an "economy of scarcity" (p. 74) and learns to conserve his or her energies carefully. This arises in part from the feeling that he/she does not control the work environment but is controlled by the decisions of others. When control is primarily in the hands of others, the individual is inclined to be more cautious about changes or new interrelationships which threaten the already fragile sense of ownership, self-control, and self-esteem:

> A teacher, like others living in a scarce economy, might resist new ideas in an attempt to deal with an environment that he does not control. Along with lower-class groups, the teacher must cope with a paucity of resources, variable input in the form of students with which he must deal, and the low esteem of others in the society, certainly other professionals. A feeling of powerlessness makes him tend to limit encounters to low-risk

> situations, especially where social and economic costs are involved. Trust is limited primarily to his own kind, and he limits his personal commitments, nurturing affective relationships with carefully chosen students and fellow teachers. He is vulnerable to attack from other professionals, other institutions, and other groups in the society. Uncontrolled variability of environment requires a simple social structure, for a complex one could not be maintained. Such conditions greatly inhibit innovation. (House, 1974, p. 75)

Fullan and Hargreaves (1991) observe that although teachers generally enjoy more social status in Canada than in the United States, similar feelings persist of not being in control of the professional goals in their own workplace. Fullan (1991) and Goodlad (1984) observe that the teacher indeed often has little influence and involvement in school-wide and other extra classroom matters. In particular teachers feel that they have least control in the area of educational changes, and that changes are frequently thrust upon them without consideration of their own purposes or goals in teaching (Fullan and Hargreaves, 1991).

In addition to feeling that they do not control the goals of their own workplace, many teachers are frequently uncertain as to whether their work actually makes a difference to student outcomes (Lortie, 1975). This is because the technology of teaching and the relationship between input and outcome are often uncertain and there are too few opportunities for teachers to build their confidence or revise their technology by sharing with others. In addition, as

Sarason (1971) has shown, feelings of guilt often persist when teachers feel that, for lack of time or of knowledge, they are unable to meet the many and varied demands of students under their care. The self-worth of the teacher is therefore eroded from both within and without.

Although teachers may well feel powerless in decisions that are made outside the classroom, and may question their own influence on student learning, Common (1983b) maintains that teachers hold almost absolute control over what happens in classrooms. They also have the ultimate power to reject or dilute innovations by paying lip service to them or adapting them beyond recognition, which frequently occurs when teachers have had little opportunity to internalize the change or to have input into it. Common and others feel that it is only by accessing this ultimate power of teachers, and enhancing their control and self-worth by involving them in establishing the purposes and methods of change, that real innovation can be accomplished (Common, 1983b; Fullan and Hargreaves, 1991; Ornstein and Hunkins, 1988).

Isolation

Many teachers feel overworked, misunderstood, not in control of decisions which affect their workplace, and frequently uncertain as to the impact of their own work (Fullan, 1982, 1991; Lortie 1975; Sarason, 1971, 1982). In addition, teachers usually work in isolation from their

colleagues (Fullan and Hargreaves, 1991). Due largely to the cellular organization of schools, teachers spend much of their time physically apart from other adults and have little time for contact with their peers.

Little time is spent observing, sharing and discussing each other's work. As Fullan and Hargreaves (1991) point out, when such opportunities first present themselves to beginning teachers, they often occur within the context of evaluation. This and other factors make many teachers defensive about opening their doors to observation and discussion.

Isolation robs teachers of the valuable support systems that are especially necessary for innovation. Fullan and Hargreaves (1991) write:

> The professional isolation of teachers limits access to new ideas and better solutions, drives stress inward to fester and accumulate, fails to recognize and praise success, and permits incompetence to exist and persist to the detriment of students, colleagues and the teachers themselves. Isolation allows, even if it does not always produce, conservatism and resistance to innovation in teaching. (p. 5)

Isolation is difficult to overcome because it is entrenched in the culture and tradition of many schools:

> The problem of isolation is a deep-seated one. Architecture often supports it. The timetable reinforces it. Overload sustains it. History legitimates it. (Fullan and Hargreaves, 1991, p. 6)

Sarason (1971) observes that "teachers are psychologically alone even though they are in a densely populated setting" (p. 105):

> The teacher is alone with her problems and dilemmas, constantly thrown back on her own resources, having little or no interpersonal vehicles available for purposes of stimulation, change, or control against man's capacity to act and think foolishly. (p. 162)

Psychological aloneness, combined with the expectation that the teacher should deal with every situation and every child, can create "a simmering hostility to administrators who seem insensitive to the teacher's plight" (Sarason, 1971, p. 106).

Sarason (1971) says that the possibility of face-to-face meetings where the teacher can receive "a personal sort of 'professional message'" (p. 107) is amazingly small. House (1974) maintains that the teacher's restriction to the classroom means that he/she frequently does not hear about new approaches and innovations: "The teacher's position is isolated, information is controlled, selection for projects is dictated, and resources are allocated by others" (p. 70).

Lortie (1975) indicates that on those occasions when teachers do consult and receive help, the most effective source is fellow teachers, and secondly administrators and specialists. Much of this help relates to sharing "tricks of the trade" rather than to the discussion of underlying principles of teaching or the relationship of teaching to learning. House (1974) writes that the first "serious"

discussion that teachers have about an innovation is with fellow teachers; he found as well that the influence of fellow teachers already working with an innovation was the most important factor in the decision to adopt any optional innovation. Likewise, the degree of actual implementation of an innovation was influenced by the amount of release time that was given for teachers to discuss the innovation with each other and to work on it together.

House also sees the reliance on fellow teachers as sources of information and influence as partially due to the circumstances of teacher isolation: "The field of information available to the teachers through personal contact seems to be restricted to contact with fellow teachers; it is particularly lacking in professional external contacts" (House 1974, p. 71).

Rewards and Frustrations

Many teachers feel that there are few rewards for attempting innovations. House (1974) points out that "the rewards are greater for those higher in the hierarchy, and the costs are greater for those lower" (p. 167). Fullan (1991) writes:

> The fact that those who advocate and develop changes get more rewards than costs, and those who are expected to implement them experience many more costs than rewards, goes a long way in explaining why the more things change, the more they remain the same. If the change works, the individual

> teacher gets little of the credit; if it doesn't, the teachers get most of the blame. (p. 127)

The personal costs of trying an innovation are high because the teacher has limited time and because the psychological pain of "unlearning" can be considerable. Frequently the teacher does not believe that the benefits of the innovation are worth the cost. (House, 1974; Fullan, 1991).

With or without innovations, many teachers feel that there are few rewards in teaching. The greatest rewards, however, are what Lortie (1975) refers to as "psychic rewards": the joys and satisfactions of caring for and working with young people. These rewards were more important than pay, prestige or promotion. The rewards of innovation for teachers are when they perceive the changes as positively influencing the students they teach (Lortie, 1975; Stern and Keislar, 1977).

The opportunity to work with others in discussing, determining, and refining the direction of an innovation is also seen as a reward by many teachers (Stern and Kelslar, 1977; Waugh and Punch, 1987). House (1974) writes that the satisfaction of working as part of a group during implementation is often worth the pain and effort of relearning. A major function of the collaborative group is that "it lowers the cost of innovation to the individual and increases his rewards" (House, 1974, p. 93).

Most teachers feel that their training does not adequately prepare them for the realities of school life or give them the certainty and confidence about teaching approaches that is necessary to meet the many demands of the classroom (Lortie, 1975). For both new and established teachers, issues of classroom control are one of the major preoccupations, and there is frequently a tension between the need for control and the need to reach out and relate to the student (Lortie, 1975). Sarason (1971) found that many younger teachers did not want to stay in education. The main reason that they gave was not lack of rewards or the frustration of teaching children, but the awareness that the present and future would be very similar and that their needs for ideas and intellectual growth would not be met.

Timar and Kirp (1989) write that reform policies may produce teachers who are better prepared to teach their subjects but that top-down reforms will not influence the nature of the work-place in which so many teachers feel helpless and unprepared:

> What will prepare them for the indifference, monotony, incoherence, and directionlessness of the institution itself? What will prepare them for the jealousy of colleagues, the blandness of the architecture, and the spiritual sterility of the environment? A school must set a certain tone,.... [an] organizational ethos...[which] determines the character of the school....[and] sets the expectation for excellence or for failure. But the tone of a school is created by individuals working in that school, not by bureaucratic mandates that emanate from distant places. (p. 508)

Sarason (1971, 1982) found that many teachers felt privately that change was needed in the schools in which they taught. Usually, however, they were of the view that few others felt that way and they had few avenues to confirm or revise this view. They felt as well that the public would oppose drastic changes. In the few instances where staff members did discuss with each other, avoiding controversy was more important than discussing the sense of frustration and desire for change. A general feeling of impotence pervaded (Sarason, 1971, p. 71).

Fullan (1991) refers to national polls to indicate that one third or more of teachers had not chosen teaching as their first choice of career; also, somewhere between one-third and one-half of new teachers leave the profession by the time they reach the seventh year of teaching. Fullan writes that "the percentage of teachers who approach their career with ambivalence, both before and while on the job, is significant" (1991, p. 125).

It would be wrong, says Fullan, to conclude that the majority of teachers dislike being teachers: "for most it is a never ending mixture of satisfying and stressful experiences" (Fullan, 1991, p. 123). A study by King, Warren, and Peart (1988) of nearly 6,000 high school teachers in Ontario outlines the 10 most satisfying and 10 most stressful aspects of teaching (see Table 8). Its results verify many of the findings previously mentioned: the feelings of overload

Stressful and Satisfying Aspects of Being a Teacher
(Ranked in order of Most Frequent Mention)

	Satisfying		Stressful
1.	working with young people, rapport/relationship	1.	time demands, too much marking, lesson preparation, "administrivia," deadlines
2.	times when the "light goes on" and a student suddenly understands, student enjoyment, immediate feedback	2.	discipline/attendance problems, student confrontations
3.	student success, achievement	3.	student lack of motivation, apathy, negative attitudes
4.	interaction with/support from colleagues	4.	lack of administrative support, poor administration
5.	influencing the growth, character, and attitudes of students	5.	colleagues' negative attitudes, incompetent poor teachers
6.	involvement with extracurricular activities, coaching, drama	6.	working conditions, lack of equipment/texts, low budget
7.	subject matter taught, developing curriculum	7.	lack of security, redundancy, declining enrollments
8.	teaching, a lesson taught well	8.	large class size
9.	helping students individually with personal academic problems	9.	ministry directive, changing curriculum/course content
10.	feedback from students at the end of the year and after graduation	10.	lack of public/parental support, negative attitude toward education

Table 8: Stressful and satisfying aspects of being a teacher. Adapted by Fullan (1991, p. 124) from King et al., 1988.

and lack of support; the importance of "psychic rewards"; and the value of interacting with colleagues in supportive ways. While "developing curriculum" is listed as a satisfying experience, ministry directives changing curriculum and course content is listed in the "stressful" category.

Fullan and Hargreaves (1991) maintain that it is not enough to view the teacher only within his or her professional context. Teachers are full human beings as well, with legitimate commitments and interests outside of teaching:

> Reform often glosses over the personal lives, interests and backgrounds of teachers.... Teaching is very important. However, there is more to life than school. Life interests and responsibilities beyond teaching must also be recognized. In our enthusiasm to involve staff more and more in the life of the school, and to commit them to change within it, we should not forget the other legitimate calls on their time and commitments, which in the long run may well make them better people and teachers for it. (Fullan and Hargreaves, 1991, p. 29)

Perhaps Bird (1984) explains best why change efforts can never ignore the larger context of peoples' lives:

> There are personal matters. At any time, about half of the persons needed to pursue a solution are getting married or divorced; tending a sick or well relative; going bankrupt or coming into money; just starting, getting ready to leave or near retirement; taking care of babies or putting children through college; making up or breaking up; getting sick, getting well, getting chronic, or dying. Living can distract prospective adopters of a solution and thus frustrate its proponents. Fortunately, about half of the proponents of the solution are spared the full frustration because they, too, are getting married or divorced and so forth. (pp. 68-69)

Fullan and Hargreaves, however, are careful to point out that recognizing the realities of peoples' professional and personal lives is not an excuse for abandoning change efforts or reducing goals. Instead, what is at issue is the very success of the change effort, and that success can only be achieved through accommodating the reality of people's personal and professional lives:

> Sweeping blanket reforms, running to tight timelines, that are insensitive to the wider aspects of the teacher's life and career and that do not address the teacher as a person, are unlikely to be successful. (Fullan and Hargreaves, 1991, p. 30)

The Teacher and Change

Insight into the teacher's perspective is crucial if change facilitators are to anticipate, acknowledge and plan for teachers' responses to innovations. The teacher's "requirements" of an innovation will be determined by his/her own view of teaching and his/her circumstances as a teacher. Most teachers, whose rewards are tied primarily to working with students, will want first to see that the proposed change addresses a legitimate need and that it has the possibility of practical success (Fullan, 1991). Secondly, since they perceive themselves as having little time for ambiguity and may have experienced other change efforts which have been unclear in practice or intent, teachers will want to assess the clarity of the proposed change in terms of what they will have to do to implement it. Thirdly, even if there is a

perceived need and the proposed solution to it appears to be clearly understood, the workload of teachers, combined with the potential painfulness of change, will prompt many teachers to assess how the change will affect them personally in terms of time and energy and whether the rewards in student learning or interaction with other teachers will outweigh the personal costs.

Those facilitating or managing change will have to relate that change to a need, be clear about its purpose and function, consider and discuss with teachers the personal cost involved, and provide opportunities for teachers to interact with peers and other professionals to further clarify the innovation and work through its personal and professional impact. The presence of these factors also serves as an indication to teachers that facilitators and administrators are serious about the change and that it will not be abandoned after the teacher has committed valuable time and energy. Teachers will accept nothing less from innovators or from the innovation before they commit to implementation.

Many teachers, even those who believe that there should be changes, have not felt that they are a vital part of change efforts or that they are influencing change according to their own purposes. Instead, they frequently feel that change is imposed upon them as they struggle alone with their everyday workload. Fullan and Hargreaves (1991) maintain that neither researchers, administrators, nor teachers have a monopoly on

wisdom; yet "the wisdom of teachers is often considerably undervalued compared to the wisdom of the other two groups" (p. 24). Fullan and Hargreaves (1991) write that the purposes of teachers have been ignored in many change efforts:

> Because teaching is a moral craft, it has purpose for those who do it. There are things that teachers value, that they want to achieve through their teaching. There are also things they disvalue, things they fear will not work or will actually do harm to the children in their charge. Teachers' purposes motivate what teachers do. Sadly, reformers and change agents often overlook teachers' purposes. They do not give teachers' purposes a voice. They treat those purposes as if they are unimportant or don't exist....When no such hearing is granted or encouraged, teachers understandably become frustrated and dispirited. (p. 19)

Fullan (1991) maintains that strategies for change have not worked because the teacher's purpose and perspective have been ignored and his or her importance to the process underestimated:

> The strategies commonly used by promoters of changes, whether by legislators, administrators, or other teachers, frequently do not work because they are derived from a world or from premises different from that of the teachers. Innovations are "rationally" advocated from the point of view of what is rational to the promoter, not the teachers. Sometimes innovations are rationally sold on the basis of sound theory and principles, but they turn out not to be translatable into practice with the resources at the disposal of teachers. Or innovations may contain many good ideas and resources, but assume conditions different from those faced by teachers. Other times, innovations are strongly advocated in terms of the supposed benefits for students, without clear evidence that the particular teacher's students would share the

> benefit. Some proposals are not clear about the *procedural* content (the how to implement); others fail to acknowledge the personal costs, the meaning of change to teachers, and the conditions and time it will take to develop the new practices. Stated another way, teachers' reasons for rejecting many innovations are every bit as rational as those of the advocates promoting them. (p. 130, his emphasis)

Much of the recent literature on program implementation urges the accommodation of the teacher's perspective as an important and necessary element of change efforts (Fullan, 1982, 1991; Fullan and Hargreaves, 1991; Hall and Hord, 1987). Because so few change efforts have really done this, Ornstein and Hunkins (1988) write that "teachers are virtually an untapped source of energy and insight, capable of profoundly changing the schools" (p. 69). Fullan and Hargreaves agree that there is an "overwhelming need for greater involvement of teachers in educational reforms outside as well as inside their own classrooms" (p. 15). Sarason (1971) describes how such a shift in emphasis can influence program implementation in a positive way:

> Involving teachers in those decisions or plans that will affect them can be justified on several grounds. First, involvement makes it more likely that responsibility will be assumed and not be attributed to others. Second, it makes it more likely that problems of attitude and goals will surface and be dealt with. Third, and of crucial importance, it increases the chances that the alternative ways in which problems can be formulated and resolved will be scrutinized and act as a control against premature closure and the tendency to think that there is only one way by which problems may be viewed and handled. (p. 161)

Fullan and Hargreaves warn that involvement itself is not enough: "It is the kind of involvement, the particular way that teachers work together as a community that really matters, if meaningful improvement in our schools is to take place" (p. 15). Little (1981) distinguishes between weaker forms of collaboration such as "sharing" and "story-telling", and the "stronger" forms of collaboration which include joint planning, observation, and experimentation, and the design and use of teaching materials. Based on an in-depth study of school improvement in six schools, Little gives perhaps the best description of at least three elements that are essential to "stronger" collaboration:

> Teachers engage in frequent, continuous and increasingly concrete and precise *talk* about teaching practice (as distinct from teacher characteristics and failings, the social lives of teachers, the foibles and failures of students and their families, and the unfortunate demands of society on the school). By such talk, teachers build up a shared language adequate to the complexity of teaching, capable of distinguishing one practice and its virtue from another.
>
> Teachers and administrators frequently *observe* each other teaching, and provide each other with useful (if potentially frightening) evaluations of their teaching. Only such observation and feedback can provide shared *referents* for the shared language of teaching, and both demand and provide the precision and concreteness which makes the talk about teaching useful.
>
> Teachers and administrators *plan, design, research, evaluate and prepare teaching materials together*. The most prescient observations remain academic ("just theory") without the machinery to act on them. By joint work on materials, teachers and administrators share the considerable burden of

> development required by long-term improvement, confirm that emerging understanding of their approach, and make rising standards for their work attainable by them and by their students.
> (pp. 12-13, her emphasis)

The need for meaningful collaboration among teachers during implementation and in their everyday professional lives is the one inescapable conclusion that can be drawn from what we know about how teachers feel and think. Sharing and planning with others, and learning from others, reduces the sense of isolation, increases confidence and performance and self-esteem, reduces frustrations by finding solutions, allows teachers to bring their own sense of purpose and experience to bear as they clarify the change effort, and releases the untapped potential of teachers to change the nature of their own workplace (Fullan, 1991; Fullan and Hargreaves, 1991; Little, 1981, 1982; Rosenholtz, 1989). To develop collaborative cultures, teachers need a degree of autonomy, on-site leadership, and an overall framework which monitors and supports (Fullan, 1991; Hunkins and Ornstein, 1989; Little, 1982; Rosenholtz, 1989). While not many schools have a truly collaborative culture, work by Little (1981, 1982), Rosenholtz (1989), and others show that it is indeed possible and indicate the ways that it can be achieved.[15]

[15] Collaboration is further examined on pp. 150-153 and 259-265 of this study.

Principles of Implementation

The principles of implementation and corresponding guidelines for implementation that can be concluded from these considerations are listed below:

(xv) Principle: Because of the personal costs of change and the demands placed upon teachers' time, and because teachers perceive the rewards of teaching primarily in terms of improved student learning, teachers will commit more readily to change proposals that they believe meet a particular need or set of needs and have a chance of improving learning.

Guideline: Change facilitators should relate the proposed change to need, or set up processes whereby the change can be related to need; change facilitators should also attempt to show how the innovation can improve learning.

(xvi) Principle: Because of demands on their time and other factors stated in (xv) above, teachers will also be more receptive

to changes that are clear in their proposals as to how to address needs.

Guideline: Change facilitators should present program proposals clearly or set up processes for clarification.

(xvii) Principle: Because of the history of failed implementation and the many demands on their time, teachers are more inclined to accept an innovation if they see that the change has broad support at a number of different levels.

Guideline: Change facilitators should work to acquire support from different levels of the organization and to ensure that evidence of that support is communicated clearly to teachers. (Confirmation and extension of principle [i])

(xviii) Principle: Teacher input in decision-making improves the implementation process because of the experience that they bring to the practical classroom application of proposed changes and

because teacher perception of the implementation process is improved if they feel that their opinions are valued within that process.

Guideline: Change facilitators should involve teachers in decision-making before and during implementation and should communicate to teachers by action and approach that their opinions are valued.

(xix) Principle: Opportunities to collaborate with peers and others in discussing and planning during the implementation process helps teachers internalize the change, helps further clarify the specifics of the innovation, and is seen by many teachers as rewarding.

Guideline: Change facilitators should provide opportunities and frameworks within which teachers can collaborate during the implementation process. (Extension of principle [xvii] and confirmation of principle [xi])

Organizational Responses to Change

Implementation and Structural Change

The solution to accommodating the concerns and perspectives of teachers, and of creating a more collaborative culture, lies in the manner in which educational organizations plan for specific or broad-based changes. Crucial to this solution is the perspective which these organizations have on the value of teacher involvement and teacher opinion, and on the change process generally (Fullan, 1982, 1991; Fullan and Hargreaves, 1991; Hall and Hord, 1987).

Berman and McLaughlin (1979) write that "change requires alterations in patterns of human interactions that define the school systems" (pp. 7-8). According to Leithwood and Montgomery (1987), the role changes that are required of individuals during implementation require a corresponding organizational change to support those new roles:

> Roles are the organizational counterparts of the individuals' cognitive structures; they are the basic objects referred to when speaking of organizational change. The organization, school or otherwise, is a collection of roles. (Leithwood and Montgomery, 1987, p. 6)

Sarason (1971) also maintains that curriculum change cannot be separated from institutional changes:

> Teaching any subject matter is in part determined by structural or systems characteristics having no intrinsic relationship to the particular subject matter.... Any attempt to change a curriculum

> independent of changing some characteristic institutional feature runs the risk of partial or complete failure. (pp. 35-36)

Little (1990) points out that useful collaboration among teachers depends on "the structural organization of task, time, and other resources" (pp. 14-15). In her view, weaker forms of collaboration such as sharing and storytelling are not as beneficial as joint planning, observation, and experimentation. Whether these latter elements of collaboration occur depend largely on the organization rather than the individual.

It is often from the nature of the organization, says Sarason (1971), that we can best predict the individual's behaviour:

> So many of us are intellectually reared on a psychology of the individual; that is, we learn formally or informally, to think and act in terms of what goes on inside the heads of individuals. In the process it becomes increasingly difficult to become aware that individuals operate in various social settings that have a structure not comprehensible by our existing theories of individual personality. In fact, in many situations it is likely that one can predict an individual's behaviour far better on the basis of knowledge of the social structure and his position in it than one can on the basis of his personal dynamics. (p. 12)

The nature of the organization goes a long way towards determining what Sarason (1971) calls the culture of the school, which so influences any change efforts:

> When we say a setting is "organized," or that cultures differ from each other, we mean, among other things, that there is a distinct structure or pattern that, so to speak, governs roles and interrelationships within that setting. What is implied, in addition, is that structure antedates any one individual and will continue in the absence of the individual. It may well be that it is precisely because one cannot *see* structure in the same way that one sees an individual that we have trouble grasping and acting in terms of its existence. (p. 12)

Hunkins and Ornstein (1989) write that successful innovation "requires change in the structure of a traditional school" (p. 109), changes in the patterns of relationships. Timar and Kirp (1989) warn that "the institutional culture cannot be circumvented" (p. 510); change efforts must consider the culture of the organization if it hopes to impact fully on individuals and individual classrooms.

Researchers who study factors affecting implementation refer to characteristics of the school and of the school district as crucial to the outcome of attempted innovations (Dow and Whitehead, 1981; Fullan, 1981, 1991; Fullan and Pomfret, 1977; Wright, 1982). In other words, the total organization influences the way in which the planning and implementation of change occur. People (principal, teacher, consultant, superintendent) interact with each other in their various roles to define the organization's response to change which is determined by the nature and substance of these interactions and interrelationships.

To use Berman's (1981) terminology, it is the organization which must mobilize for change and orchestrate the various factors such that it becomes more desirable to implement than not to implement. The organization must create conditions (such as opportunities for sharing and discussion) such that teachers can more easily "assimilate" the change into their thinking and practice. The organization must also create supporting conditions (such as funding, resource support, changes of physical or administrative structures) so that the change can more easily be incorporated as a permanent feature of the organization.

Authority Dispersal and Teacher Empowerment

Just as individuals sometimes pay only superficial attention to innovations, organizations have a strong tendency to embrace the outward appearances of change rather than the real features of an innovation which will cause it to reshape and rethink. In this sense, what happens in the organization mirrors what happens at the personal level (Berman and McLaughlin, 1979).

In a study of several school districts, Berman and McLaughlin (1979) distinguished between "maintenance" and "development" characteristics in school districts. A "maintenance" system is what Berman describes as morphostatic. Such a system retains its core internal arrangements despite changes in external conditions. A morphostatic institution

alters its organizational procedures sufficient only to maintain community support and reduce external demands. Thus, there is a modification in the appearance of schooling but little influence on teaching practice. This may be considered the organizational equivalent of using new materials without changing approaches or beliefs.

A "development" system is what Berman characterizes as "morphogenetic". A morphogenetic system changes its basic internal arrangements and "develops new steady-state conditions" (p. 12). In a sense, the change process becomes institutionalized because the organization has the ability to continuously adapt and renew itself.

Assuming that an organization has the will to implement real change, what are the general organizational responses which are most conducive to the implementation of innovations? Some of these solutions are suggested in Berman's description of a "development" organization and are supported and extended upon by other theorists and researchers. (Fullan, 1991; Hunkins and Ornstein, 1989; Fullan and Hargreaves, 1991).

Berman and McLaughlin (1979) write that the district administration will have more success in change efforts by "dispersing decision-making power throughout the system rather than husbanding it at the center or partitioning it into segmented fiefdoms" (p. 62). This involves redistributing decision-making and responsibility so that more of it occurs closer to the point of delivery (Williams, 1980).

Berman and McLaughlin propose delegating authority downward through committees which cut across line and staff decisions. They emphasize the sharing of responsibility, which promotes mutual trust and involvement. Hunkins and Ornstein support this view:

> *Implementation of successful change efforts must be organic rather than bureaucratic*....Strict compliance, monitoring procedures, and rules are not conducive to change; this bureaucratic approach needs to be replaced by an organic or adaptive approach that permits some deviation from the original plan and recognizes grass-roots problems and conditions of the school. (p. 109, their emphasis)

Williams (1980) discusses the need to empower and assist front-line staff to make the many discretionary judgments that must occur during implementation:

> *Field discretion is both unavoidable and essential* ....Sound performance demands the flexibility of on-the-spot discretionary judgments in rendering services.
>
> Increasingly we are coming to recognize the crucial place in implementation of the front line professional staff...who man the point of service delivery. (p. 117, his emphasis)

Staff development becomes even more important as front-line people assume more responsibility:

> Whether these front line staff can be aided so as to have a better structure for discretion, and more capacity to exercise it, is crucial. The commitment and capacity...of the individual persons who actually provide services are the central focus of the implementation perspective. Here the critical institutional investment must be made in managerial and staff capability that allows these organizations to exercise reasonable discretion in

> providing needed services at the point of delivery and to cope with the implementation of program changes. (Williams, 1980, p. 17)

Lack of involvement by teachers in decision-making and planning has been identified not only as a major impediment to implementation but as a major source of discontent in the lives of teachers (Fullan, 1991; Fullan and Hargreaves, 1991; Lortie, 1975; Sarason, 1971, 1982). The main challenge for school districts is to find ways to meaningfully involve teachers and to assist them in improving the quality of their own discretionary judgements (Little, 1982; Williams, 1980; Fullan and Hargreaves, 1991). Besides the willingness to disperse some of its authority, this means as well that the district administration must be willing to encourage a degree of "delivery diversity" (Berman and McLaughlin, 1979, p. 62) arising from these discretionary choices. As well, the district organization must display an openness to change from external as well as internal sources and a commitment to curriculum delivery as its main reason for being (Berman and McLaughlin, 1979).

Authority dispersal does not mean that the district administration is less involved or important in change efforts; instead, it means that authority is being used in a different way, or used effectively, perhaps for the first time (Berman and McLaughlin, 1979; Fullan, 1979; Fullan, Anderson and Newton, 1986). Corbett, et al. (1984), Odden, et al.

(1986) and Fullan (1986) document and describe the critical role of ongoing assistance, support, and pressure from district consultants and district administrators during the change process. Rosenblum and Louis (1981) have shown that superintendent support and authority is indeed a significant positive influence on implementation. Berman and McLaughlin (1979) show how one superintendent had an enormous impact on a school district by visiting classrooms and talking to teachers, by monitoring curriculum committees, by following up on plans for implementation, and by articulating the importance of curriculum throughout the district. What is in question is not the value of district support and authority, but how it is used. The challenge for district administrators is to institute feedback channels that allow co-ordination, monitoring and support as the potential of personnel within the organization is released through collaborative decision-making closer to the point of delivery (Berman and McLaughlin, 1979).

The district organization is responsible for providing the overall framework and guidance and support within which teacher involvement and collaboration with peers and other professionals become central to the implementation effort (Fullan, 1985, 1991). Timar and Kirp describe this shift as one from "regulation and compliance " to "incentive and mobilization" (p. 509).

The Question of Rationality

What has motivated the shift towards power dispersal in organizations? Researchers and theorists of organizational change agree that organizations, and educational organizations in particular, do not operate as we once thought they did (Berman, 1981; Berman and McLaughlin, 1979; Conley, 1989; Fullan, 1991; Hunkins and Ornstein, 1989). Implementation has so frequently failed because of the assumption that the system behaved in "rational" ways and that logical solutions could be effectively transmitted through steps of the hierarchy and implemented at the delivery point. In fact, school systems appear to be more "loosely coupled": although lines of authority link the parts of a system, the different parts do not respond to each other in neat or predictable ways, and many factors besides the scientific rationality of a solution or the decision by administrators to adopt a solution influence whether or not implementation actually occurs. House (1974) writes:

> It is commonplace in education to assume that school is a co-ordinated, integrated, problem solving mechanism that, confronted with an innovation, assesses its merits and, if it proves worthwhile, incorporates it. Such is not the case. The organization is, in fact, a combination of various departments and interest groups, all competing for scarce resources. Organizational decisions are based on which coalition of groups are in ascendancy at the moment - a political process. (p. 40)

Our understanding of how "loosely-coupled" organizations work, and of how complex the interrelationships are, is growing as educators attempt changes in schools and school districts. The problem, says Bird (1984) is not as much that there is too little rationality, but too much, from too many perspectives:

> An action could be said to be rational, scientifically, when the action manipulates a set of independent variables that affect a dependent variable of interest in an objectively verifiable fashion; politically, when sufficient support can be mustered for the action; bureaucratically, when the action conforms to established policy and is routinely resorted to in the same situation; economically, when the action distributes resources to activities so as to maximize benefit from some point of view; ideologically, when the action conforms to important principle regardless of support, custom, or cost; practically, when the action is physically possible; and socially, when the action reconciles diverse goals and techniques in accepted norms of behaviour.... When an innovation changes some of the norms, the whole complex can be called into question to a greater or lesser degree. With so many possible ways to be rational, persons do not need to be irrational or immoral to find each other unpredictable. (p. 75)

Bird says that in the face of an "overabundance" of rationality, the task is "to organize the innovation so that it is or becomes rational from many points of view" (p. 79). To borrow Deal's (1985) metaphor in describing the school, we can say that the innovation is in "a continual dance with constituencies" (p. 75).

Linkages and Influence

The realization that educational organizations are not tightly coupled systems which respond well to top-down

initiatives underlies the moves towards a decentralizing of authority within school districts and an empowerment of teachers (Berman and McLaughlin, 1978, 1979; Fullan and Hargreaves, 1991). There can be no significant change in school culture, says Sarason (1971), unless there is also a shift in power .

The complexity of the change process as described by Bird (1984) and Deal (1985) has also led researchers to look for other patterns of influence and communication which can help us understand how organizations work and how change can best be implemented within them. In the absence of tight coupling, significant linkages or paths of information and influence still exist within the organization which affect the way people think and act (Wilson and Corbett, 1983). Change facilitators should not ignore these linkages but instead should use the power of linkages to influence the implementation process. Drawing upon a larger body of research, Wilson and Corbett (1983) describe three types of linkages:

1. Cultural linkages refer to the shared goals, beliefs and approaches that exist within a school. Rosenblum and Louis (1981) refer to cultural linkages as the "mechanisms which emphasize the creation or coordination of similar behaviour patterns through the development of shared definitions" (p. 139). Such linkages already exist

in schools; they can also be recreated to better serve the purposes of change, as when efforts are made to change the culture of the school (Fullan and Hargreaves, 1991; Sarason, 1971, 1982).

2. Structural linkages operate "as the ways by which a school can translate its intent through the control of members' behaviour" (Wilson and Corbett, 1983, p. 89). An exercise of school rules or administrative authority would be examples. While administrative authority alone is insufficient to effect implementation, it can still be an important asset. On other occasions, administrative postures or school rules may constitute linkages which are actually harmful to implementation, which themselves may need to be changed.

3. Interpersonal linkages refer to the opportunities staff members have to interact with each other about their work. These linkages take the form of discussion, observation, planning, and so on. These linkages can sometimes be governed by who is friends with whom, which teachers work in close proximity, etc. Like the other linkages, the quality of interpersonal linkages can also be shaped and influenced.

The nature of schools and school districts, according to Wilson and Corbett (1983), is determined largely by these cultural, structural, and interpersonal connections. While the system as a whole may be loosely coupled, tight linkages may nevertheless exist within the system that can be used to advantage during implementation. Examples of such linkages could be teachers or subject departments within schools that work closely with each other, a school in which the principal has an unusually strong influence on staff behaviour, or a school in which close ties with parents and the community have always been valued and practised. While many implementation efforts in the past have trusted to the structural and administrative connections within organizations, research into implementation indicates that cultural and interpersonal linkages are crucial to the success or failure of an innovation (Fullan, 1982, 1991; Fullan and Hargreaves, 1991; House, 1974; Sarason, 1971, 1982). In particular, interpersonal linkages that are shaped into meaningful collaborative influences have the power to institutionalize sound approaches to implementation and to change the culture of schools (Little, 1981, 1982; Rosenholtz, 1989).

House (1974) also stresses the importance of fostering interpersonal contacts within the school district which cut across line positions and school boundaries. While indirect contact suffices to spread simple information, direct contact

is necessary when there is an element of uncertainty or when results are unpredictable:

> To control the flow of personal contact is to control innovation. As the flow of blood is essential to human life, so direct personal contact is essential to the propagation of innovation, and, by tracing the flow of personal contact and influence, one can chart the likely course of innovation. Who knows when and who talks to whom are powerful indicators of where and when an innovation is accepted or if it is accepted at all. (House, 1974, p. 6)

Another way of characterizing the educational system, and the linkages that exist within it, is to say that influence becomes more important than authority in a loosely coupled system. While authority depends on one's place or line position in the system, influence depends upon at least three variables: personal characteristics such as charisma, verbal skill, or leadership qualities; expertise, through specialized skills or access to information; and opportunity, by virtue of proximity to the action in formal or informal ways (Conley, 1989, p. 369). While authority is unidirectional, flowing from the top down, influence can flow in any direction; collaboration releases the potential of teacher influence and allows some initiatives to flow from the bottom-up or horizontally through the organization (Cooper, 1989). Influence (by a teacher, administrator, or change facilitator) will succeed where authority has failed because the source of influence may be close to the action while the source of

authority is removed, or because the source of influence may have expertise in the situation while the source of authority perhaps does not. Placing decision-making closer to the point of delivery enhances and encourages the power of influence, because those who are closer to the point of delivery possess one important requirement for influencing which those who are removed from the situation do not - namely, the day-to-day opportunity to influence by virtue of being where the action is. Conley (1989) writes that administrators and consultants who are most successful are those who use the influence offered by opportunity and expertise and personal qualities, rather than just the authority which comes with the position.

It would appear that change facilitators who are planning implementation efforts need to be observant of the patterns of influence that exist in schools and in the school district, and should work to use these patterns to advantage or to counteract negative influences. They need also to use their own influence to create and sustain patterns of collaborative influence that support the implementation effort. Meanwhile, the challenge for the organization is to create and sustain structures which redistribute the patterns of influence (Conley, 1989).

Towards a Collaborative Culture

Creating structures which disperse authority and enlarge the influence of teachers, fostering collaboration at the

school level, recognizing the importance of interpersonal communication within the complex set of variables which determine implementation, recognizing and using and expanding the available sources of influence, working to change the culture of schools - all of these themes pervade the most recent literature on educational change and implementation. Fullan (1991) draws on the work of Cuban (1988a) to distinguish between first-order and second-order changes:

> *First-order changes* are those that improve the efficiency and effectiveness of what is currently done, "without disturbing the basic organizational features, without substantially altering the way that children and adults perform their roles" (Cuban, 1988[a], p. 342). *Second-order changes* seek to alter the fundamental ways in which organizations are put together, including new goals, structures, and roles (e.g., collaborative work cultures).
>
> The challenge of the 1990s will be to deal with more second-order changes - changes that affect the culture and structure of schools, restructuring roles and reorganizing responsibilities, including those of students and parents. (Fullan, 1991, p. 29, his emphasis)

What this means for implementation, says Fullan (1991), is that the focus may be less on implementing single innovations than on changing the organizational norms that affect innovations:

> Changing the culture of institutions is the real agenda, not implementing single innovations. Put another way, when implementing particular innovations, we should always pay attention to whether the institution is developing or not. (p. 107)

Fullan's (1991) most recent book, The New Meaning of Educational Change, refers to six key themes in the implementation process. As their names suggest, these themes relate not as much to factors affecting specific innovations as to the larger issues of school culture and teacher empowerment that pervade recent studies of organizational change: vision-building, evolutionary planning, initiative taking and empowerment, staff development and resource assistance, monitoring, and restructuring.

The general goal of organizational change and teacher empowerment is to change organizations so that change itself, and adherence to the principles of implementation, can be institutionalized within them (Berman and McLaughlin, 1979; Fullan, 1991; Louis and Miles, 1990). Berman and McLaughlin (1979) write:

> Once the process of change has been institutionalized - power dispersed, professionalism rewarded, responsibility shared, loose coupling integrated, risk-taking routinized, an infrastructure for innovation established - then the idea of change loses its threatening quality. (p. 56)

Berman (1981) writes that this will not be an easy process and that the organization's ability to implement change, once established, may itself be in need of constant care and vigilance:

> Successful processes do not seem robust, but rather consist of fragile concatenations of events, people and ideas at the right times in the right places.

> A single missing, misplaced, or mistimed element seems likely to collapse the delicate assembly... leading to success. Consequently, there are many ways to fail and few ways to succeed. (p. 270)

Summary

The literature suggests that corresponding structural and organizational changes are necessary in order to accomplish curriculum implementation. In fact, the district and school systems are the vehicles which can best influence the working lives of teachers and tap their collaborative strengths.

The literature further suggests that school districts which are willing to disperse power so that there is more involvement and decision-making closer to the point of delivery are more successful in implementing change. Such dispersal is necessary because school systems are not "tightly coupled" and do not respond well to "rational" approaches which rely primarily on a top-down transmission through various levels. Instead, initiatives relying more on cross-level participation and collaborative planning, with central monitoring and support, are more successful. Such organizational approaches release the power of teachers to effect changes within schools. Such approaches also challenge administrators and consultants to recognize and develop positive linkages and sources of influence that exist with the organization, and to manage the highly political process of implementation with understanding, flexibility and planning from multiple perspectives.

Some of the most recent literature emphasizes "larger" changes which attempt to influence the culture of the school rather than smaller changes such as the implementation of specific programs. Those implementing specific program changes should be cognizant not only of that specific change but of whether and how the institution itself is developing. The ultimate objective is to foster organizational growth so that the organization itself develops its capacity for implementation. When this occurs, change is no longer threatening because the process of implementation itself is institutionalized within the organization.

Principles of Implementation

The principles of implementation and corresponding guidelines for implementation that can be concluded from these considerations are listed below:

(xx) Principle: Successful implementation of curriculum change requires structural and organization changes within schools and school districts in order to support and facilitate such changes.

Guideline: Change facilitators should work to achieve these structural and

organizational changes so as to ensure that the innovation is supported and institutionalized. (Confirmation and extension of principle [iv])

(xxi) Principle: The nature of the organization will influence the success or failure of implementation. School districts in which power is dispersed so that more involvement and collaborative decision-making occur closer to the point of delivery, with monitoring and support from the district level, are generally more effective in implementing change.

Guideline: Change facilitators should promote this general approach through their influence with district administrators, and practice this approach by emphasizing collaborative decision-making with central monitoring and support during implementation. (Extension of principles [ixx] and [xviii])

(xxii) Principle: Although school districts tend to be "loosely coupled" and do not respond exclusively to lines of authority, a variety of linkages (interpersonal, cultural, structural), or lines of communication and influence, exist which can impact upon implementation.

Guideline: Change facilitators should be observant of significant established linkages or influences which exist within the school district or within schools, use these sources of influence to promote attitudes and practices which are advantageous to the implementation of the innovation, and work to create ongoing linkages or lines of influence which may be beneficial to implementation.

(xxiii) Principle: Implementation is more likely to occur when an innovation is viewed as being rational from a number of perspectives - scientifically, politically, bureaucratically,

economically, ideologically, practically, and socially.

Guideline: Change facilitators should organize the implementation effort so as to emphasize that the change appears rational from multiple perspectives.

(xxiv) Principle: Since a general capacity of the organization to implement innovation is a benefit to the implementation of any particular innovation, particular implementation efforts should pay attention not only to specific changes but to whether or not the institution is developing.

Guideline: Change facilitators should encourage those aspects of institutional change which enable the organization to manage implementation more effectively: the building of collaborative structures, emphasis on curriculum, and other organizational features identified in other principles. (Extension of principles [iii] and [xvi])

Chapter 4

FACTORS AFFECTING IMPLEMENTATION

Chapter 2 of this thesis focused on the nature of the implementation concept, the vocabulary and categories of thinking that attend this concept, and some of the problems and polarizations that surround it. This was followed in chapter 3 by an examination of personal and organizational responses to change - in particular, how teachers and organizations can and do respond to change. Synthesizing the factors influencing implementation means combining and extending upon both of these perspectives, since the factors relate to the complex interrelationships between conceptual requirements and the way that people individually or collectively respond to or work towards those requirements. Many of the factors affecting implementation have already been identified as the principles of implementation have been determined throughout this study.

Efforts to identify factors influencing implementation begin with Sarason (1971), Berman and McLaughlin (1974, 1975, 1976, 1978, 1979), Fullan and Pomfret (1977), Dow and Whitehead (1981) and continue up to Fullan's (1991) most recent work on educational change. Wright (1982) identified no fewer than 97 elements or factors influencing

implementation; obviously, the combining and classifying of so many elements can result in various ways of summarizing the factors affecting implementation.

Summaries by Fullan and Pomfret (1977), Fullan and Park (1981), Fullan (1982), and Fullan (1991) provide some examples of the categorizing of factors affecting implementation. Although the terminology and emphasis varies with each method of categorizing, all of these outlines place importance in some form or other on (1) the characteristics of the innovation itself, (2) the characteristics of the school and of the school district or system, and (3) factors which are external to the school district. All models, whether through direct listing or through reference within other categories, emphasize the importance of in-service efforts and teacher professional development during the implementation process. All models are also concerned with the role of the various personnel within the school and the school district in relation to the implementation process.

Fullan and Park (1981) stress that these factors do not operate in isolation but "in a dynamic fashion as a process over time" (p. 14). These factors are a system of variables which interact with each other. Generally speaking, the more factors that support implementation, the more change in practice is likely to occur.

Fullan (1991) writes that more and more the evidence points to "a small number of key variables" (p. 66) which influence implementation, and his most recent work reduces these from fifteen to nine. Nevertheless, Fullan (1985, 1991) warns against concluding that the process is a simple one. Approaches to managing change involve

> combining and balancing factors that do not apparently go together - simultaneous simplicity-complexity, looseness-tightness, strong leadership-participation (or simultaneous bottom up-top downness), fidelity-adaptivity, and evaluation-nonevaluation. More than anything else, effective strategies for improvement require an understanding of the process, a way of thinking that cannot be captured in any list of steps or phases to be followed. (Fullan 1985, p. 399)

The categorizing of factors in this study (Table 9) is a variation of that used by other researchers. The principles of implementation derived from an examination of each factor serve to confirm and extend upon principles already established in this study or to identify further principles.

Factors Affecting Implementation

A. CHARACTERISTICS OF THE INNOVATION

1. Need
2. Clarity
3. Complexity
4. Quality, Practicality, and Availability

B. CHARACTERISTICS AT THE SCHOOL DISTRICT LEVEL

5. The History of Innovative Attempts
6. The Adoption Process
7. District Administrative and Consultative Support
8. In-service and Implementation Strategies
9. Time-line and Information Systems (Evaluation)
10. Extent of Overload
11. Board and Community Characteristics

    (a) The Board
    (b) The Local Community
    (c) The Parents

C. CHARACTERISTICS AT THE SCHOOL LEVEL

12. The Principal
13. Teacher Characteristics and Relationships

D. CHARACTERISTICS EXTERNAL TO THE LOCAL SYSTEM

14. The Larger Community
15. Ministries of Education
16. Other External Factors

    (a) The Federal Government
    (b) Universities and Teachers' Unions

Table 9: Factors affecting implementation, as outlined in this thesis.

Characteristics of the Innovation

Wright (1982) distinguishes between "anatomical" and "ascribed" characteristics of a curriculum innovation. The philosophy and actual components of a document or program are anatomical attributes while attributes such as the practicality, clarity, or complexity of the proposed change are ascribed to the change by individuals.

It is important to recognize that many of the "characteristics of the innovation" referred to in this review and others are ascribed characteristics. "Need", for example, is not an objective element depending on the nature of materials but one which depends more on individuals' perceptions as to whether a certain program change is a solution to a local problem.

Need

The literature suggests that implementation is more likely to occur when teachers perceive a need for the proposed change (Fullan, 1982, 1991; Wright, 1982; Fullan and Park, 1981). The Rand Change Agent Studies (Berman and McLaughlin, 1974, 1975, 1978) identified some of the most successful examples of implementation as those which arose from attempts to solve a local problem. In these instances, teachers took ownership of the change because it attempted to provide solutions for problems which were important to them.

Teachers see themselves as having so many responsibilities that they are unable to commit time to changes which do not meet a perceived need.[16] The change, then, must be seen to have some "relative advantage" (Rogers, 1983, p. 15) over current practice. Since teachers' rewards are primarily "psychic" rewards (Lortie, 1975) coming from positive interactions within the classroom and successes with students, they will be more inclined to see advantages in innovations that have some likelihood of improving classroom interaction or classroom learning.

As Fullan and Hargreaves (1991) point out, teachers have their own sets of purposes and commitments in teaching, which grow out of their own experience, education, and setting. Curriculum changes which teachers readily see as relating to those purposes or which can be shown by credible change facilitators to relate to those purposes have a better chance of acceptance. Sometimes, the belief or approaches of a proposed change may be compatible with beliefs that a teacher already holds but has not had previous support in implementing. Rosenfield and Rubinson (1985) write that "individuals expose themselves in an open way to ideas that are in accord with their interests, needs, or existing attitudes" (p. 284). In those instances, implementation is

16 See "The Teacher's Response to Change", pp. 112-135 of this study.

more likely because the need has already been accepted (Sarason, 1971, p. 171).

The need for an innovation can grow out of local concerns so that change originates from local demand. Need can also be created and related to the local situation during mobilization, even in instances when the adoption of an innovation has occurred through external agencies (Berman, 1981; Fullan, 1982, 1991). Hunkins and Ornstein (1989) write that often "a high degree of districtwide and schoolwide implementation involves educating individuals about the worth of a new program or program components" (p. 106).

Regardless of the manner in which facilitators or users relate the change to local need, Fullan (1991) indicates that the assessment of need develops and expands over time: "precise needs are often not clear at the beginning, especially with complex changes" (p. 69). Although some agreement as to need is essential initially, the total fit between a new program and the need of the school or district may not become entirely clear until implementation is underway. Crandall (1983) found that sometimes teacher commitment developed only after teachers were actively engaged in a new practice and, through their own experience and working with others, could see the benefits of the innovation.

Rosenfield and Rubinson (1985) indicate that need may be perceived differently in different schools; put another way, different schools may accept the same innovation as a solution

to different needs. When there is difficulty in gaining acceptance for an innovation, some aspects of the change can more easily be related to a school's needs than others, depending on the particular priority of that school, and on the culture of the school. However, if a change facilitator is promoting an innovation in this manner, it is important not to oversell its benefits in meeting the school's need since discontent will quickly set in if the innovation does not meet the school's expectations (Fullan, 1991; Fullan and Park, 1981).

Fullan (1991) indicates as well that schools have many needs and it is not enough that people acknowledge a need - they must also see that need as a priority among other needs and therefore deserving of action. The factor of need also relates closely to that of clarity: individuals may see a priority need but feel that the proposed solution does not clearly meet that need. Fullan says people involved must perceive "both that the needs being addressed are significant and that they are making at least some progress toward meeting them" (p. 69).

Fullan (1991), Berman and McLaughlin (1976, 1978) and others indicate that many implementation efforts have failed because teachers or others are unconvinced of the need for the advocated change. This can occur when innovations are adopted without reference to local need, when implementation approaches do not allow the kind of discussion and

experimentation which can allow teachers to make the connection to classroom needs, or when the innovation itself is so unclear or undeveloped that it is difficult for teachers or change facilitators to relate it to any need at all.

Principles of Implementation

The principles of implementation and corresponding guidelines for implementation that can be concluded from these considerations are listed below:

(xxv) Principle: Teachers will more readily commit to change proposals that they feel meet a particular need or set of needs and have a chance of improving classroom interaction or learning.

Guideline: Change facilitators should relate the program change to need, or set up processes whereby the change can be related to need. (Confirmation of principle [xv])

(xxvi) Principle: Teachers are more inclined to implement changes that are in keeping with previously held beliefs for which curriculum may not have previously existed.

Guideline: Change facilitators should attempt to determine such beliefs and, where applicable, help teachers make connections between their beliefs and the proposed changes.

(xxvii) Principle: The teacher's acceptance of the need for a curriculum change often occurs *during* implementation and is related to the perceived effect of the change in the improvement of student learning.

Guideline: Change facilitators should provide opportunities for teachers and others to notice, share and internalize successes so as to foster continued acceptance of the innovation and stronger belief in its need.

(xxviii) Principle: The possibility of implementation is enhanced when an innovation is seen not only as a need, but a priority need, in the school or district.

Guideline: Change facilitators should work with teachers to achieve consensus as to the priority of needs, and to acquire priority resource support for the innovation so that the innovation is perceived as being a priority among needs within the district.

(xxix) Principle: In any complex innovation which meets multiple needs, individual teachers or schools may have different emphases in their expectations for the innovation, based on what they perceive to be their priority need.

Guideline: Change facilitators should attempt to relate the innovation to the priority need, assist the teacher in meeting this priority need through the implementation of the innovation, and work to help the teacher enlarge his/her concept both of classroom/ school needs and the potential of the innovation.

Clarity

Problems relating to clarity have been found in many studies of attempted change (Charters and Pellegrin, 1973; Huberman and Miles, 1984; Sarason, 1971). Gross, et al. (1971) found that must teachers in their case studies could not identify the essential features of the innovation they were using. In four case studies, Charters and Pellegrin (1973) found that innovations were usually described in abstract terms and that teachers were unclear as to what the change entailed behaviourally. Fullan (1990) writes that "diffuse goals and unspecified means of implementation" (p. 70) represents a major but common problem. This problem takes on greater significance in light of findings that teachers, who perceive themselves as overworked and sometimes inundated with a flood of demands for change, expect those proposing change to be clear as to the reasons and methods of the change.[17]

Sarason (1971) writes that the intended outcome "is rarely stated clearly, and if it is stated clearly, by the end of the change process it has managed to get lost" (p. 3). In studying the implementation of the new math, Sarason (1971) observed:

[17] See "The Teacher's Response to Change", pp. 112-135 of this study.

> Neither in the specific case we described nor in the general literature is it clear what outcomes were intended, whether or not there was a priority among outcomes, and what the relationship is between any outcome and the processes of change leading to it. (p. 63)

Sarason writes that behaviourial changes inherent in an innovation should be stated clearly:

> The intended outcomes for programmatic regularities can and should be stated in terms of overt behaviourial regularities that the dispassionate observer can record. To state intended outcomes in any other way increases the chances that we will be dealing with all the confusion and controversy produced by what Hook has called the unanalyzable abstraction. (p. 68)

Everard and Marris (1985) write that "all who are affected by the change need a clear picture of what it will mean for them" (p. 188). They will want to know what they will be doing differently after implementation and what the change will mean in terms of actual practice.

Researchers agree that clarity, even when recognized as a major concern for implementation is often an elusive concept. Everard and Marris (1985) write that it cannot be prepackaged: "it is something that grows through dialogue and questioning" (p. 188). White (1987) acknowledges that at the beginning of implementation "the precise character of the end results cannot be specified" (p. 214); nevertheless, some agreement on the nature of the outcome is essential "since it is this specification which provides the goals to which all members of the organization will be working" (p. 214).

Berman and McLaughlin (1978) write that "teachers can better implement innovations if they clearly understand the project's purposes" (p. 39). Although clarity is not something that staffs can be given at the outset, well-specified project designs can help. Berman and McLaughlin (1978) stress that clarity "must be achieved through practical, concrete training activities that permit project staff to understand the significance of project percepts as they apply them to their own classrooms" (p. 39).

Fullan (1982, 1991) explains that the factor of clarity relates very much to complexity in that it is more difficult to be clear at the outset about all aspects of a complex change; nevertheless, complex changes may be more worthwhile than many of the simple changes about which it is easier to be clear.

Leithwood and Montgomery (1987) write that it is important to be clear about those aspects of the innovation that we can be clear about. For those aspects that we can't be initially clear about, it is important to establish a system or procedure to ensure that attaining clarity can be an ongoing part of the process. The innovation profiles promoted by Leithwood and Montgomery are an example of such frameworks within which teachers and consultants can work together to achieve clarity during the implementation process. Other researchers (Berman and McLaughlin, 1976, 1978; Fullan, 1991; Hall and Hord, 1987) stress the need for ongoing contact and collaboration among teachers and change facilitators

throughout the implementation process so that clarity can be continually refined in both thought and action.

The challenge for those planning implementation is to determine what can be clearly stated or demonstrated at the beginning and to set up the processes for arriving at clarity in those areas that we cannot initially be clear about. Within this process, it is important that the change be examined fully, looking at the materials, but also the inherent approaches and beliefs. If this does not occur, the "painful unclarity" of not knowing what the change is about can be replaced by a "false clarity" in which participants think that they are clear about the innovation but have in fact only understand or implemented the superficial aspects of the change (Fullan, 1982; 1991).

Regan and Leithwood (1974) indicate that setting specific goals and clear practices also makes implementation more complex for teachers. Clarity narrows the range of adaptation and aims for more fidelity to the integrity of the proposed change. Establishing more specific objectives and behaviours can therefore necessitate more active and specific help and involvement on the part of change facilitators.

Two of the strategies that Leithwood and Montgomery (1987) recommend for achieving clarity are: 1) relating the change to existing practice and 2) emphasizing those elements that are new in a complex change. These strategies rest on the assumption that any complex change will have some elements

that are new and some elements that are at least in some ways similar to existing practice. The first of these strategies relates to "compatibility"; changes that are "compatible" with at least some aspects of existing practice or belief are more easily implemented. Secondly, emphasizing those elements that are new is a way of breaking down a complex change, and can also serve to establish priorities as to which outcomes are most important.

In stressing the need for clarity in implementation, Hunkins and Ornstein (1989) urge educators to avoid the "do something, do anything" syndrome:

> The need is for a definite curriculum plan, to focus one's efforts, time and money on content and activities that are sound and rational, not on a scam or a simplistic idea. (p. 109)

Principles of Implementation

The principles of implementation and corresponding guidelines for implementation that can be concluded from these considerations are listed below:

(xxx) Principle: Teachers will be more receptive to change proposals that are clear about what they propose to do and how they propose to do it.

Guideline: Change facilitators should present program proposals clearly and set up efficient processes which involve teachers in an ongoing effort of further clarification. (Confirmation of principle [xv])

(xxxi) Principle: The more precise facilitators or teachers are in defining what the proposed changes will entail in practice, the more help teachers may need in attaining such precise objectives, particularly if the changes are complex; put another way, increased specificity reduces delivery diversity, thereby making the objectives of implementation more faithful to the original design but often more difficult or complex for the teacher to implement.

Guideline: Change facilitators should determine the degree of desired specificity, or set up processes for determining the degree of desired specificity, based on the priority of fidelity for a certain aspect of the change

(i.e. is it really crucial that this particular thing be done in a specific way rather than in multiple ways?) and the capacity of the organization to assist teachers in attaining the degree of specificity required. (Extension of principle [vii])

(xxxii) Principle: Implementation is positively affected when change facilitators relate the changes to the previous or present practices of teachers.

Guideline: Change facilitators in conjunction with teachers should determine elements of continuity in the innovation and help teachers relate these elements to their experience. (Extension of principle [xxvi])

(xxxiii) Principle: Implementation is positively affected when elements of the innovation that are new and different are highlighted and prioritized.

Guideline: Change facilitators should determine, or set up a procedure for determining, what is new about an innovation and highlight the essential changes during in-service and ongoing discussion and work with teachers.

Complexity

Since complexity is closely related to the issue of clarity, several issues relating to complexity have been mentioned in the preceding section.

Complexity refers to the difficulty and extent of change required of individuals. Fullan (1991) writes that "any change can be examined with regard to difficulty, skill required, and extent of alterations in beliefs, teaching strategies, and use of materials" (p. 71).

The literature indicates that simple changes may be easier to implement but often accomplish less (Mann, 1978; Berman and McLaughlin, 1978; Fullan, 1991). Except in instances where the organization "overreaches" and attempts changes which are either never defined or go far beyond its capacity, attempts at complex changes have a greater chance for success than do simple changes by virtue of the fact that more is attempted and possibly because participants may be

more motivated by a more ambitious effort, assuming that other conditions are supportive of it. Berman and McLaughlin (1978) summarize their observation of a number of complex projects:

> The more extra effort asked of teachers, particularly during the hectic first year of implementation, the more likely they were to respond positively; they were more likely to change their own practices, and to truly assimilate and therefore continue using the project's methods. Such ambitious and demanding projects did create short-run problems for both teachers and administrators; yet, by the end of the federal funding period, they were no more or less likely to fail (or to succeed) in meeting their objectives or in promoting improved student performance than were more narrowly focused or less ambitious projects. In other words, attempting less does not necessarily assure more effective implementation, but it can foreclose teacher change of a lasting variety.
>
> Thus, our data indicate that teachers rise to challenges. Ambitious and demanding innovations seem more likely to elicit the commitment of teachers than routine projects. (p 25)

Berman and McLaughlin's (1978) findings seem to challenge some previously held assumptions about the willingness of busy teachers to commit large amounts of time and effort to innovation. It should be noted, however, that nearly all of the examples of successful implementation which Berman and McLaughlin studied also featured implementation strategies such as in-service, committee work, and other forms of ongoing assistance. Berman and McLaughlin (1978), and Sarason (1971) doubt whether it is a good idea to attempt complex changes across a whole school system at once since facilitators and project leaders may not be able to provide the required

assistance to too many schools simultaneously. Above all, complexity is closely related to clarity: "teachers must clearly understand their project's goals and precepts" (Berman and McLaughlin, 1978, p. vii). Berman and McLaughlin (1978) maintain that in a complex initiative, such clarity can come only during the actual implementation process.

Complex changes have a greater chance of implementation if they are "divisible", that is, if they can be broken down into a number of changes which can be approached individually. (Yin, Herald, and Vogel, 1977; Rosenblum and Louis, 1981; Huberman and Miles, 1984). It would appear that breaking down complex changes into subcomponents is one of the challenges of pre-implementation and one of the elements of achieving clarity during implementation.

Complexity, as well, is not as much an anatomical aspect of the innovation as it is an "ascribed" one. The degree of perceived complexity involved in implementing an innovation depends on where teachers are in their thinking and practices at the start of implementation, and therefore may be different for different individuals (Fullan and Pomfret, 1977). In these terms, determining how complex an innovation actually is and deciding how to break it down will also involve assessing where teachers are already and determining which aspects of the innovation will be new or difficult according to their perspectives.

Principles of Implementation

The principles of implementation and corresponding guidelines for implementation that can be concluded from these considerations are listed below:

(xxxiv) Principle: Other factors being equal, complex curriculum changes are more likely to be more motivating, and are more likely to produce more significant changes than simple curriculum changes, even though they may present more frustrations initially.

Guideline: Change facilitators should encourage teachers to accept the challenge of complex changes by emphasizing the greater benefits of larger changes and should work with teachers during initial frustrations. In striving for clarity about the change, change facilitators should be careful not to downplay the complexity of the change such that a false sense of clarity develops, leading to only partial implementation.

(xxxv) Principle: A complex change has a greater chance of implementation if it is "divisible" into a number of changes.

Guideline: Change facilitators should attempt to divide a complex change into its subcomponents or set up processes whereby such divisions can occur. (Extension of principle [xxxiii])

(xxxvi) Principle: Complexity is largely an aspect of perception; that is, the scope of the change for any individual depends on that individual's present practices and is different for each individual.

Guideline: Change facilitators need to ascertain where teachers are in their practices and their thinking before determining which aspects of the change will be new or difficult for teachers.

(xxxvii) Principle: Complex changes can create more frustrations for teachers initially, and teachers implementing complex changes may need more assistance from change facilitators.

Guideline: Change facilitators who are working with complex changes should consider this principle in the management of their own time. One possibility is to implement the change in a smaller number of schools rather than district wide. Other solutions may exist in reducing other workload, or attaining increased internal or external assistance.

Quality, Practicality, and Availability

Fullan (1982) writes that "teachers want, need, and benefit from tangible, relevant program materials which have been produced and tested in real classroom situations" (p. 60). Yet the availability of quality materials is frequently not the norm in many implementation efforts:

> Inadequate quality and even the simple unavailability of materials and other resources can result when adoption decisions are made on grounds

> of political necessity, or even on grounds of perceived need without time for development. Put differently, when adoption is more important than implementation, decisions are frequently made without the follow-up or preparation time necessary to generate adequate materials. Ambitious projects are nearly always politically driven. As a result the time line between the initiation decision and startup is typically too short to attend to matters of quality. (Fullan, 1991, p. 72)

One of the yardsticks by which teachers judge quality is the "practicality" of the materials. Practicality usually implies that program materials have a clear focus and include concrete how-to-do-it suggestions or directions; in other words, teachers expect program materials to have thought through some of the steps necessary for actual classroom use (Mortimore et al., 1988; Fullan, 1991). At the same time, the change is more readily implemented if it is seen as being flexible enough to meet the particular situations of individual teachers. As Fullan (1991) indicates, the practicality requirement does not necessarily mean that teachers expect the changes to be easy; it does mean that teachers expect the developers of programs or change proposals to have considered the practicalities of a number of different teaching situations and provided the best quality that is possible. Materials which demonstrate how to use a program and which give details on instructional methods rather than just goals or content have been shown to positively influence implementation (Fullan, 1982, p. 61).

Loucks and Zacchei (1983) write that an innovation needs to be "classroom-friendly":

> It needs to "fit" a real, live classroom setting; its introduction must employ strategies that help teachers incorporate it into the continuous job of teaching. (p. 28)

Resnick (1975) maintains that the leap from curriculum objectives to an interesting and effective set of curriculum materials has often been intuitive and not based on research about how children learn. Drawing on categories established by Popham, Leithwood (1981) lists five "sub-dimensions" of curriculum materials which have a positive effect on student learning:

> *Organizers*: the kind of summary information provided at the beginning or end of the material to establish a learning set.
>
> *Practice*: the extent to which the student is allowed practice relevant to the objectives of the curriculum.
>
> *Knowledge of results*: the procedures for informing the student of his/her progress toward achieving the objectives of the curriculum.
>
> *Learner interest*: the properties of material specifically designed to attract student interest and motivate learning.
>
> *Communication channels*: the type and number of sensory modalities (audio, visual, etc.) called into play by the materials. (p. 30)

Leithwood (1981) writes that very little instructional material has been designed with such sub-dimensions explicitly

in mind and it is often left up to the teacher to provide elements of these various sub-dimensions (p. 30). Leithwood and Montgomery (1980) refer to the "lack of attention to explicit user behaviour" (p. 197):

> A large proportion of many such curriculum innovations include descriptions of intended outcomes for students, philosophical discussions of global concepts for the curriculum, general hints at teaching methodology, lists of curriculum resource material, and broad directions for student assessment. These characteristics are nonoperational statements of what the user does when putting the innovation into practice. (p. 197)

Leithwood and Montgomery are careful to point out, though, that even quality curriculum materials which have taken user behaviour into full account will still need further interpretation at the implementation stage:

> No matter how concrete and explicit the policy maker or curriculum developer attempts to be, every curriculum innovation is in some sense incomplete from the point of view of those who are to put it into practice. This incompleteness is a function of the developer's or policy maker's understandable inability to fully predict the context in which the innovation will be used and the resulting modification of the innovation necessary to meet such contextual demands. This is the case even when the developer's and user's intentions for the innovation coincide. (Leithwood and Montgomery, 1980, p. 197)

The literature is somewhat inconclusive about the place or value of locally developed materials. Berman and McLaughlin (1978) list the development of local materials as

one of the positive influences on implementation; one of the benefits was that it allowed teachers to take more ownership of the change and relate it more directly to local need. At the same time, much of the literature just mentioned stresses the need for busy teachers to have well-developed quality materials made available to them when new programs are introduced. Hall and Hord (1987) write that an over-emphasis on locally developed materials have in some instances led to "cottage industries" which have produced questionable results and are not replicable across schools or districts. Two conclusions might be inferred, tentatively, from the seemingly conflicting views on this issue. First, whether or not it is appropriate or desirable or even possible for materials to be locally developed may depend a great deal on the type of change that is involved. Secondly, the two emphases may not be that incompatible. Materials can indeed be locally developed by teachers as supplementary to, or further refinements or enrichments of, existing quality program materials.

It may not be unreasonable to suggest that the development of materials by teachers to extend upon or clarify or enrich existing quality programs or change proposals offers the best of both worlds: existing quality materials or proposals provide clarity and direction, while development of accompanying materials or interpretations allows the teacher to further clarify and adapt the change to the local setting,

while at the same time taking greater ownership of it. This would seem to coincide as well with Little's (1981) findings. Little (1981) refers to "joint work on materials" as one of the indicators of a collaborative culture; by planning and designing materials, teachers "confirm their emerging understanding of their approach" (p. 13).

Loucks and Zacchei (1983) maintain that an innovation is more easily accepted if it has a proven track record. The innovation needs to be effective with students but also, if possible, it should "carry some evidence that it has actually made a difference with students" (Loucks and Zacchei, 1983, p. 28). As with other issues, evidence from other practitioners will be the most readily accepted by teachers. Rogers (1983) refers to the "observability" of the innovation; observing the practical success of a program has a positive influence on implementation.

Fullan (1991) indicates that quality materials have been a problem in many change efforts because the time between initiation and startup is too short. In one study the average time from awareness to adoption was 9.5 months and from startup to implementation 3.5 months. This does not allow time for development of materials or even for adapting or getting familiar with materials that may already be developed. Allowing sufficient time to develop quality materials is especially important if the change is a complex one (Fullan, 1991, p. 72).

Principles of Implementation

The principles of implementation and corresponding guidelines for implementation that can be concluded from these considerations are listed below:

(xxxviii) Principle: Availability of program materials in sufficient time for teacher study and use positively influences implementation.

Guideline: Change facilitators should work to ensure early availability of materials.

(xxxix) Principle: The overall quality of program materials influences implementation. In particular, programs which have attractive and "classroom friendly" materials and which provide accompanying practical guidelines on instructional approaches are more likely to be implemented.

Guideline: Change facilitators should influence the development or

adoption of such quality materials, highlight quality features in discussions with teachers, and work with teachers to improve quality of materials where quality is lacking.

(xl) Principle: The degree of flexibility of program materials, and of accompanying directions for instruction for a variety of classroom situations, positively influences implementation.

Guideline: Change facilitators should help teachers examine and use the flexibility suggested in the materials and help teachers adapt the materials to local needs in cases where no clear directions or alternatives exist.

(xli) Principle: Teachers and facilitators are more inclined to accept and implement a program if it has a proven track record.

Guideline: Change facilitators should share such information about the program with teachers or arrange for teachers to talk to or observe people who have used or are using the program.

(xlii) Principle: Since teachers tend to judge programs by improved student learning, interest, and interaction, quality materials which enhance these goals are more likely to be accepted and implemented. Program materials which most enhance student interest and learning are those which are attractive, stimulate a variety of the senses, inform students of their progress, provide practice relevant to objectives, and provide summary information at the beginning and end of material.

Guideline: Change facilitators should highlight these features in

program materials and assist teachers in supplying these features if they do not exist in the materials.

(xliii) Principle: Tentatively, it would appear that teachers who develop or help develop local materials to supplement, clarify, or enrich programs take greater ownership of the innovation and are more successful in adapting it to local need.

Guideline: Change facilitators should encourage and provide opportunities for teachers to develop local materials to support, enrich, or further clarify or adapt programs.

Characteristics at the School District Level

The leadership and involvement of school districts is crucial to the implementation of curriculum in schools (Berman and McLaughlin, 1978, 1979; Hall and Hord, 1987; Fullan, 1991; Fullan, Anderson and Newton, 1986). Fullan (1991) writes:

> The individual school may be the unit of change, but frequently change is the result of system initiatives that live or die based on the strategies and supports offered by the larger organization. (p. 73)

Cuban (1984) maintains that we know less than we should about the role of the school district in managing change.

> Little attention is directed to the role of district leadership. Concentration upon the local school site and the principal's leadership dominates the research. This implicitly ignores the pivotal role that school boards and superintendents play in mobilizing limited resources, giving legitimacy to a reform effort and the crucial interplay between central office and school site that can spell the difference between implementation success and failure. (p. 132)

Fullan, Anderson and Newton (1986) concur with Cuban that "we know very little about the models, plans, policies, and procedures that districts develop to attempt to manage change" (p. 308). In addition to studying how districts plan for implementation, Fullan says that we need to know much more about the roles, role relationships, and organizational structures that are effective in bringing about district-wide and school-level implementation (1986, p. 308).

While not enough is known about how school districts plan and operate, researchers agree that the behaviour of the district organization largely determines whether appropriate and effective support is available to teachers who are implementing program changes. (Fullan, 1982, 1986, 1991; Berman and McLaughlin, 1979; Hall and Hord, 1987).

The History of Innovation Attempts

Each school district, says Fullan (1991), has its own history of innovation attempts. The same program can be successful in one school district and a disaster in another: "Some districts have a track record of continual innovative achievement; others seem to fail at whatever they attempt" (Fullan, 1991, p. 73).

Fullan (1991), summarizes the relationship between implementation and the district's history of innovation in this way:

> 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 change presented regardless of the merit of the new idea or program. (p. 74)

Teachers are less likely to commit valuable time to program changes if they believe that the organization is incapable of planning properly or is unwilling or unable to give support to follow through. Sarason (1971) writes that there is often a huge discrepancy between the number of proposals made and those actually implemented (p. 221). This can give teachers the feeling that a proposed change is just one more initiative that will "go away" (Hunkins and Ornstein, 1989, p. 111). Teachers respond with equal negativity when innovations succeed each other so "rapidly and ruthlessly" (House, 1974, p. 66) that nothing is ever fully implemented

and innovation weariness sets in. Pincus (1974) complains that often "there are too frequent changes in program priorities and too short a life for educational experiments" (p. 127).

Sarason (1971) indicates that teachers' responses to the district's attempts at innovation are influenced by whether or not their own proposals and involvement have been welcomed by the district in the past. If teachers' own suggestions have been repeatedly rejected, they may be less willing to accept the suggestions of others (pp. 221-2).

Teachers' judgements about any proposed district initiative will be coloured by previous history. However, implementation depends on the dynamic interaction of all of the factors in the change process such that strengths in all other elements of the process can partially offset particular weaknesses in one area (Fullan and Park, 1981). House (1974) has shown, for instance, that new personnel in a school district, particularly at the district administrative level, can cause teachers to view district capability differently , regardless of past history.

Principles of Implementation

The principles of implementation and corresponding guidelines for implementation that can be concluded from these considerations are listed below:

(xliv) Principle: Teachers' acceptance of and commitment to innovations promoted by the school district will be influenced by their perceptions of the district's history of innovative attempts.

Guideline: Change facilitators should be prepared (if possible) to illustrate the district's previous successes in implementation, and to demonstrate to teachers that concerns arising out of previous negative experiences with implementation will be recognized and not repeated in this current effort.

The Adoption Process

The inclusion of this factor under "Characteristics of the School district" can sometimes be misleading because, as Berman (1981) has pointed out, adoption is often decided upon by agencies outside the school district. However, regardless of the agency which makes the adoption decision, it is those who plan for implementation within the school district who must guide the mobilization process within that district. In

cases where the adoption decision has been made outside the district, the challenge for the district team is to ensure teacher involvement in the planning for implementation and to work to reduce the impact of any negative perceptions related to the adoption process (Berman, 1981).

Rushed, opportunistic, or bureaucratically-oriented adoption decisions are generally followed by limited implementation (Berman and McLaughlin, 1978). As we have seen adoption of substandard or undeveloped program materials or adoption that occurs too close to the implementation date for proper teacher preparation, all influence implementation negatively.[18] On the other hand, if the decision to change has been carefully considered with appropriate administrative commitment, principals and teachers will take implementation more seriously (Fullan, 1982, 1991; Fullan and Park, 1981).

Teacher involvement in the adoption process has the effect of matching the innovation more carefully to need and exposing the proposed innovation to the quality and practical requirements of teachers. Fullan (1982) points out, however, that in terms of teacher acceptance of the innovation during implementation, the quality of the adopted innovation is far more important than whether teachers at the district level have been involved in the adoption decision.

[18] See "Mobilization", pp. 36-39 of chapter 2.

Crandall (1983) found that if clear direction and help was given, teachers would accept and implement a quality innovation "with little or no early involvement in problem solving, selection, or decision making" (p. 7). Fullan (1982) writes that even when some teachers are involved in the adoption decision or in the writing of policies or programs, the vast majority of uninvolved teachers are not really a part of this activity and are more influenced by the quality of it than by who was involved in it. Attempts to involve large numbers of teachers in the adoption decision can expend so much energy during the adoption phase that it reduces the energy that is remaining for implementation (Fullan, 1982).

The conclusion of the research is not that there is some disadvantage to involving teachers during the adoption process but that it is not always possible to involve very many teachers and that other factors are more crucial to implementation than teacher involvement at the adoption stage (Crandall, 1983; Fullan, 1982, 1991). The quality of the planning process is what is important during adoption. Teachers expect that quality decisions be made within time frames which are sensitive to the teachers' responsibilities for implementation. Fullan (1982) concludes that it is "implementation-level participation" (p. 65) which is more important for change in practice.

Principles of Implementation

The principles of implementation and corresponding guidelines for implementation that can be concluded from these considerations are listed below:

(xlv) Principle: The quality and result (what program or solution is adopted) of the adoption process is of primary importance to teachers' acceptance and implementation of the innovation; teacher involvement in the adoption process is valuable, but of secondary importance.

Guideline: (a) Change facilitators at the district level should focus on ensuring the quality of the process so that the proposals/programs adopted and the time frames chosen for implementation are advantageous to the implementation process; where possible, involving some teachers in the adoption decision is also a positive influence upon

the implementation efforts of those particular teachers. (Confirmation and extension of principle [ii])

Guideline: (b) Those mobilizing for implementation should work to reap the benefits during implementation of positive aspects of the adoption process and reduce the impact upon implementation of any negative aspects of the adoption process. (Confirmation of principle [ii])

District Administrative and Consultative Support

This factor relates closely to the district's history of innovative attempts in that the degree and manner in which district administrators support change may be determined somewhat by previous patterns of the organization. More importantly, teachers' judgments about any proposed district administrative support will be coloured by previous history. The influence of previous history should not be overemphasized, however, because implementation depends on the dynamic interaction of all the factors such that strengths in some elements of the process can offset weaknesses in others

(Fullan and Park, 1981). Also, the very premise of change is that people and organizations can break out of existing patterns.

District Administrative Support

The literature indicates that the support and involvement of district office administration influences implementation positively. Rosenblum and Louis (1981) found that superintendent authority and involvement was more positively associated with implementation than was teacher autonomy. Berman and McLaughlin (1979) found that district administrative involvement in comprehensive changes was a benefit. They describe how one new superintendent transformed the organization by actively supporting implementation proposals, by visiting schools to see how implementation was progressing, and by following through on decisions that were supportive of implementation.

Fullan (1991) writes that the district administrator "is the single most important individual for setting the expectations and tone of the pattern of change within the local district" (p. 191). Since much of the success of change depends upon the nature and clarity of communication, the district administrator, more than anyone else in the district, also "sets the pace and tone concerning the climate of communication" (Fullan, 1991, p. 199). Sarason (1972) writes about the importance of leadership in curriculum changes and describes the leader in this way:

> He is the most visible and influential model of how one should think and talk, what one should talk about, how one deals with reality, and how one anticipates and deals with problems. (p. 206)

The support of district administrators and other personnel at district office who are leading the curriculum change must be specific and demonstrated through action; general support and endorsement by itself has little impact on program implementation in practice (Fullan, 1991; Fullan, Anderson and Newton, 1986; Huberman and Miles, 1984). Teachers frequently look for evidence of tangible support before they are convinced that the proposed program has broad-based support within the district and is being taken seriously by district staff.

One of the evidences of support from district office is financial assistance. Hunkins and Ornstein (1989) write that "without adequate financial support, efforts to implement district-wide will fail" (p. 108). Hunkins and Ornstein warn that resource support should focus on the implementation process and not just on the initial adoption of the innovative program. Hall and Hord (1987) also point out that some change efforts provide more financial and in-service assistance during the start-up phase to pilot teachers who are often enthused about the change anyway, and less support at later stages to other teachers who may need more help and may be more resistant to change. Leithwood (1986) concludes that applying diminishing support to increasing need and resistance is unlikely to be successful.

Besides allocating resources, the district administration and district staff must provide the overall framework within which change can occur. While consultants can also provide the details of that leadership role, visible support and leadership from the superintendent and other district administrators have a positive impact on implementation. Fullan (1991) has summarized much of what is entailed in that framework, some of which relates to factors handled separately in this review. District staff, he writes, must lead a process that

> 1. tests out the need and priority of the change;
> 2. determines the potential appropriateness of the particular innovation for addressing the need;
> 3. clarifies, supports, and insists on the role of principals and other administrators as central to implementation;
> 4. ensures that direct implementation support is provided in the form of available quality materials, in-service training, one-to-one technical help, and opportunity for peer interaction;
> 5. allows for certain redefinition and adaptation of the innovation;
> 6. communicates with and maintains the support of parents and the school board;
> 7. sets up an information-gathering system to monitor and correct implementation problems; and
> 8. has a realistic time perspective.
>
> (Fullan, 1991, p. 198)

While such a list highlights many of the factors involved, Fullan (1991) warns that such specifics must grow out of an underlying understanding of the change process:

> Someone at the district level must know what he or she is doing, and plan for them to happen. The leader's *conceptual understanding of the dynamics of organization, the processes of change, and the people in his or her jurisdiction* represents the most generative (or degenerative, if it is missing) source of ideas about what goes into a plan and what steps have to be taken when things go wrong. Successful administrators operate implicitly or explicitly from a basic set of principles - a theory of change. (p. 198, his emphasis)

Crucial to one's theory of change is an understanding of how district organizations work.[19] District administrators who allow authority to be dispersed so that more decisions are made closer to the point of delivery, while reserving for themselves the role of leading, monitoring, and giving tangible and visible support, are more likely to foster the growth of teacher support and collaboration, and are more likely to build a district organization which is conducive to the implementation of change (Berman and McLaughlin, 1979; Fullan, 1991).

District administrators who place a high priority on curriculum delivery, communicate that commitment clearly and tangibly, and set up and support the appropriate frameworks within which teachers, principals and district staff can communicate clearly to each other during the implementation process, have a positive impact on the success of program

[19] See "Organizational Responses to Change", pp. 136-146 of chapter 3.

implementation. It appears, however, that superintendents often do not, and perhaps cannot, provide this kind of leadership. Goldhammer (1977) and Blumberg (1985) found that negotiation and conflict management dominated the schedules of most superintendents. Fullan (1991) notes that one of the most revealing aspects of Blumberg's extensive interviews with superintendents was the infrequency with which matters of curriculum and instruction arose at all in the discussion of their work. Both Blumberg (1985) and Cuban (1988b), however, found that a minority of superintendents had been able to elevate instructional leadership so that it became the central focus of their work. Superintendents who are successful in doing so have been able to subvert concerns of politics and management to the larger mandate of curriculum delivery and have been adept at communicating this priority to the district (Blumberg, 1985; Cuban, 1988b; Berman and McLaughlin, 1979).

There has been little research concerning the roles of district administrators other than the superintendent (assistant superintendents, area superintendents, etc.) who may be more directly involved in program implementation. Hall, Putman and Hord (1985), in studying the roles of district office personnel, found great variation among districts and a general lack of clarity regarding roles and expectations.

District Consultative Support

District consultants are also key district personnel in providing the framework for implementation outlined by Fullan[20] and in helping teachers operate within that framework (Fullan 1991). However, the roles of these people may vary greatly across districts, provinces, and states, as do their titles: subject consultant, curriculum coordinator, program advisor, program coordinator, organization development specialist, change agent, project director, linkage agent (Fullan, 1991, p. 215).

In a study of district staff, Hall, Putman and Hord (1985) found that district office staff, including consultants, were often uncertain about the main purposes of their role, and that teachers were even more unsure about what district office personnel did. They also found, however, that district office personnel provided the impetus for many of the innovations implemented in schools, and that teachers viewed personnel in non-line positions (consultants) as less remote from the classroom and generally more helpful and approachable than those in line positions. District office personnel, including consultants, are also consistently in a crossfire of demands and expectations.

Cox (1983) analyzed data concerning the work of change facilitators involved in 61 innovative practices in 146

[20] See p. 189 of this study.

schools. These 78 internal (within-district) facilitators were considered beforehand to be providing active and effective assistance in schools and were interviewed about their work. Their description of what they did during the implementation of new programs gives some indication of the kind of support which consultants or change facilitators can provide. These facilitators said that they

> . [became] familiar with the needs of students in individual schools in their district;
> . located and helped select the new practice;
> . knew the content of the new practice, its purpose, and the benefits that were to result from its use;
> . helped arrange and conduct training in the new practice, working with external assisters;
> . arranged funding and other support from the district or other sources;
> . obtained endorsements for the new practice from the superintendent, school board, principal, and teachers;
> . worked with teachers using the practice in the classroom, working out "bugs" and overcoming obstacles;
> . assisted in evaluation; and
> . helped plan how to continue and institutionalize the new practice. (Cox, 1983, p. 12)

In the Rand studies, Berman and McLaughlin (1977) found that district consultants were considered most helpful when they were able to suggest or demonstrate specific ideas for classroom use during implementation. Williams (1980) captures something of this role in the term "fixer":

> Even if a path can be laid out reasonably well (the plan can be more detailed), travellers will be confronted by a host of contingencies a planner

> either did not conceive of or, if he did, had no way of knowing which approaches to take until particular situations unfold. The best of game plans only takes one so far. The need in the implementation process is for a guide (or fixer) who can keep the group headed the right way by figuring out where to go and how to proceed. The call is for someone to step in and try to set things right during the dynamics of play in the performance game....
>
> The fixer needs to have the power to intervene, and be willing to take the time to work through adjustments along the way. (p. 19)

Hall and Hord (1984) echo Williams' concept of the facilitator as someone who can work through adjustments along the way. To use their terminology, an intervention is "an action or event or a set of actions or events that influences use of the innovation" (p. 283). Different levels of intervention, such as policy level interventions and strategy level interventions, exist. Hall and Hord found that "incident interventions" were among the most frequent, and also the most important to implementation. Whether change facilitators assisted in these sometimes unforseen "incidents", and how they assisted, was crucial to the success of the change effort. Hall and Hord write:

> Many change facilitators see themselves as removed from the nitty-gritty incident level interventions and day-to-day work with individuals and small groups of users. We hypothesize that facilitators who do not attend to the incident level of the change effort by leaving it to others or to chance, will increase the likelihood of a poor quality implementation or outright failure. The incident level is where the individual users' concerns and problems are or are not resolved. It is at this level that the little subtleties of

> behaviour begin to accumulate that make the long-term difference in whether or not the change successfully takes place. Likewise, incidents must be tied to and built into coherent tactics and strategies so that the whole change effort is coordinated and consistent. (p. 302)

Hall and Hord (1984, 1987) also refer to "mushroom" interventions into the implementation process. These are actions or effects or relationships that were not planned or foreseen but which in a cumulative way are affecting implementation, and they can be supportive or non-supportive of the implementation effort. A simple example might be an unintended or unforseen collaboration between two teachers in different schools or districts. A more complex example might be particular interactions between teachers and community members which are impacting positively or negatively upon the implementation effort. The ability to detect such "mushrooms", and to support or counteract them, seems to differ considerably among change facilitators:

> In several field sites, change facilitators have been observed who, after only a few actions, recognize the potential emergence of a mushroom and do something about it. If the mushroom was counterproductive to the change effort, counter-actions were immediately initiated. If the mushroom was positive in nature, it was capitalized upon. In other field sites, mushrooms developed to high counterproductive proportions, but were not directly attended to by any of the change facilitators.
>
> There is some suggestion in our most recent research on change facilitator styles...that some change facilitators come to the role with the intuition or a trait of sensitivity to this type of phenomena. (1984, pp. 303-304)

What is evident is that a large part of the change facilitator's support of the implementation effort depends upon his or her ability to interpret a steadily unfolding context and act within it. Dealing wisely with specific incidents, building on positive unintended patterns and discouraging negative ones, requires a day-to-day ability to interpret and reinterpret events and a conception of implementation as an organic, continually developing process. At the same time, Hall and Hord maintain, "the initial game plan for a change effort and many of its component strategies and tactics can be specified in advance" (1984, p. 303). Planning for as many eventualities as possible and dealing wisely with unforseen eventualities and contexts seem to be the twin traits of a good change facilitator.

Ross and Regan (1990) compared experienced effective consultants with inexperienced consultants across various phases of a change process in two Ontario School boards. Experienced and effective consultants saw their roles as working with systems as well as with individuals, whereas novices had less of a systems emphasis. Experienced consultants were more inclined to work with teams and organizations as opposed to working alone or with individuals. They also planned workshops in a series rather than as one-shot events, used a variety of strategies depending on the individuals and the situations, and gathered ongoing data about changes in practice. Ross and Regan concluded that

"system plans, networking with teams of consultants, and coordinating support between line and staff positions were key elements in the strategies and planning of experienced consultants" (p. 176). In addition, Miles, Saxl, and Lieberman (1988) hypothesize that outstanding consultants have the ability to address multiple outcomes and objectives simultaneously and are more likely to address more fundamental and difficult objectives.

A major problem for district consultants is finding time to meet the demands of implementation. Fullan (1991) writes that "although effective change requires intensive, ongoing contact, the number of clients is far beyond the available time and energy of consultants" (p. 226). Setting up systems of peer support is not only a positive influence on implementation but also a partial answer to this dilemma.

Most consultants have had little training other than in a subject or content area and have acquired what they know about working in a processual manner within an organization only through experience (Fullan, 1991). The titles of training modules developed by Saxl, Miles, and Lieberman (1990) indicate some of the skills which are crucial to the implementation support which consultants can give. These titles and skills are: (1) trust/rapport building, (2) organizational diagnosis, (3) dealing with the process, (4) resource utilization, (5) managing the work, and (6) building skill and confidence in people to continue (Saxl, Miles, and Lieberman, 1990).

Recent research (Cox, 1983; Fullan, 1986; Hall and Hord, 1984, 1987; Ross and Regan, 1990; Saxl, Miles and Lieberman, 1990) goes further towards understanding how district office staff (administrators and consultants) can best manage and support the implementation process. Such district support and the interaction that it generates is crucial to program implementation. As early as 1976, Warren writes:

> For a project to succeed, the people in charge must be firmly convinced of the correctness of what they want others to do, and they must project that confidence. (p. 394)

Berman and McLaughlin (1978) show how such broad-based support during implementation is important to the continuation of the change:

> Because initial motivations at different levels of the educational system were so important, the only path leading to institutionalized change is predictable: Projects begun with broad-based support were not only more likely to have been implemented in a mutually adaptive way, but they also stood a better chance of attaining a stable continuation. The district was motivated and had already learned to mobilize support for and implement these projects when the need for remobilization and reimplementation was upon them at the end of federal funding. Without the district staff's prior commitment, and their successful experience in producing change, it is unlikely that these projects could have overcome the difficulties standing in the way of genuine institutionalization. (p. 21)

Principles of Implementation

The following principles of implementation can be concluded:

(xlvi) Principle: Teachers are more inclined to accept a commitment to proposed changes that they believe have a broad base of support, particularly the support of District office administration and staff.

Guideline: Change facilitators should work to acquire the support of the district administration and staff and to ensure that this broad base of support is communicated clearly to teachers. (Confirmation of principle [xvi])

(xlvii) Principle: The support of District administrators (particularly the superintendent) correlates positively with implementation. In particular, a district administration which clearly communicates a curriculum priority, establishes

frameworks for implementation, and provides financial support for resources and release time for teacher planning can positively influence curriculum implementation.

Guideline: Change facilitators should work to acquire such support and communicate such support for specific program changes to teachers. Change facilitators should also work to incorporate and institutionalize those characteristics into district operations.

(xlviii) Principle: The effectiveness of consultants correlates positively with curriculum implementation.

Guideline: Effective consultants/change facilitators should mobilize support for implementation, plan at a systems level to provide the framework for implementation, co-ordinate or deliver necessary in-

service for the proposed change, and interpret and work within the unfolding context to assist teachers in the foreseen and many unforseen incidents that occur during implementation.

(xlix) Principle: Applying diminishing financial and personnel resources to increasing need and/or resistance influences implementation and institution-alization negatively.

Guideline: Change facilitators should work to ensure that financial and in-service assistance are not unduly weighted towards the startup of the project or innovation or towards select teachers who pilot the innovation. More financial and personnel assistance may be needed later as more teachers, many of them needing even more help, begin implementation.

In-service and Implementation Strategies

Providing effective in-service and training for teachers implementing new programs has been mentioned as an aspect of district administrative and consultative support. The effective district administrator provides a framework of support which includes ongoing in-service; the effective consultant plans for overall implementation, which includes ongoing in-service and day-to-day work with teachers as implementation progresses.

A focus on the kind of in-service support that a district should provide can be attained by looking first at some of the reasons in-service efforts have failed in the past. Fullan (1979, 1991) summarizes seven reasons for failure:

1. One-shot workshops are widespread but are ineffective.
2. Topics are frequently selected by people other than those for whom the in-service is intended.
3. Follow-up support for ideas and practices introduced in in-service programs occurs in only a very small minority of cases.
4. Follow-up evaluation occurs infrequently.
5. In-service programs rarely address the individual needs and concerns.
6. The majority of programs involve teachers from many different schools and/or school districts, but there is no recognition of the differential impact of positive and negative factors within the systems to which they must return.
7. There is a profound lack of any conceptual basis in the planning and implementing of in-service programs that would ensure their effectiveness (Fullan, 1979, p. 3).

More recently, Pink (1989) found 12 factors that act as barriers to staff development:

1. an inadequate theory of implementation, resulting in too little time for teachers and school leaders to plan for and learn new skills and practices;
2. district tendencies toward faddism and quick-fix solutions;
3. lack of sustained central office support and follow-through;
4. underfunding the project, or trying to do too much with too little support;
5. attempting to manage the projects from the central office instead of developing school leadership and capacity;
6. lack of technical assistance and other forms of intensive staff development;
7. lack of awareness of the limitations of teacher and school administrator knowledge about how to implement the project;
8. the turnover of teachers in each school;
9. too many competing demands or overload;
10. failure to address the incompatibility between project requirements and existing organizational policies and structure;
11. failure to understand and take into account site-specific differences among schools; and
12. failure to clarify and negotiate the role relationships and partnerships involving the district and the local university (pp. 21-22).

Several themes emerge from the analysis of what has gone wrong in the past and from observation by researchers of some successful in-service and implementation strategies.

Emphasis on pre-implementation training alone, even when sessions are intensive and well-planned, is ineffective in helping people cope with change (Fullan and Park, 1981; Fullan, 1982, 1991; Hall and Hord, 1987). Meetings and in-service work must continue during implementation to provide the "ongoing, interactive, cumulative learning necessary to

develop new conceptions, skills, and behaviour" (Fullan, 1982, p. 66).

Such a rethinking regarding the timing of in-service does not come easily in some districts but can occur when administrators and change facilitators have an understanding of the principles of planned change and decide to apply them in practice. Loucks and Melle (1980) summarize one such successful case in the implementation of a new elementary science curriculum in Jefferson County, Colorado, where the superintendent and curriculum director abandoned plans for a three-day preimplementation in-service for all teachers in the district and replaced it with the following sequence: orientation for principals three months before teachers, brief introduction for teachers at each school three months prior to in-service, three one-day sessions for teachers with three month intervals between each day, one-to-one follow-up by consultants and resource teachers in between the three sessions, information gathering on five occasions regarding teachers' concerns and level of implementation.

Ongoing in-service efforts must be correlated to the varying needs and concerns of teachers and this requires a variety of approaches in in-service (Hall and Hord, 1987; Fullan, 1982, 1991; Joyce and Showers, 1988). Hall and Hord (1987) have shown how individual teachers pass through several

stages of concern during implementation, beginning with personal concerns. Sarason (1971) has observed that many in-service efforts have not dealt with personal concerns at all, but proceed into theory and approaches while teachers may want to ask quite different questions.

Once beyond the questions of how the innovation will affect them personally in terms of time, planning, and commitment, teachers want to know just how the innovation works in practice; in other words, they want and need more than just theory and good wishes. Joyce and Showers' (1988) model of theory - demonstration - practice, feedback, and continuous follow-through is one such example of in-service help that provides practical demonstration and practice as well as discussion and theory.

Fullan (1982) places the great variety of in-service approaches within the context of resocialization:

> Implementation, whether it is voluntary or imposed, is none other than a process of *resocialization*. The foundation of resocialization is *interaction*. Learning by doing, concrete role models, meetings with resource consultants and fellow implementors, practice of the behaviour, the fits and starts of cumulative, ambivalent, gradual self-confidence all constitute a process of coming to see the meaning of change more clearly. Once this is said, examples of successful training approaches to implementation make sense. They are effective when they combine concrete teacher-specific training activities, ongoing continuous assistance and support during the process of implementation, and regular meetings with peers and others. (p. 67, his emphasis)

Teachers who are implementing new programs want and need opportunities to meet with peers and others and discuss approaches, beliefs and concerns. Because teachers place trust in other teachers who are using or have used the program, teacher-to-teacher in-service can be quite effective and teachers who are trained as staff developers are often very successful in working with other teachers (Fullan, 1982, p. 66). The interaction of teachers with each other and with consultants during implementation should also include involvement in implementation decisions regarding ongoing efforts. Fullan (1982) sees this involvement as crucial to the implementation process:

> Teacher participation in decisions about implementation is not just essential for program acceptance. The identification and solution of implementation problems require teacher decision-making. Very few new programs can fully prespecify all implementation details. For many innovations, implementation involves some further clarification. (p. 67)

The interaction of teachers with the authors of change proposals or program materials can also be a source of further clarification for both parties. In describing the implementation of one project, Bird (1984) explains how the authors of the change proposals worked actively with teachers, helping them achieve objectives but also revising proposals in light of teachers' input. Bird concludes that "the important thing about authors of solutions is not so much their

brilliance as their presence and participation" (p. 73). While such ongoing collaboration with authors of programs or change proposals is not always possible, any opportunities for teachers and authors to collaborate and to discuss intentions and practices is a further assistance to successful implementation (Bird, 1984).

Staff attrition or teacher "turnover" should be considered in plans for implementation (Miles, 1983). New teachers who come onstream after implementation has begun need special help and assistance; on-going training programs is one of the factors essential for continuation of the innovation (Miles, 1983). Change facilitators who plan at a systems level will incorporate plans for such programs into their long-term framework.

Other in-service and implementation strategies - in-servicing of principals, establishing time-lines and information systems - are treated as separate factors in this review. As summaries of the reasons for the frequent failure of in-service gave an initial focus, examples of successful implementation strategies indicate what researchers have learned about in-service and implementation. Berman and McLaughlin (1978) refer to implementation strategies as "the local decisions and choices, explicit or implicit, on how to put the innovation into practice" (p. vii). Presence or absence of these strategies, write Berman and McLaughlin, can determine the success or failure of implementation and

continuation "almost independently of the type of innovation or educational method involved" (p. vii). These researchers were among the first to clearly identify some of the following implementation strategies:

- Concrete, teacher-specific, and extended training.
- Classroom assistance from project or district staff.
- Teacher observation of similar projects in other classrooms, schools, or districts.
- Regular project meetings that focused on practical problems.
- Teacher participation in project decisions.
- Local materials development.
- Principal participation in training. (Berman and McLaughlin, 1978, p. viii).

More recently, Stallings (1989) studied the implementation of reading practices in secondary schools and found that teachers are more likely to change their practices and to continue in their new role when in-service approaches foster the following behaviours:

1. they become aware of a need for improvement through their analysis of their own observation profile;
2. they make a written commitment to try new ideas in their classroom the next day;
3. they modify the workshop ideas to work in their classroom and school;
4. they try the ideas and evaluate the effect;
5. they observe in each other's classrooms and analyze their own data;
6. they report their success or failure to their group;
7. they discuss problems and solutions regarding individual students and/or teaching subject matter;
8. they need a wide variety of approaches: modelling, simulations, observations, critiquing video tapes, presenting at

professional meetings;
9. they learn in their own way to set new goals for professional growth. (pp. 3-4)

Stallings identifies four "cornerstones" of these approaches, which are reflective of current literature on implementation strategies and teacher collaboration:

- Learn by doing - try, evaluate, modify, try again.
- Link prior knowledge to new information.
- Learn by reflecting and solving problems.
- Learn in a supportive environment - share problems and successes. (p. 4)

Fullan's (1991) most recent writing emphasizes organizational renewal in which strategies of implementation are embedded in our everyday practices in schools and school districts:

> We will have arrived when professional development as the workshop or the course gives way to how the teacher and the administrator go about seeking and testing improvements as part of their everyday work inside and outside the school. In this way the variety of formal and informal learning experiences would merge - training and sharing workshops, teacher-teacher interaction, one-to-one assistance through coaching and monitoring, meetings, trying out new approaches, observing and being observed, individual and team planning, monitoring results and other inquiry, and the like. Thus, learning by educators would not just occur during formal workshops, but would become a natural part of the work setting. (p. 344).

Principles of Implementation

The principles of implementation and corresponding guidelines for implementation that can be concluded from these

considerations are listed below:

(l) Principle: Implementation is a process that occurs over time and requires monitoring and assistance over time.

Guideline: Change facilitators should not restrict in-service to pre-implementation help but should ensure that assistance continues during the implementation process. (Extension of principle [vi])

(li) Principle: Teachers pass through various stages of concern before and during implementation.

Guideline: Change facilitators should ensure that in-service is geared to the needs and concerns of teachers during the various stages of implementation. (Confirmation of principle [xiii])

(lii) Principle: Because implementation involves changes in materials, approaches,

and beliefs, and because teachers have different needs and concerns at different stages of implementation, both initial and subsequent in-service should include a variety of strategies to address ongoing concerns about materials, approaches, and beliefs.

Guideline: Change facilitators should ensure that demonstration, practice, and observation, as well as discussion and planning, occur as a part of in-service and implementation strategies. (Extension of principle [xiii])

(liii) Principle: Since other teachers are the preferred source of learning and sharing for many teachers, in-service provided by teachers, or by teachers trained as facilitators, positively influences implementation.

Guideline: Change facilitators should arrange where possible for teachers to provide in-service for other teachers and/or work with other teachers during implementation.

(liv) Principle: Teacher interaction and participation in decision making correlates positively with implementation.

Guideline: Change facilitators should provide sufficient opportunities for such interaction and participation in decision making. (Confirmation of principle [xviii])

(lv) Principle: Meaningful interaction of teachers with the authors of change proposals or program materials positively influences implementation.

Guideline: Change facilitators should arrange such interaction with the authors of programs or change proposals when such opportunities exist.

(lvi) Principle: Teacher turnover generally correlates negatively with implementation unless provisions are made to provide in-service for new teachers regarding the innovation.

Guideline: Change facilitators should arrange to provide in-service for new teachers and monitor and support their efforts.

Time-line and Information Systems (Evaluation)

Establishing time-lines for implementation has already been mentioned as aspects of both adoption and in-service and implementation strategies. Fullan (1982) writes that one of the serious problems involved in successful implementation is that those managing the change frequently have unrealistic time perspectives:

> The decision makers for educational change have an adoption time perspective, not an implementation one....Impatience arising from the desire to bring about much-needed educational reform results in hasty decisions, unrealistic time-lines, and inadequate logistical support during implementation because due dates arrive more quickly than problems can be resolved. Central decision-makers know the complexities of the adoption process; practitioners know the complexities of the implementation process. They live in two different subjective worlds. (p. 68)

Unrealistically short time-lines which ignore the complexities of implementation create one set of problems; on the other hand, time-lines which are too open-ended "create ambiguity about what is expected and when, and a lack of clarity about what constitutes progress" (Fullan, 1982, p. 69). Fullan (1982) suggests a time-line which is "neither unrealistically short nor casually long" (p. 69) and which is guided by an understanding of implementation as a process involving a series of changes which evoke a corresponding set of concerns.

Conceptualizing implementation as a process which occurs over time implies that establishing time-lines is not a matter of establishing one date by which implementation is supposed to be complete but of establishing a number of points at which certain phases or aspects of implementation will occur. Fullan and Park (1981) refer to "a concrete time-bound plan during which the various implementation tasks will occur" (p. 39).

The time line may be revised along the way, but the initial need is to view implementation as a process "during which changes in practice happen incrementally over a period of two or more years" (Fullan and Park, 1981, p. 39) as a direct result of what is done along each step of the way.

Upon reaching certain points within the time-line, teachers and change facilitators need to assess the degree to which goals have been achieved and confirm or modify their

plans for the upcoming time period. From this perspective, a time-line for implementation is also a monitoring line. This means that information gathering or evaluation is important to the implementation process, since it is only through knowing and sharing information that teachers and facilitators can assess the degree of success within the established time-lines, determine the nature and degree of help that may be needed, and if necessary adjust or further specify future goals within the time-line. Information systems are ways of providing the constant monitoring over time which is essential to implementation (Fullan, 1982, 1991; Fullan and Park, 1981; Leithwood and Montgomery, 1982).

Leithwood and Montgomery (1982) place the "assessment" of program implementation within a four-step framework which is "essentially diagnostic or evaluative" (p. 162) in nature:

> (a) providing knowledge of preferred images, outcome or behaviours;
> (b) providing knowledge of present behaviours;
> (c) identifying manageable stages of growth between present and preferred outcomes; and
> (d) monitoring progress in growth from one stage to the next. (p. 162)

From this perspective, acquiring information is closely linked to achieving clarity. In fact, we could conclude that (b) and (d) above are aspects of information gathering which support the search for clarity represented in (a) and (c).

Fullan and Park (1981) identify three kinds of information that are necessary in order to guide the

implementation process. The first is information which delineates what the change in practice is and identifies the gap between current and desired practice. Secondly, there is a need for information on "implementation obstacles, strategies, and the effect of strategies in resolving obstacles" (p. 40). Fullan and Park make clear that this second kind of information applies not only to what the teacher is doing but also to what the principal and others involved in the implementation process are doing. Thirdly, information is needed on the impact of the change in closing the gap between existing and desired practice. This information can be about both student achievement and teacher behaviours.

The procedure for gathering information can range from elaborate formal procedures to no formal information system at all. One system of information gathering is that developed within the Concerns Based Adoption Model in which the levels of concern (LOCs) of teachers and the levels of use (LOUs) of the innovation are assessed for purposes of addressing both the concerns of teachers and the problems of implementation.[21] Hall, et. al (1980) describe information gathering in the previously mentioned[22] Jefferson County, Colorado project. In this instance, LOCs and LOUs were gathered on five occasions

21 See pp. 104-109 of this study for a more detailed description of LOCs and LOUs.

22 See p. 216 of this study.

over a three year period in a sample of 19 schools, and information was used to address important problems. In contrast, Fullan (1982) describes an implementation effort in Kamloops school district, B.C., in which no formal data on levels of implementation was gathered. Although student tests were being considered, it was thought that early formal evaluation would be a barrier to implementation (p. 174).

Fullan and Park (1981) indicate that information is "open to misuse" and that using it to evaluate individual teachers, for example, can lead to inaccurate judgments as well as a reticence on the part of teachers to give accurate information. This sensitivity is a part of the reason some teachers are wary about the evaluation of implementation and some school districts (such as the Kamloops example just mentioned) are reluctant to initiate an evaluation or information gathering system. Fullan and Ponfret (1977) use the term "feedback mechanisms", and write that many teachers are hesitant to provide accurate information even when it is emphasized that feedback from teachers will be used in a non-evaluative way.

Leithwood and Montgomery (1980) write that evaluation of implementation has sometimes served a number of functions: assessing student outcomes, making teachers accountable, specifying practices involved in the innovation, finding information that would help in implementation elsewhere, and assisting teachers during the implementation process.

Leithwood and Montgomery also point out that these functions are not always separate, and that managing change and assisting teachers with concerns are sometimes compatible with an element of accountability. However, the overwhelming view expressed in current literature, and shared by Leithwood and Montgomery, is that the primary function of the evaluation of implementation is to monitor for purposes of assisting teachers in the implementation process. Fullan and Park (1981) maintain that this should be the focus of information-gathering and that care should be taken to have teachers understand what is occurring:

> We would caution against the premature establishment of a formal assessment system, and suggest that the group (school, board) build their information system gradually by discussing the kinds of information they require and by agreeing on ground rules as to how it would be used. The eventual system may take the form of direct assessment of teachers' "levels of use" in the classroom... or less direct forms based on one-to-one or one-to-group discussions, interviews, observation (e.g., principal-teacher, teacher-teacher, area superintendent-principal.... The task is to set up an approach which provides useful information on problems and issues of implementation, and which contains a means for sharing and acting on the information. (p. 41)

Williams (1980) observes that the need in information gathering is not for complicated research designs but for competent, reasonable people in the system to observe, question, and discuss during implementation. Williams maintains as well that the most useful information may not be

hard statistical data but "softer, richer data that can expand the empirical base for providing advice and formulating policy" (p. 90).

The message of research, writes Fullan, (1982) "is that a system or procedure for information gathering and use is part and parcel of an effective change process" (p. 177). He observes that many districts have no such effective system, which partially explains the failure of many implementation efforts. Fullan (1982) suggests as well that information on student achievement by itself adds little to our knowledge of problems encountered during the implementation process. What is needed is information about implementation concerns and a system or procedure for acting on those concerns. The information that is gathered also has to be shared: "it is at the school and classroom level that information counts" (Fullan, 1982, p. 70).

Information gathering is an important part of the two-way communication that is necessary for the monitoring of implementation:

> Two-way communication about specific innovations that are being attempted is a requirement of success. To the extent that the information flow is accurate, the problems of implementation can be identified. This means that each individuals' personal perceptions and concerns - the core of change - get aired. (Fullan, 1991, p. 199)

Fullan (1982) maintains that an information-gathering system to "assess and address problems of implementation" (p. 179) should be institutionalized as a part of the implementation process.

Principles of Implementation

The principles of implementation and corresponding guidelines for implementation that can be concluded from these considerations are listed below:

(lvii) Principle: Since implementation occurs incrementally as a process over time, establishing realistic time lines for implementation, and for the various steps that occur within it, positively influences implementation.

Guideline: Change facilitators should determine, or set up a process for determining, realistic time lines for the various steps in the implementation process.

(lviii) Principle: Implementation is positively affected by effective monitoring and assistance based on accurate information about what is occurring.

Guideline: Change facilitators should gather information about the behaviours and

concerns of those involved in implementation, and use this information to assist teachers during the implementation process or to plan more effectively within the implementation time-line.

(lix) Principle: The primary function of evaluation or information gathering is to assess concerns and problems and successes with implementation so as to better assist teachers in the implementation effort.

Guideline: Change facilitators should ensure by words and actions that this message about the evaluation of implementation is communicated to teachers and should ensure that evaluation data are shared at the school and classroom level and are used for these purposes.

Extent of Overload

The factor of overload is treated separately in this review because although it relates to several of the other

factors examined, it does not relate exclusively to either one. Overload can be, for instance, related to the adoption process when agencies outside a school district (such as the Ministry of Education of a provincial government) make decisions involving multiple adoption that are mandatory upon school districts to implement. Guarding against overload is also an aspect of district support and planning inasmuch as the district and school should work to ensure that one teacher or set of teachers is not asked to implement too many changes at once. Overload is also related to establishing time-lines for innovation; establishing clear and realistic time-lines for any particular innovation is necessary before a district can sequence multiple innovations in such a manner as to avoid overload.

Even without curriculum change, teachers perceive themselves as suffering from overload.[23] Any curriculum change increases the workload and multiple curriculum changes increase it still further. For this reason, Fullan and Park (1981) recommend that any given teacher should not have to work on more than one major change at any one time.

The literature of the early 1980s indicates that it is unwise for a district to attempt too many program changes at once if implementation affects the same group of teachers and will lead to overload (Fullan, 1982; Fullan and Park, 1981).

[23] See "Overload" pp. 113-116 of this study.

A school district is therefore well-advised to sequence curriculum changes which affect the same group of teachers. In most cases this will reap benefits in that teachers' personal concerns will be somewhat alleviated and the program being implemented will be established as having a clear priority within the district (Fullan and Park, 1981). Such planning should take into account the time-line of each proposed implementation, realizing that few programs are fully implemented in the first year and that time and emphasis in refining approaches are necessary in the second and third year of implementation.

While this seems reasonable, more recent research has suggested that the reality at the teacher's level of operation is more complex. In 1991, Fullan writes:

> [The] single innovation perspective largely reflects the lessons learned from the 1970s and early 1980s, and can be very useful for examining individual innovations. The broader reality, of course, is that schools are in the business of contending simultaneously with *multiple innovations*. (p. 49, his emphasis)

Fullan (1991) writes that "when we shift our perspective to managing multiple innovations, we immediately confront the culture of the school" (p. 133). More recent literature, then, focuses more on multiple changes affecting school culture from within. Fullan (1991) maintains that "it is only at the individual and small group levels that the inevitable demands of overload can be prioritized and integrated" (p. 49).

Regardless of this shift in emphasis, it is clear that overload is still a significant factor:

> Since teachers are faced with too many changes at once, they individually or jointly must choose where to put their efforts. If everything is attempted (or rejected), nothing will succeed. In one sense, the best a teacher can do is work hard on one or two of the most important priorities at one time, and cope with the others as well as possible. (Fullan, 1991, pp. 137-38)

The more recent focus on multiple innovations, and on broader school improvement initiatives as opposed to single innovations, does not negate the need for leadership and planning in avoiding overload. Fullan (1991) concludes that "it helps if the teacher is part of a group or school that has a sense of direction or vision which serves to guide prioritizing" (p. 138).

Fullan and Park (1981) point out that not all schools may be ready to implement a particular innovation at the same time. In addition to overall sequencing, then, a school district needs to be cognizant of what is occurring at the individual level in particular schools, since school initiatives or ongoing activities within the school can contribute to overload. In addition, some schools may not be equipped from a professional or resource point of view to handle as many changes as others. Planning to avoid overload in these instances requires co-ordinated planning between the school and district staff.

As Fullan (1991) and Hall, Putnam, and Hord (1985) have shown, district consultants who may be spearheading the implementation effort may also be "overloaded". Berman and McLaughlin (1978) advise that from the point of view of capacity to provide implementation assistance, school districts should not attempt to implement in too many schools at once. This would be especially true with complex changes which require a great deal of implementation assistance from change facilitators.

As Fullan and Park (1981) point out, factors influencing implementation do not operate alone but work in a dynamic interrelationship with each other. Therefore, situations may occur in which other factors (for example, the urgency of need for a curriculum change) may mean that teachers or consultants may prefer taking on several changes at once rather than to continue the frustration of working with an outdated curriculum that they perceive to be inadequate. Also, what is an overload for one individual or staff may not be for another. All of these considerations illustrate the degree to which planning to avoid overload is based not as much on the application of rigid guidelines as it is on a consideration of overall context, an understanding of the change process, and an effective communication between the school district and the school.

The literature relating to overload also illustrates how our understanding of program implementation has moved from

single guidelines governing single innovations to a broader focus on overall improvements affecting the culture of the school. Within this broader context, avoiding overload is still considered crucial but is less susceptible to rigid rules and guidelines.

Principles of Implementation

The principles of implementation and corresponding guidelines for implementation that can be concluded from these considerations are listed below:

(1x) Principle: Too many curriculum changes at one time can overload teachers to the point that they cannot effectively implement any of the changes.

Guideline: Change facilitators should provide overall direction in prioritizing and sequencing curriculum changes so that teachers are not working on too many curriculum changes at once. Such planning requires a consideration of the overall context in any particular school, and the number and pace of innovations which can be considered reasonable or

possible may be different for different schools.

(lxi) Principle: Since not all schools are alike in the number of innovations they are attempting or in their capacity for innovations, implementing new programs district-wide can have a negative impact on implementation in those schools that are experiencing overload or lack the capacity for the particular change.

Guideline: Change facilitators should delay implementation in individual schools where teachers may be involved in more changes than other schools or in schools which do not have the capacity to handle change at the same rate as others.

(lxii) Principle: The capacity of district personnel to provide continuous implementation assistance influences implementation, especially when complex changes are being considered.

Guideline: While other factors and principles need to be considered in this decision, change facilitators should consider beginning program implementation in a small number of schools so that adequate implementation assistance can be offered in these schools.

Board and Community Characteristics

The Board

The influence of school boards on the process of implementation depends both on the nature of the board and the nature of the community. In recent years, some school boards have become more politically active in pressing for change, to the point of replacing superintendents and other district personnel. This is currently more common in the United States than it is in Canada (Fullan, 1991). Fullan (1982) observes that in such high turnover situations there are more occasions for attempting change but "less continuity for actually bringing it about" (p. 195). A degree of stability seems conducive to the implementation of change, although "inbrededness and complacency" (Fullan, 1991, p. 195) can result if stability creates passivity rather than an active collaboration between board trustees and district administrators.

Implementation occurs more easily in districts where the school board and district staff are actively working together, as opposed to situations in which the board is uninvolved or in conflict with district personnel (Fullan, 1982, 1991). According to Fullan (1991), though, most school boards and communities do not initiate or have a major role in making decisions about innovative programs (p. 243). Nevertheless, their support, particularly their financial support, is necessary once teachers or administrators or external agencies have determined the need for change.

Berman (1981) writes that one of the important aspects of mobilization is gaining financial and moral support from the school board. Fullan and Park (1981) also see board trustees and the community generally as important to the implementation process:

> Board and community support is closely related because it refers to whether the board supports the direction of change and is willing to put some financial resources into implementation (e.g., release time, professional development, materials acquisition). If they are not willing to provide some direct support, it is unlikely that much change will occur. (p. 38)

Gaining such support is largely a matter of clear communication by those managing the change:

> The director of education or superintendent of program at the board level, and the principal and teachers at the school level will have to invest some time in communication with trustees and parents about the purpose of the change, and what

> it means in practice for teachers and students. (Fullan and Park, 1981, pp. 38-39)

The Local Community

Like boards, communities rarely mobilize to press for innovation; however, strong community support of the school correlates positively with innovativeness (Fullan, 1991). At the same time, when communities are ignored regarding a significant change or do not like the innovations they see, their negative influence can be substantial to the point of causing the abandonment of the innovation (Smith and Keith, 1971; Gold and Miles, 1981). Not surprisingly, negative responses from the community are further increased if teachers or others involved in an unpopular innovation are unclear as to its method and intent (Fullan, 1991). Establishing close ties with the community in a general sense and clearly communicating to the community the purposes and methods of program changes contribute to an environment that is more conducive to successful implementation.

The Parents

While board trustees and general community groups can support or influence the fate of an innovation, the parents whose children are directly affected by new programs can have a more direct impact on their children's learning and on both the perceived and real success of the innovation (Fullan, 1991). There is considerable research (Dauber and Epstein,

1989; Mortimore, et al., 1988; Rosenholtz, 1989; Ziegler, 1987) to indicate that "the closer the parent is to the education of the child, the greater the impact on child development and educational achievement" (Fullan, 1991, p. 236). Two forms of parent involvement have a direct impact on instruction: parent involvement in learning activities at home, which could include activities that are an extension of school programs; and parent involvement at school, as volunteers or assistants. Both forms of involvement have been shown to positively influence student learning, and schools which have fostered such involvement by parents have been shown to have greater instructional success (Fullan, 1991).

Fullan (1991) writes that "direct involvement in instruction in relation to the education of one's own child is one of the surest routes for parents to develop a sense of specific *meaning* vis-a-vis new programs designed to improve learning" (p. 237, his emphasis). It follows that schools which actively encourage such direct involvement by parents will have a better chance to utilize parent support. In addition, since that support in this case has such a potential to influence student learning, teachers who work closely with parents, communicating the objectives of the new program and seeking parent assistance in reaching these objectives, are likely to have more success in program implementation.

Fullan (1991) makes the following suggestions for teachers introducing new programs and initiating successful parent involvement:

> Start small. Hold a meeting with parents. Explain the objectives and methods being used. Establish a few small exercises taking 5 or 10 minutes that parents could do at home with students. Hold a workshop for parents. Link up with one or two other teachers. Use parents to involve or help other parents. Involve parents in the classroom where there is interest. Through interaction, attempt to understand the concerns of parents and the family learning environment. Involve students (the relative involvement of students and parents will vary by grade level). Discuss how performance and progress are to be measured. Do not expect 100 percent success, but do expect real improvement. In brief, have an explicit, even if small-scale, plan to involve parents. All of this will be facilitated if the school has an approach to and experience with involving parents, including materials, training, and other activities. Starting small and building incrementally can lead to multiple forms of community involvement that reinforce each other. (pp. 248-249)

Teachers vary greatly in their attitudes towards soliciting parent support. Some teachers believe they can be effective only if they obtain parental assistance; other teachers fear encroachment on their professional territory or believe that parents cannot or will not really help (Epstein, 1986; Hulsebosch, 1989). Also, schools in very similar communities have been shown to have quite different relationships with parents depending on the prevailing culture of the school and the principal's leadership and openness to parents and the community (Fullan 1991). Parents, on the other hand, have indicated in several studies (Dauber and Epstein, 1989; Epstein, 1986) that they would like schools and teachers to give them more specific information on programs and to advise them how to help their children at home. In

instances where schools have done this, there has been an improvement in learning in underprivileged as well as middle and upper class areas (Barth, 1979; Fantini, 1980; Zeigler, 1987).

Schools that have engaged successfully in such collaboration with parents tend to have some combination of the following factors: an informal, open door policy; a principal who is accessible to parents and provides strong leadership to staff; at least one or two teachers who take leadership in communicating with parents; and well-developed goals, methods, and materials for involving parents (Fullan, 1991; Mortimore, et al., 1988; Rosenholtz, 1989).

Parent support positively influences implementation of new programs. Attaining that support is a matter of achieving ongoing parent involvement with the school and of communicating to parents about program changes. As Fullan (1991) points out, getting meaningful parent involvement implies that teachers use and practice many of the principles of implementation that have been outlined in this review in their communication with parents: clarity about what is required, patience as parents adapt to new beliefs, use of other parents to convey the message, monitoring of parent involvement, and so on. As in other aspects of implementation, teachers may need assistance from peers and from district staff in communicating to parents and maintaining parent support.

Principles of Implementation

The principles of implementation and corresponding guidelines for implementation that can be concluded from these considerations are listed below:

(lxiii) Principle: Active co-operation between board trustees and district office staff correlates positively with the implementation of innovations.

Guideline: Change facilitators should encourage continued active co-operation between the school board and the district, and should work during implementation to maximize the benefits of such existing co-operation or to minimize the negative impact of conflict that is beyond the control of the change facilitators.

(lxiv) Principle: Board support correlates positively with successful implementation.

Guideline: In planning for implementation change facilitators should attempt

to communicate clearly to board trustees and gain their financial and moral support. (Extension of principle [i])

(lxv) Principle: Community support correlates positively with implementation. In particular, parent involvement and support influences student achievement and can positively influence program implementation.

Guideline: Change facilitators should assist teachers in clearly communicating the nature of program changes to parents and the community, and in soliciting specific instructional help from parents at home or through school visits.

Characteristics at the School Level

The school is the ultimate setting in which the implementation of innovations occurs. The success of implementation efforts will depend to a large degree on the characteristics of the school; in particular, implementation

will be influenced by the action or inaction of the principal, by the individual teachers involved, and by the manner in which teachers relate to each other and to the principal (Berman and McLaughlin, 1978; Fullan, 1982, 1991; Fullan and Park, 1981). The manner in which the principal and teachers relate to district consultants and other sources of external help can also be an important determinant of implementation (Hall, 1988).

What happens in the school cannot be separated from what school districts do in planning for implementation. Those initiatives identified as relating to school districts - avoiding overload, establishing time-lines, providing in-service, etc. - can only be successful if conditions at the school level receive careful consideration and attention. As Timar and Kirp (1989) point out, in the end the culture of the school cannot be circumvented. As in all of the factors affecting implementation, the characteristics of the school district and the characteristics of the school operate in a dynamic interrelationship with each other.

The Principal

Research on curriculum implementation indicates that the principal strongly influences the likelihood of success (Fullan, 1991; Fullan and Park, 1981; Hall and Hord, 1987; Virgilio and Virgilio, 1984). The principal has been referred to as the key to change, the gate-keeper of change, and other such titles. At the same time, researchers agree that most

principals do not assume strong leadership roles in either curriculum or curriculum change (Fullan, 1991; Ginsberg, 1988).

Lack of adequate professional development for principals, either for implementing a particular program or for managing change generally, has been identified as one of the reasons that principals have been less effective in leading and managing program implementation than they could be (Fullan, 1991; Fullan and Park, 1981; Hall and Hord, 1987). The lack of such leadership within the school is also one of the reasons that program implementation frequently fails.

The manner in which change facilitators involve and inform principals during pre-implementation planning and the early stages of implementation helps to determine the eventual success or failure of implementation efforts. Planning and information meetings with principals prior to introducing the innovation to teachers has been a feature of several successful change efforts (Fullan, 1982; Melle and Pratt, 1981).

One of the implementation strategies that was found to be important in the Rand Studies was principal participation in the teacher training sessions:

> Involvement of the principal in staff training provided the information and skills needed to help teachers implement the project and sustain project activities.... More important, it signalled the staff that their efforts were supported and valued. (Berman and McLaughlin, 1978, p. 30)

It is likely that participation in teacher in-service sessions gives principals a clearer grasp of all of the dimensions of the change, including the necessary change in beliefs and approaches, so that they are better able to understand teachers' concerns during implementation (Fullan, 1982). While increased knowledge of an innovation is an asset for a principal, Berman and McLaughlin (1978) found that "the principal's unique contribution to implementation lies not in 'how to do it' advice better offered by project directors, but in giving moral support to the staff and in creating an organizational climate that gives the project 'legitimacy'" (p. 31). Fullan (1991) writes that the principal is the person most likely to be in a position "to shape the organizational conditions necessary for success, such as the development of shared goals, collaborative work structures and climates, and procedures for monitoring results" (p. 76). Fullan and Park (1981) are explicit about the skills that a principal needs to give leadership to program implementation:

> The evidence...suggests that principals who provide leadership for change at the school level are not necessarily experts in the content of the curriculum. Rather, their leadership is in curriculum planning and implementation, that is, becoming familiar with the general nature of what a guideline implies for program, and working with staff to set up and carry out a plan for change at the school level. (pp. 19-20)
>
> We emphasize that the principal should play an active role, but not necessarily a directive one. What is needed is an active planner and facilitator to help teachers get together, work on specific issues, and have access to external resources. (p. 43)

The kind of leadership in implementation that Fullan and Park describe is more likely to occur "if the school system administration expects and helps principals in this role" (p. 20). Fullan and Park suggest three things that a school district should do in order to provide this support. First, a clear policy should state the central role of principals as curriculum leaders. Secondly, opportunities for professional development should allow principals to develop skills in curriculum planning and organizational change. Finally, continuous follow-up with principals should focus on how that leadership role is being carried out. In referring to the monitoring of specific implementation efforts, Fullan and Pomfret (1977) write that it is important to monitor what principals and others involved in the process are doing as well as what teachers are doing.

What is required, then, is professional development for principals in the areas of curriculum leadership and change strategies which is not specific to one program change but, instead, helps develop a support system for multiple changes. Many school districts fail to provide clearly stated expectations, training, or follow-up for the behaviour of principals during the implementation process. The result is that many school districts have no established and clearly communicated procedures within which the principal can understand and perform his or her role (Fullan, 1991; Fullan and Park, 1981).

Other factors also work against strong curriculum leadership by the principal. Much of the principal's time is taken up with administration and housekeeping matters and in maintaining order and stability; there is a tendency to respond first to what seems to be the most immediate and pressing concern, and there are enough of these everyday crises to put coherent curriculum leadership on the backburner (Crowson and Porter-Gehrie, 1980; House and Lapan, 1978; Sarason, 1982; Wolcott, 1973). Brevity, variety, and fragmentation characterize the numerous personal encounters which make up a principal's typical day (Fullan, 1991).

Expectations to provide curriculum leadership and to implement program changes are perceived by some principals as one more responsibility among ever-increasing demands: more board priorities and directives, more demands from parent and community groups, more involvement with social services, more legal considerations (Edu-con, 1984). Many of these demands conflict, and many principals become more adept at maintaining stability than creating change. Many principals feel as teachers do: overloaded and misunderstood. While demands have increased, many principals feel that support and understanding from central office has decreased (Fullan, 1991).

Like teachers who implement new programs, principals who are assuming the role of curriculum leadership during implementation are undergoing a role change, a potentially painful process requiring understanding and support. Fullan

(1991) writes that "the psychological and sociological problems of change that confront the principal are at least as great as these that confront teachers" (p. 77). Unlike teachers, principals frequently do not even have the same opportunities for peer support since they are separated geographically from other principals.

If all of this is combined with a general lack of clarity from central office as to specifically what the principal should do to manage change at the school level, it is not surprising that many principals feel frustrated. Lack of clarity as to the district's procedure for implementation, lack of clarity about specific innovations, frequent lack of involvement in crucial decisions and planning for implementation, and frequent misunderstanding about how the change process works, together or separately create a situation where the principal is often ill-equipped to undergo the role changes that are involved in becoming a curriculum leader and implementation planner in his or her school (Fullan, 1991; Fullan and Park, 1981; Hall and Hord, 1987).

This does not mean that principals do not try or that none are successful. Some principals are very effective not only in guiding the implementation of a specific innovation but in changing the climate of schools so that it is more generally conducive to change (Fullan, 1991; Hall and Hord, 1987; Leithwood and Montgomery, 1986; Smith and Andrews, 1989). Research into how successful principals operate

confirms and expands our knowledge as to the kind of help that principals can give during program implementation.

Smith and Andrews (1989) identified 21 principals who were named as strong instructional leaders by superintendents and peers, and found that these principals interacted frequently with teachers in at least four important ways. First, they provided resources to support the curriculum. Secondly, they themselves were "instructional resources", talking to teachers and sometimes assisting in instruction. Thirdly, these principals were "communicators", communicating ideas and information to teachers and also listening to teachers' concerns. Finally, effective principals were a "visible presence" in the school, assisting and supporting school initiatives.

In their studies of program implementation, Leithwood and Montgomery (1986) identified four levels of principal effectiveness. The principals showing the highest level of effectiveness, the "problem-solvers", were further studied by Leithwood and Steinbach (1989). Problem-solvers differed from those at other levels in that they were more likely to take into account the interpretation that others had of a particular problem - more inclined to listen to teachers and others. They were more inclined as well to view a problem within the larger context of what was being attempted. They tended to understand problems more clearly and were better able to communicate their understanding to others.

The Principal-Teacher Interaction (PTI) Study conducted by Hall and his associates and reported by Hall and Hord (1987) observed the nature of the interactions that principals undertake with teachers during the implementation of innovations. The PTI study identified three different styles of principal leadership - responder, manager, and initiator. While a significant amount of data is presented on each style, Hall and Hord (1987) summarize the differences in this way:

> Initiators make it happen.
> Managers help it happen.
> Responders let it happen.
> (p. 251)

The PTI study indicated that schools with initiator style principals were most successful in implementation. Schools with manager style principals were second and were also successful in implementation efforts. Teachers in responder-led schools, however, did not progress at the same rate, and implementation concerns remained unresolved.

Initiator style principals were more inclined to push harder to get the resources necessary for implementation. These principals had strong beliefs about what the school should be and high expectations of staff which they conveyed and monitored through frequent contact and clear communication. Hall and his associates also examined the level and nature of interventions under each style of leadership. More interventions and assistance overall

occurred in initiator-led schools, although the initiator principals themselves actually made fewer interventions than the manager principals. It appears that while the manager style of leader does more things himself, with initiators more gets done overall because of the initiator's ability to involve a network of people and to foster teamwork and collaboration during the implementation process. Hall (1988) concludes:

> Principals do not lead change efforts single-handedly. Rather, principals work with other change facilitators, who, in most cases, are making a large number of interventions also. It was discovered in earlier studies that the key is not merely having other change facilitators active at the school site; the important difference seems to be related to how well the principal and these other change facilitators work together as a *change facilitating team*. It is this team of facilitators, under the lead of the principal, that makes successful change happen in schools. (p. 49, his emphasis)

Hall and Hord (1987) also found that in initiator-led schools more of the decisions about which interventions were necessary were made on-site, either by the principal or by the on-site team which the principal was instrumental in assembling. In manager-led schools, even though the principal made many interventions, more decisions about what interventions were needed were made by off-site people such as district office personnel.

With responder principals, off-site personnel more frequently decided what was needed and actually made the

interventions. The relative failure to implement change in these schools indicates the difficulties for a school district in attempting implementation without strong school leadership from the principal.

The above findings confirm Berman and McLaughlin's (1979) statement that implementation is more successful when more decisions are made closer to the point of delivery and Williams' (1980) assertion that the challenge in implementation is to enable and empower front-line staff to make more and better discretionary judgements.

Recent research (Hall and Hord, 1987; Leithwood and Montgomery, 1986; Leithwood and Steinbach, 1989; Smith and Andrews, 1989) indicates the behaviours and characteristics of principals who are likely to be most effective in leading program implementation at the school level. These actions and characteristics include: encouraging high performance goals for staff and students; maintaining open and frequent communication with teachers; knowing enough about the innovation, and about curriculum planning and implementation, to provide genuine assistance and leadership; providing a high level of emotional, resource, and specific task support; promoting collaboration and shared goals both generally and with reference to the innovation; acknowledging teacher concerns about implementation problems and providing effective leadership in solving these problems; working as a part of a team with teachers and district personnel, and providing on-site leadership to that team.

Fullan (1991) summarizes two main features of effective principals that seem to stand out:

> They showed an active interest by spending time talking with teachers, planning, helping teachers get together, and being knowledgeable about what was happening. And they all figured out ways of reducing the amount of time spent on routine administrative matters; they made sure that change had an equal priority. (p. 168)

Including principals as team members and ensuring that they understand and support the proposed changes are crucial to the successful implementation of specific program changes (Berman and McLaughlin, 1978; Fullan and Park, 1981). But the actions and characteristics of principals who are strong curriculum leaders are not acquired or nourished within the context of a single innovation. Fullan's (1991) assertion that we need to focus less on specific innovations and more on change which influences the overall culture of the school is especially true as it relates to the professional development of principals. Fullan (1991) writes:

> The role of the principal is not in implementing innovations or even in instructional leadership for specific classrooms. There is a limit to how much time principals can spend in individual classrooms. The larger goal is in transforming the culture of the school. If successful, it is likely that some advanced models of the future will show collaborative groups of teachers organizing and conducting learning, perhaps without the presence of a principal as we now know the role. The principal as the collaborative leader portrayed above is the key to this future. (p. 161)

School districts that wish to be successful with specific innovations should provide professional development for principals so that they are better able to lead and manage the change process in their schools.

Such expectation and training should be geared not towards a specific innovation but towards understanding a process and developing a procedure which is applicable to multiple innovations. The monitoring and support of principals in these roles is crucial to the success of this training and to the implementation of change within schools. Developing and supporting the potential of principals to provide educational leadership is crucial to developing the capacity for continuous innovation within the culture of the school.

Principles of Implementation

The principles of implementation and corresponding guidelines for implementation that can be concluded from these considerations are listed below:

(lxvi) Principle: The active support of the school principal correlates positively with successful implementation.

Guideline: Change facilitators should keep principals informed of the proposed change, involve them in planning for

implementation, involve them in teacher training sessions, and monitor their involvement during implementation.

(lxvii) Principle: Principals who are most effective during the process of implementation possess not only some knowledge of the particular innovation but also an understanding of curriculum planning and implementation, of facilitating collaborative work among teachers, and of providing effective leadership generally. School districts that provide professional development and support for principals in these areas, and that monitor the leadership of principals are more likely to foster leadership qualities in principals and overall school conditions which correlate positively with implementation.

Guideline: Change facilitators seeking to implement specific innovations

> should support such an overall framework which goes beyond any specific innovation, and take opportunities during the implementation of a specific innovation to initiate or reinforce among principals those behaviours which are conducive to implementation generally.

Teacher Characteristics and Relationships

The role of teachers in implementation has been a major focus throughout this study.[24] Principles of implementation relating to clarity, practicality, and other issues have already been established based on how teachers as a group tend to respond to the challenges of program implementation.

While such collective principles apply, teachers are not all alike in their background, training, or orientation. Nevertheless, attempts to predict the success or failure of implementation based on individual teacher characteristics such as age or training have been inconclusive. Fullan (1982) concludes that "it is not level of education or years of experience that matter as much as under what district and school conditions teachers spend their time" (p. 72).

[24] In particular, see "The Teacher's Response to Change", pp. 112-133 of this study.

One particular teacher trait correlates positively with successful implementation and with student learning: the teacher's sense of efficacy (Fullan, 1982, 1991). Some teachers think and expect that all students can achieve success regardless of family background and are confident and determined that they as teachers can improve student learning (Cohen, 1981; Edmonds, 1979). Berman & McLaughlin (1979) concluded that teachers with a higher sense of efficacy achieved a higher percentage of the goals of implementation, were more successful in changing their own behaviour, and experienced improved student performance in their classes.

Research is inconclusive as to how some teachers, even without supportive school conditions, acquire this sense of efficacy. Fullan (1982) observes, however, that some schools have a much higher proportion of staff who have this orientation. It appears that a sense of individual efficacy can grow out of or be nurtured by a school-wide emphasis and expectation that student learning can be improved.

Ashton and Webb (1986) describe teachers who were "convinced that they could make a significant contribution to the lives of children and were publicly and personally committed to doing so" (p. 106). These researchers regard school-wide collaboration as the key to improving the individual sense of efficacy. Rosenholtz (1989) likewise concludes that a school or district which is successful in fostering collaboration will also have some success in decreasing uncertainty and building confidence.

Peer relationships among teachers is a strong influence on the implementation of innovations. Fullan (1982) writes:

> Change involves learning to do something new, and interaction is the primary basis for social learning. New meanings, new behaviours, new skills, and new beliefs depend significantly on whether teachers are working as isolated individuals or are exchanging ideas, support, and positive feelings about their work. The quality of working relationships among teachers is strongly related to implementation. (p. 77)

Fullan states further that "collegiality, open communication, trust, support and help, interaction, and morale are all closely related" (p. 72). In distinguishing between *stuck* ("learning impoverished") and *moving* ("learning enriched") schools, Rosenholtz showed that in *moving* schools teachers worked together more. Fullan and Hargreaves (1991) further describe the professional environment of *moving* schools:

> Since most teachers acknowledged that teaching was difficult, almost everyone recognized they sometimes needed help. Giving and receiving help did not therefore imply incompetence. It was part of the common quest for continuous improvement. Having their colleagues show support and communicating more with them about what they did led these teachers to have more confidence, more certainty about what they were trying to achieve and how well they were achieving it. (p. 44)

The nature and benefits of collaboration, and its influence on implementation, has already been mentioned in this study. Even when school-wide collaboration does not

exist, linkages between or among particular individuals within schools, within a district, or even across districts can significantly influence how and what teachers learn and think.[25] As House (1974) has shown, the paths of information and influence can be varied and sometimes unexpected. Or, to use Hall and Hord's (1984, 1987) terminology, interventions which influence the implementation process are sometimes unplanned and unauthored. The challenge for change facilitators is to spot these influences and, if possible, expand their advantages.

The challenge for school administrators, and for school districts, is to expand the number of positive linkages inside and outside the school. This implies fostering the kinds of collaboration within the school that Little (1982) and others describe, and providing for collaboration and professional development district-wide through varied and ongoing in-service and implementation strategies. For such an effort to succeed, district administrators must be willing to disperse power and promote and monitor a collaborative culture, effective consultants must work to make that goal a reality during implementation in the school district, and school administrators must be trained and committed to providing

[25] For further discussion of collaboration, see pp. 130-132 and pp. 150-153 of this thesis; for a discussion of linkages, see pp. 145-150.

curriculum leadership and leadership for collaboration within the school.[26]

Considerable research and experience exists to indicate that many teachers are eager to be more involved in collaborative team-work if these supportive conditions exist, and that such collaborative team-work is one of the surest indicators of the successful implementation of innovations (Fullan and Hargreaves, 1991; Little, 1982; Rosenholtz, 1989). Fullan and Hargreaves (1991) write that "only the merest whispers of these things are with us, though even they are better than the silence which preceded them" (p. 40). While Little (1982) has outlined and defined the specifics of collaboration in terms of school planning and curriculum sharing,[27] the following excerpts from Fullan and Hargreaves (1991) perhaps best describe what a collaborative culture means to teachers in individual and personal terms:

> In collaborative cultures, failure and uncertainty are not protected and defended, but shared and discussed with a view to gaining help and support. Teachers do not waste time and energy covering their backs here.
>
> Collaborative cultures acknowledge and give voice to the teacher's *purpose*. Ironically, disagreement

26 For elaboration on some of these points, see other sections of this chapter: "In-service and Implementation Strategies", pp. 214-221; "District Administrative and Consultative Support", pp. 198-199; and "The Principal", pp. 247-257.

27 See pp. 131-132 of this thesis.

> is stronger and more frequent in schools with collaborative cultures than it is elsewhere, as purposes, values and their relationship to practice are discussed.... Disagreement is...made possible by the broad agreements on fundamental values and directions which staff develop and move towards over time. Purposes in collaborative cultures are not entirely idiosyncratic, but gain much of their strength from being developed with and shared by other colleagues.
>
> Collaborative cultures also respect, celebrate and make allowances for the teacher as a *person*. In collaborative cultures teaching is a personal affair, but not a private one....Vulnerabilities are voiced....The person is not consumed by the group, but fulfilled through it. Purpose and person - those elements essential to teacher competence - are both openly declared and positively developed in the culture of collaboration.
>
> Collaborative cultures create and sustain more satisfying and productive work environments. By empowering teachers and reducing the uncertainties of the job that must otherwise be faced in isolation, collaborative cultures also raise student achievement. (pp. 48-49, their emphasis)

Fullan and Hargreaves write that a collaborative culture in schools fosters a different attitude towards innovation:

> Collaborative cultures facilitate commitment to change and improvement. They also create communities of teachers who no longer have the dependent relationships to externally imposed change that isolation and uncertainty tend to encourage. Dealing with change is no longer a choice between uncritical, enthusiastic acceptance or unconsidered rejection. In collaborative cultures, teachers develop the collective confidence to respond to change critically, selecting and adapting those elements that will aid improvement in their own work context, and rejecting those that will not. (1991, p. 49)

Principles of Implementation

The principles of implementation and corresponding guidelines for implementation that can be concluded from these considerations are listed below:

(lxviii) Principle: Teacher efficacy correlates positively with successful implementation.

Guideline: Change facilitators should attempt during implementation to encourage and build on teacher confidence, to promote learning by all students as clear goals for education, to provide opportunities for peer collaboration which encourage teacher confidence and certainty, and to foster school-wide collaborative cultures and supportive links between and among schools.

(lxix) Principle: Peer relationships influence implementation through the sharing of information, methods, and ideas and through mutual support.

Guideline: Change facilitators should recognize natural linkages and build on their positive features, and attempt to establish ongoing peer collaboration both within and among schools.

Characteristics External to the Local System

School districts and the communities that they serve do not exist in isolation. The local community is a part of a larger provincial and national community. The local school district can be influenced by the provincial or state ministries or departments of education, by faculties of education and the larger research community, by teachers' unions and professional organizations, or by national initiatives in education (Fullan, 1991; Fullan and Park, 1981).

An adequate treatment of the influence of characteristics external to the local system on program implementation in school districts is outside the scope or intent of this thesis. Educational researchers and theorists have tended to focus much more on internal factors within school districts than on external factors, and it is possible that much more research needs to be done on the real, or potential, influences of external agencies. This section deals only in a very brief way with the importance of external agencies and attempts to draw some very general principles and guidelines from these observations.

The Larger Community

The concerns of the general public about education can impact on both the local community and upon provincial ministries or federal agencies which directly influence local school districts. For example, new policy or program initiatives can arise out of the public's concern for teaching basics, developing career skills or meeting needs of at-risk children (Fullan, 1991). The presence of special interest groups or powerful political activist groups, as well as changes in public thinking, can contribute to such influences (Wright, 1982). Provincial, or national, funding priorities which respond to public concerns can greatly influence the financial support that is available for some innovations, and thus influence the course of implementation.

The prevailing beliefs of the general public at any particular time can influence local implementation in two ways. First, the local community will be influenced by the vibrations of the larger community, and will judge a proposed innovation partially by the prevailing standards as to what is worthwhile in education (Fullan, 1991). In a more specific sense, a particular innovation that has been judged unsuccessful by communities outside the local area will be open to more scrutiny locally.

Secondly, prevailing public opinion influences the actions and initiatives of ministries of education (Fullan, 1991). It should be noted, however, that while the public in this sense influences the adoption of innovations or the

content of provincial guidelines, this is different from influencing implementation locally. The influence on whether or how local implementation occurs depends more on the relationship between the ministry or department of education and the school district.

Ministries of Education

Since the ministry of education is often the adopting agency for new programs and policies, its handling of the adoption process (allowing sufficient time for familiarization, involving key district people and/or keeping then informed, making good decisions about program materials) will also influence the way that district people view the change and the priority that they place on its implementation.

Although most ministries provide orientation sessions throughout the province, geographical distances and restriction (because of large numbers) to district representatives rather than teachers mean that the ministry generally does not orient teachers to the new policy or program. Fullan (1991) also observes:

> Even if the orientation goes well, the real implementation difficulties lie beyond the introduction. In some cases, ministries have funded regional orientation workshops conducted by teachers, consultants, and others who had participated in developing the new guideline - that is, by those who were most knowledgeable about it. These pre-implementation workshops, no matter how stimulating, are at best limited to producing awareness, ideas, and interest in *attempting* implementation. As we have seen so often, it is *during* the initial attempts at implementation that assistance is most needed and is frequently

> unavailable. The primary assumption about follow-up is that implementation is the responsibility of school districts, schools, and individual teachers. (Fullan, 1991, p. 276)

Nevertheless, the effectiveness and sensitivity of the ministry personnel during the adoption and pre-implementation processes can have a significant impact on how district representatives will view the change and will plan for implementation. The degree to which ministry personnel focus on implementation as opposed to just content during the orientation sessions, and the degree to which the ministry can establish expectations for implementation, will also influence district action (Fullan, 1991).

The role of the ministry in follow-up after initial orientation has varied over time and across provinces. Sometimes technical assistance, in clarifying and monitoring implementation, is provided. Generally, though, there has not been much follow-up after the orientation sessions and overall ministry purposes have been generally unclear:

> Not the least of the difficulties is vacillation and ambiguity as to whether ministry personnel are there to assist or to monitor implementation; more fundamentally, there may be disagreement among ministry personnel about what should be emphasized in a curriculum guideline. Assistance is problematic for reasons already stated: numbers of people to be reached, lack of knowledge about the change and/or the change process, and overlap or ambiguity - either in the minds of ministry personnel or in the views of school people - about the assistance vs. regulation roles.
>
> Research studies asking teachers how helpful they find external groups confirm the relatively limited impact of ministry personnel. (Fullan, 1991, p. 276)

Fullan and Park (1981) write that schools and school districts should not rely too heavily on external resources such as ministry consultants. Such resources are usually just not available on a large scale and, besides, "the primary task is to build the internal capacity of the school system and individual schools" (p. 46). External personnel can assist implementation, however, when they address locally identified needs and when effective internal personnel are guiding the implementation effort:

> School systems should identify and use external input which will help them develop or complement internal resources. This is especially necessary in smaller or more remote systems. (Fullan and Park, 1981, p. 46)

Ministries of education are also responsible for assessing the impact of curriculum documents and programs. This is accomplished by program reviews (Fullan and Park, 1981) or evaluation (Fullan, 1991). Program reviews are now conducted by most ministries of education, although such reviews generally are not seen as having much impact on classroom practice (Fullan, 1991; Fullan and Park, 1981). Fullan and Park (1981) identify a number of problems with such reviews. These reviews often do not ask the kinds of questions that would assess what is happening in practice; measuring an issue such as student outcome is not the same as finding out what has been implemented, and how. In addition, ministry personnel often do not consult with other agencies (the local board, university faculties, teachers' unions) in conducting the review, thereby possibly reducing validity and

failing to mobilize resources for addressing needs arising from the information. Finally, there is frequently no mechanism for ensuring that information is shared in such a way that it will address issues at the school and classroom level.

Fullan and Park (1981) maintain that the main purpose of evaluation by the ministry should be to improve implementation through the identification of problems and the identification of district, university, or ministry resources which may be available to solve these problems. They imply that evaluation should be a collaborative effort among various agencies and that priority should be placed on sharing and using the information received to improve classroom practices. Over the past decade, ministries of education have in several instances sought to collaborate with universities and other agencies in evaluating program implementation and in responding to the results of such evaluation (R. Bonnell, Executive Assistant, Professional Development, Newfoundland Teachers' Association, personal communication, April 20, 1992; W. Boone, Assistant Director, Program Development, Department of Education, Government of Newfoundland and Labrador, personal communication, April 23, 1992).

Other External Factors

The Federal Government

Compared to the United States Government, which funds state and local reform, the Government of Canada has little

direct influence on educational policy. However, the Government of Canada can influence education substantially through indirect means. Federal funding for bilingualism, and recent initiatives in enterprise education and co-operative education, are examples of such influence. In addition, the tradition of federal equalization payments to the provinces frequently determines the capacity of provincial governments to fund the implementation of programs in schools.

Except for Indians and Innuit, the Yukon and Northwest Territories, armed forces dependants, and prison inmates, there is little direct or consistent day-to-day involvement in education on the part of the federal government (Fullan, 1991). The Council of Ministers of Education in Canada (CMEC) is a forum for discussion and liaison but does not make national policy; there is no federal ministry of education; for all intents and purposes, to this date the Government of Canada as a rule has had only indirect influence on policy and programs in provinces, and even less direct impact on implementation. Nevertheless, in the exceptions such as those mentioned, the federal government, through its guidelines and funding influences, has been shown to be a powerful influence on the direction of implementation. The involvement of the Government of Canada, in direct or indirect ways, is a factor to be considered at the local level during the implementation of some innovations, and has the potential to have more frequent and more direct influence in the future.

Universities and Teachers' Unions

Faculties of education form a part of the research community which influences the current trends in education. Their indirect influence on implementation is considerable in that the mindset of the teaching population is shaped largely by the faculties of education during pre-service training. Through research and involvement with the ministries, the faculties of education also have a considerable influence on curriculum development.

Fullan and Park (1981) suggested that faculties of education could also have a more direct involvement in the implementation process. They recommended a co-operative "planning, implementation, and program review process" (p. 46) which would involve local boards, the Ministry of Education, the teachers' federation, and the faculties of education. Fullan and Park also recommended that faculties of education should place more emphasis on ministry documents during pre-service training, research the problems of implementation, and offer courses which examine the implementation process.

The decade of the 1980s and the early 1990s has seen a significant move in the directions recommended by Fullan and Park, as local boards, faculties of education, and other agencies work collaboratively in implementation (R. Bonnell, personal communication, April 20, 1992). The Learning Consortium in Ontario is one such example in which university personnel, local school districts, and the Ministry of

Education work together in the planning, implementation, and evaluation of educational programs.

While teacher's unions are frequently not involved in the initial stages of program implementation, the professional development branches of teachers unions, which have grown in importance in recent years, can have a significant influence once implementation has begun. Typically, professional development conferences, hosted by the various professional development branches of teachers' unions, focus on new curriculum initiatives and provide a forum for teachers to share and discuss experiences during implementation (R. Bonnell, personal communication, April 20, 1992). The collaboration of local districts with the professional development branches of teachers' unions can thereby provide an additional source of support for teachers during implementation. Furthermore, the visibility given to implementation issues by agencies other than the local board can provide another source of credibility for the program initiative. In addition to the forums provided to discuss particular program changes, the professional development branches of some teachers' unions provide workshops and research material on the implementation process and play a leadership role in the in-servicing of certain program initiatives (R. Bonnell, personal communication, 1992).

The evidences of current involvement in program implementation by faculties of education and teachers' unions indicate an even greater potential for the meaningful

collaboration of these agencies with local school districts. These co-called external factors have been studied less because much of this involvement has been relatively recent and because most research has focused on internal factors influencing implementation. Just as collaboration within schools is the key to implementation at the local level, it may also be that collaboration among the various agencies involved in education is the key to planning and leadership in implementation initiatives.

Summary

The concerns of the general public, and of various interest groups, can have some impact on the local community during the implementation of innovations, as well as some influence on the ministries or departments of education when ministry personnel consider policy development and program adoption.

Of the external agencies, the provincial ministries of education currently have the most impact on local implementation. In particular, the manner in which ministry personnel adopt an innovation, the quality of the innovation they adopt, the nature and quality of pre-implementation sessions, and the availability and effectiveness of the ministry consultants during implementation all have the potential to influence implementation locally. Program evaluation or review carried out by the ministry, while

currently having little impact, also has the potential to assist in monitoring district implementation.

Except for select occasions and circumstances, the Government of Canada presently has little consistent influence on policy-making or implementation in education. Such potential does exist, however, as one can see by the United States government's involvement in funding both educational research and state and local reform, and by the direct or indirect influence of the Government of Canada in a small number of nevertheless important educational initiatives.

Some university faculties of education and teachers' unions have recently become more involved in program implementation through collaboration with ministries of education and school districts. The potential exists for an expanded role for these agencies in program implementation.

Principles of Implementation

The following principles of implementation can be derived from an examination of the impact of external agencies on district implementation:

(lxx) Principle: Public (provincial, national, or international) concerns or beliefs about education can influence the reaction of local communities to innovations.

Guideline: Change facilitators should be aware of current public issues/concerns regarding education, and be prepared to draw upon sentiments that are advantageous to the innovation or to discuss and resolve public concerns which are disadvantageous. Where necessary, the change facilitator should talk to teachers about how the innovation fits with current public sentiments/beliefs so that teachers are assisted in their dealings with the community.

(lxxi) Principle: The provincial ministry or department of education can influence implementation through its development of policy, through the adoption process and pre-implementation orientation, through the availability of resources or personnel, and through program reviews.

Guideline: Change facilitators at the district levels should seek to influence

these processes to the benefit of district implementation and should capitalize upon those aspects of ministry action or service which are advantageous to program implementation at the district level.

(lxxii) Principle: University faculties of education and teachers unions have a potential positive influence on implementation through research, and through collaboration and sharing with local boards.

Guideline: Change facilitators at the district level should encourage such ongoing collaboration and access any services which may be of benefit to program implementation in the district, while at the same time providing strong local leadership for implementation.

Chapter 5

SUMMARY AND CONCLUSIONS

The purpose of this chapter is to summarize the principles and guidelines for program implementation in school districts, and to suggest the implications of the study for further research.

Summary of Principles and Guidelines

A summary of principles of implementation and corresponding guidelines for program implementation in school districts is presented in this section. The first statement in each item (Principle) is a statement of a principle of implementation derived from the review of the literature. The second statement in each item (Guideline) is a guideline for implementation at the district level which follows from this principle and which is stated in behavioural terms with reference to the actions of change facilitators at the district level. The degree of district action recommended in each guideline varies according to the principle, since some principles of implementation are more within the domain and control of the school district than others. While guidelines for the behaviours of other agencies could conceivably be derived from some of these principles, guidelines in this study apply only to the actions of change facilitators at the

district level who may, however, have some influence on these other agencies.

The term "change facilitator(s)" in this instance refers to the person or persons who have the primary responsibility for initiating, planning, and guiding the program change in the school district. While in many cases such persons are non-line district consultants, the term "change facilitator" is not intended to preclude facilitators who may be in line positions or to preclude the use of administrative influence by the facilitator during the change process.

Each principle and guideline is referenced to the Roman numeral(s) which it was originally assigned in this review, along with the page number where it can be found in the review. Principles which are sufficiently related have been combined and such instances are indicated. In a number of instances, close relationships still exist among the remaining principles. Where a principle states an aspect of understanding which is not fully represented in other principles, that principle is retained because of the emphasis or understanding that it represents.

Several principles require brief mention. Principle 47, relating to teacher involvement in developing local materials, is stated tentatively because the literature appears inconclusive. This should not, however, overshadow the fact that other principles may also be subject to revision over time, pending further confirmation and refinement through experience, research, and analysis.

Principle (1), relating to the importance of mobilization, and principle (11), relating to the personal response to change and the need for time and patience, are retained even though the various components of each principle and guideline are articulated throughout many of the other items. This is because in both cases the whole may be more than the sum of its parts. The shielding and nurturing of the innovation during the numerous interactions of mobilization, and the recognition of the importance of people's personal responses and anxieties during implementation, are overriding aspects of basic approach and commitment during the change process which may not be totally included in more specific principles, and are retained here for both emphasis and comprehensiveness.

The nature of implementation is that its principles are interactive; therefore categorizing principles is not only difficult but may also colour or limit the interactive picture. Likewise, sequencing is problematic since the sequence, if any, in which principles and guidelines are considered will depend upon the circumstances and the kind of innovation one is considering. While the principles and guidelines here are categorized, and must of necessity be placed in some kind of sequence, such categories are not meant to exclude other interrelationships among principles. In the case of Category C, "Teacher Concerns, Implementation Strategies, and Teacher Interactions", for example, aspects

relating to in-service and implementation strategies are also inherent in succeeding categories such as "Creating Clarity and Coping with Complexity". This is especially apparent when one looks beyond the specific principle to the corresponding guideline for district action. Also, while sequencing of particular principles within categories is sometimes meaningful, the overall categories themselves should not be viewed sequentially if used to plan for, or assess, implementation efforts. In other words, whether the beginning point for consideration is principles relating to support, complexity, in-service and implementation strategies, or principal involvement depends more on the nature of the innovation and the circumstances of implementation. Viewed another way, there can often be no sequence at all in considering these broad categories since it is their interaction rather than their relative order of appearance or importance that is most relevant.

The guidelines for implementation that have been developed from the principles of implementation are italicized in this summary. The intent is to emphasize the behaviours that are necessary in order to utilize, at the district level, the principles of implementation derived from the literature.

A. Mobilizing for Implementation

1. Principle: What occurs during mobilization is crucial to the success of implementation.

   Guideline: ***During mobilization, change facilitators at the district level should work to relate the innovation to district need, acquire internal and external support for the innovation, and plan carefully for implementation according to other principles outlined in this review. ([i], p. 46)***

2. Principle: The quality and result (what program or solution is adopted) of the adoption process is of primary importance to teachers' acceptance and implementation of the innovation; teacher involvement in the adoption process is valuable, but of secondary importance.

   Guideline: ***Change facilitators at the district level should focus on influencing the quality of the process so that the proposals/programs adopted and the time frames chosen for implementation are***

advantageous to the implementation process; where possible, involving some teachers in the adoption decision is also a positive influence upon the implementation efforts of those particular teachers. ([xlv], p. 197)

3. Principle: The manner in which an innovation is adopted influences implementation.

Guideline: ***During mobilization, change facilitators should, if possible, influence the adoption process and decision so that it is advantageous to implementation. Once the adoption decision has been made, or in some cases before it has been made, change facilitators at the district level (whether or not they have influenced the adoption process and decision) should work to maximize at the district level, and to reap the benefits during implementation, of positive aspects of the adoption process, and to reduce the impact at the district level of any negative aspects of the adoption process. (Combining of Principles [ii] and [xlv], pp. 46 and 197)***

4. Principle: The view of implementation held by those mobilizing for implementation, and the model practised by the school district, will influence the success or failure of implementation efforts.

Guideline: ***Change facilitators should view implementation as primarily a learning or relearning process which occurs over time, promote this view at all levels within the school district, and plan and support implementation according to a learning model of change. ([iii], p. 47)***

B. Identifying Dimensions and Guiding Adaptations

5. Principle: Program implementation involves possible changes in teaching materials, instructional and organizational practices, and underlying beliefs.

Guideline: ***(a) Change facilitators should ensure that in-service and ongoing implementation strategies are designed to assist teachers in the use of materials, the alteration of practices, and the revision of beliefs. ([v], p. 63)***

Guideline: (b) *Change facilitators should ensure that the evaluation and monitoring of implementation focuses on the nature and degree of change in use of materials, instructional and organizational approaches, and underlying beliefs. ([v], p. 63)*

6. Principle: Changes in approaches and belief are more difficult than changes in materials and usually occur only after implementation has begun.

Guideline: *Change facilitators should be patient and allow time for these changes, and should work with teachers during the implementation process, giving special attention to the dimensions of belief and approach. Change facilitators should discuss beliefs and plan approaches with teachers to facilitate their growth in these dimensions. ([vi], p. 64)*

7. Principle: There is an interaction or interrelationship between the determinants of implementation (the

innovation, strategies, setting, and external influences) and the dimensions of implementation (materials, approaches, and beliefs).

Guideline: ***Change facilitators should attempt to identify these interactions during implementation planning, and seek both before and during implementation to maximize positive interactions and minimize and counteract those interactions which may threaten a particular dimension of implementation. ([vii], p. 64)***

8. Principle: The degree of fidelity that is possible or desirable during implementation will depend upon the nature of the program (quality, clarity, complexity, etc.) and the nature of the setting (teacher readiness, base of support, resources, implementation strategies, etc.).

Guideline: ***Those planning or facilitating implementation should determine, or set up a process for determining, the degree***

of fidelity to program design that should be attempted for the various elements of a proposed innovation. ([viii], p. 93)

9. Principle: Greater fidelity to program goals and more successful and meaningful adaptations occur when change facilitators work actively with teachers in clarifying objectives and changing the setting or the program to fit each other.

Guideline: ***Change facilitators should work actively with teachers to change the setting so that it is more conducive to program goals, or to adapt the program so that it is suitable for a particular situation. ([ix], p. 94)***

10. Principle: In the implementation of complex changes, there is a difference in the degree of fidelity to program goals that is achieved by different teachers, and also a difference in the degree of fidelity in implementation for different aspects of the innovation.

Guideline: *An evaluation of implementation efforts should determine the degree of fidelity to various aspects of program intentions as well as the nature and quality of the adaptations that occur. ([x], p. 94)*

C. Teacher Concerns, Implementation Strategies, and Teacher Interactions

Accommodating Concerns

11. Principle: Changes such as those involved in the implementation of new programs, especially changes in the dimensions of approaches and beliefs, provoke personal responses of anxiety and uncertainty as individuals acquire new roles and beliefs.

Guideline: *Those planning for implementation should recognize that time and patience are required as people make this personal transition ([xi], p. 110).*

12. Principle: The process of reintegrating changes into the larger framework of thinking is

essential for implementation and should not (and cannot) be circumvented.

Guideline: ***Change facilitators should allow and provide opportunities for teachers to discuss, argue, and express concerns about the change that is being implemented, both before and during the implementation phase. ([xii], p. 111)***

13. Principle: Teachers usually pass through various stages of concern before and during implementation which relate consecutively to self, task, and impact.

Guideline: ***Change facilitators should ensure that in-service and implementation strategies designed to assist teachers are geared to the appropriate needs and concerns of teachers as they progress through the various stages of implementation. (Combination of principles [xiii] and [li], pp. 111 and 222)***

In-service

14. Principle: Implementation is a process that occurs over time and requires monitoring and assistance over time.

Guideline: ***Therefore, change facilitators should not restrict in-service to pre-implementation help but should ensure that assistance continues during the implementation process. ([1], p. 222)***

15. Principle: Because implementation involves changes in materials, approaches, and beliefs, and because teachers have different needs and concerns at different stages of implementation, both initial and subsequent in-service should include a variety of strategies to address ongoing concerns about materials, approaches, and beliefs.

Guideline: ***Change facilitators should ensure that demonstration, practice, and observation, as well as discussion and planning, occur as a part of in-service and***

implementation strategies. ([lii], p. 222)

16. Principle: Since change is a highly individual process which depends on the nature of the individual and the setting in which he/she works, different teachers will be at different stages of concern or different levels of use even though they began implementation at the same time.

Guideline: ***Change facilitators should allow for such differences in concerns and levels of use and provide individual assistance that is appropriate to the individual need or level of use. ([xiv], p. 112)***

17. Principle: Since other teachers are the preferred source of learning and sharing for many teachers, in-service provided by teachers or by teachers trained as facilitators positively influences implementation.

Guideline: ***Change facilitators should arrange where possible for teachers to in-service other teachers and/or work with other teachers during implementation. ([liii], p. 223)***

Involvement, Efficacy and Collaboration

18. Principle: Teacher interaction and input in decision-making improve the implementation process because of the experience that teachers bring to the practical classroom application of proposed changes, and because teacher perception of the implementation process is improved if teachers feel that their opinions are valued within that process.

Guideline: ***Change facilitators should provide sufficient opportunities for teacher participation, interaction and involvement in decision-making before and during implementation and should communicate to teachers by actions and approach that their opinions are valued. (Combination of principles [xviii] and [liv], pp. 134 and 224)***

19. Principle: Teacher efficacy correlates positively with successful implementation.

Guideline: *Change facilitators should attempt during implementation to encourage and build on teacher confidence, to promote learning by all students as clear goals for education, to provide opportunities for peer collaboration which encourages teacher confidence and certainty, and attempt to foster school-wide collaborative cultures and supportive links between and among schools. ([lxviii], p. 267)*

20. Principle: Peer relationships influence implementation through the sharing of information, methods, and ideas and through mutual support.

Guideline: *Change facilitators should recognize natural linkages and build on their positive features, and attempt to establish ongoing peer collaboration either among or within schools. ([lxix], p. 267)*

21. Principle: Opportunities to collaborate with peers and others in discussing and planning

during the implementation process helps teachers internalize the change, helps further clarify the specifics of the innovation, and is seen by many teachers as rewarding.

Guideline: *Change facilitators should provide opportunities and frameworks within which teachers can collaborate during the implementation process. (Combination of principles [xix] and [liv], pp. 135 and 224)*

22. Principle: Meaningful interaction of teachers with the authors of change proposals or program materials positively influences implementation.

Guideline: *Change facilitators should arrange such interaction with the authors of programs or change proposals when such opportunities exist. ([lv], p. 224)*

Time-lines and Information Systems (Evaluation)

23. Principle: Since implementation occurs incrementally

as a process over time, establishing realistic time lines for implementation, and for the various steps that occur within the process, positively influences implementation.

Guideline: ***Change facilitators should determine, or set up a process for determining, realistic time lines for the various steps in the implementation process. ([lvii], p. 232)***

24. Principle: Implementation is positively affected by effective monitoring and assistance based on accurate information about what is occurring.

Guideline: ***Change facilitators should gather information about the behaviours and concerns of those involved in implementation, and use this information to assist teachers during the implementation process or to plan more effectively within the implementation time-line. ([lviii], p. 232)***

25. Principle: The primary function of evaluation or information gathering is to assess concerns and problems and successes with implementation so as to better assist teachers in the implementation effort.

Guideline: *Change facilitators should ensure by words and actions that this message about the evaluation of implementation is communicated to teachers and should ensure that evaluation data are shared at the school and classroom level and are used for these purposes. ([lix], p. 233)*

26. Principle: Applying diminishing financial and personnel resources to increasing need and/or resistance influences implementation and institutionalization negatively.

Guideline: *Change facilitators should work to ensure that financial and in-service assistance are not unduly weighted towards the startup of the project or innovation or towards select teachers who pilot the innovation. More financial and personnel assistance may be needed later as more*

teachers, many of them needing even more help, begin implementation. ([xlix], p. 213)

D. Establishing Broad Support and Priority Need

27. Principle: Teachers' acceptance of and commitment to innovations promoted by the school district will be influenced by their perceptions of the district's history of innovation attempts.

Guideline: *Change facilitators should be prepared (if possible) to illustrate the district's previous successes in implementation, and to demonstrate to teachers that concerns arising out of previous negative experiences with implementation will be recognized and not repeated in this current effort. ([xliv], p. 194)*

28. Principle: Because of the history of failed implementation and the many demands on their time, teachers are more inclined to accept an innovation if they see that the change has a broad base of tangible

support from a number of different levels, particularly district office administration and staff.

Guideline: *Change facilitators should work to acquire support from different levels of the organization, particularly district administration and staff, and to ensure that evidence of this broad base of support is communicated clearly to teachers. (Combination of principle [xvii] and [xlvi], pp. 134 and 211)*

29. Principle: Because of the personal costs of change and the demands placed upon teachers' time, and because teachers perceive the rewards of teaching primarily in terms of improved student learning, teachers will commit more readily to change proposals that they believe meet a particular need or set of needs and have a chance of improving classroom interaction or learning.

Guideline: *Change facilitators should relate the proposed change to need, or set up*

processes whereby the change can be related to need. Change facilitators should also attempt to show how the innovation can improve learning. (Combining of principles [xv] and [xxv], pp. 133 and 166)

30. Principle: The possibility of implementation is enhanced when an innovation is seen not only as a need, but a priority need, in the school or district.

Guideline: *Change facilitators should work with teachers to achieve consensus as to the priority of needs, and to acquire priority resource support for the innovation so that the innovation is perceived as being a priority among needs within the district. ([xxviii], p. 167)*

31. Principle: In any complex innovation which meets multiple needs, individual teachers or schools may have different emphases in their expectations for the innovation, based on what they perceive to be their priority need.

Guideline: *Change facilitators should attempt to relate the innovation to the priority need, assist the teacher in meeting this priority need through the innovation, and work to help the teacher enlarge his/her concept both of classroom/school needs and the potential of the innovation. ([xxix], p. 168)*

32. Principle: Teachers are more inclined to implement changes that are in keeping with previously held beliefs or personal assessments of need for which curriculum may not have previously existed.

Guideline: *Change facilitators should attempt to determine such beliefs and, where applicable, help teachers make connections between their beliefs and the proposed changes. ([xxvi], p. 166)*

33. Principle: The teacher's acceptance of the need for a curriculum change often occurs *during* implementation and is related to the perceived effect of the change in the improvement of student learning.

Guideline: *Change facilitators should provide opportunities for teachers and others to notice, share and internalize successes so as to foster continued acceptance of the innovation and stronger belief in its need. ([xxvii], p. 167)*

E. Creating Clarity and Coping with Complexity

34. Principle: Because of time demands and other factors, teachers will be more receptive to change proposals which have clear purposes (i.e. are intended to address defined needs) and clear procedures for achieving these purposes.

Guideline: *Change facilitators should present initial program proposals clearly and set up efficient processes which involve teachers in an ongoing effort of further clarification. (A combining of [xvi] and [xxx], pp. 133 and 173)*

35. Principle: Implementation is positively affected when change facilitators relate the changes to the previous or present practices of teachers.

Guideline: *Change facilitators in conjunction with teachers should determine elements of continuity in the innovation and help teachers relate these elements to their experience. ([xxxii], p. 175)*

36. Principle: Implementation is positively affected when elements of the innovation that are new and different are highlighted and prioritized.

Guideline: *Change facilitators should determine, or set up a procedure for determining, what is new about an innovation and highlight the essential changes during in-service and ongoing discussion and work with teachers. ([xxxiii], p. 175)*

37. Principle: The more precise that facilitators or teachers are in defining what proposed changes will entail in practice, the more help teachers may need in attaining such precise objectives, particularly if the changes are complex; put another way, increased specificity reduces delivery diversity, thereby making the objectives

of implementation more faithful to the original design but often more difficult or complex for the teacher to implement.

Guideline: *Change facilitators should determine the degree of desired specificity, or set up processes for determining the degree of desired specificity, based on the priority of fidelity for a certain aspect of the change (i.e. is it really crucial that this particular thing be done in a specific way rather than in multiple ways?) and the capacity of the organization to assist teachers in attaining the degree of specificity required. ([xxxi], p. 174)*

38. Principle: Other factors being equal, complex curriculum changes are more likely to be more motivating, and are more likely to produce more significant changes than simple curriculum changes, even though they may present more frustrations initially.

Guideline: *Change facilitators should encourage teachers to accept the challenge of complex changes by emphasizing the greater benefits of larger changes and should work with teachers during initial frustrations. In striving for clarity about the change, change facilitators should be careful not to downplay the complexity of the change such that a false sense of clarity develops, leading to only partial implementation. ([xxxiv], p. 179)*

39. Principle: Complex changes can create more frustrations for teachers initially, and teachers implementing complex changes may need more assistance from change facilitators.

Guideline: ***Change facilitators who are working with complex changes should consider this in the management of their own time. One possibility is to implement the change in a smaller number of schools rather than district wide. Other solutions may exist in reducing other workload, or attaining***

increased internal or external assistance. ([xxxvii], p. 181)

40. Principle: A complex change has a greater chance of implementation if it is "divisible" into a number of changes.

Guideline: ***Change facilitators should attempt to divide a complex change into its subcomponents or set up processes whereby such divisions can occur. ([xxxv], p. 180)***

41. Principle: Complexity is largely an aspect of perception; that is, the scope of the change for any individual depends on that individual's present practices and is different for each individual.

Guideline: ***Change facilitators need to ascertain where teachers are in their practices and their thinking before determining which aspects of the change will be new or difficult for teachers. ([xxxvi], p. 180)***

F. Maximizing Program Features

42. Principle: Availability of program materials in sufficient time for teacher study and use positively influences implementation.

Guideline: ***Change facilitators should work to ensure early availability of materials. ([xxxviii], p. 187)***

43. Principle: The overall quality of program materials influences implementation. In particular, programs which have attractive and "classroom friendly" materials and which provide accompanying practical guidelines on instructional approaches are more likely to be implemented.

Guideline: ***Change facilitators should influence the development or adoption of such quality materials, highlight quality features in discussions with teachers, and work with teachers to improve quality of materials where quality is lacking. ([xxxix], p. 187)***

44. Principle: The degree of flexibility of program materials, and of accompanying directions for instruction for a variety of classroom situations, positively influences implementation.

Guideline: ***Change facilitators should help teachers examine and use the flexibility suggested in the materials and help teachers adapt the materials to local needs in cases where no clear directions or alternatives exist. ([xl], p. 188)***

45. Principle: Teachers and facilitators are more inclined to accept and implement a program if it has a proven track record.

Guideline: ***Change facilitators should share such information about the program with teachers or arrange for teachers to talk to or observe people who have used or are using the program. ([xli], p. 188)***

46. Principle: Since teachers tend to judge programs by improved student learning, interest, and interaction, quality materials which

enhance these goals are more likely to be accepted and implemented. Program materials which most enhance student interest and learning are these which are attractive, stimulate a variety of the senses, inform students of their progress, provide practice relevant to objectives, and provide summary information at the beginning and end of material.

Guideline: ***Change facilitators should highlight these features in program materials and assist teachers in supplying these features if they do not exist in the materials. ([xlii], p. 189)***

47. Principle: Tentatively, it would appear that teachers who develop or help develop local materials to supplement, clarify, or enrich programs take greater ownership of the innovation and are more successful in adapting it to local need.

Guideline: ***Change facilitators should encourage and provide opportunities for teachers to***

develop local materials to support, enrich, or further clarify or adapt programs. ([xliii], p. 190)

G. Avoiding Overload and Counteracting Attrition

48. Principle: Since not all schools are alike in the number of innovations they are attempting or in their capacity for innovations, implementing new programs district-wide can have a negative impact on implementation in those schools that are experiencing overload or lack the capacity for the particular change.

Guideline: ***Change facilitators should consider delaying implementation in individual schools where teachers may be involved in more changes than other schools or in schools which do not have the capacity to handle change at the same rate as others. ([lxi], p. 239)***

49. Principle: The capacity of district personnel to provide continuous implementation assistance influences implementation,

especially when complex changes are being considered.

Guideline: *While other factors and principles need to be considered in this decision, change facilitators should consider beginning district-wide program implementation in a small number of schools initially so that adequate implementation assistance can be offered in these schools. ([lxii], p. 239)*

50. Principle: Too many curriculum changes at one time can overload teachers to the point that they cannot effectively implement any of the changes.

Guideline: *Change facilitators should provide overall direction in prioritizing and sequencing curriculum changes so that teachers are not working on too many curriculum changes at once. Such planning requires a consideration of the overall context in any particular school, and the number and pace of innovations which can be considered reasonable or possible may be different for different schools. ([lx], p. 238)*

51. Principle: Teacher turnover generally correlates negatively with implementation unless provisions are made to in-service new teachers regarding the innovation.

Guideline: *Change facilitators should arrange to in-service new teachers and monitor and support their efforts. ([lvi], p. 225)*

H. Principal, Superintendent and Consultant Support

52. Principle: The active support of the school principal correlates positively with successful implementation.

Guideline: *Change facilitators should keep principals informed of the proposed change, involve them in planning for implementation, involve them in teacher training sessions, and monitor their involvement during implementation. ([lxvi], p. 259)*

53. Principle: Principals who are most effective during the process of implementation possess not only some knowledge of the particular innovation but also an understanding of

curriculum planning and implementation, of facilitating collaborative work among teachers, and of providing effective leadership generally. School districts that provide professional development and support for principals in these areas, and that monitor the educational leadership of principals are more likely to foster principal qualities and overall school conditions which correlate positively with implementation.

Guideline: ***Change facilitators seeking to implement specific innovations should support such an overall framework which goes beyond any specific innovation, and take opportunities during the implementation of a specific innovation to initiate or reinforce among principals those behaviours which are conducive to implementation generally. ([lxvii], p. 260)***

54. Principle: The support of district administrators (particularly the superintendent) correlates positively with implementation. In particular, a district administration which clearly communicates

a curriculum priority, establishes frameworks for implementation, and provides financial support for resources and release time for teacher planning can positively influence curriculum implementation.

Guideline: *Change facilitators should work to acquire such support and communicate such support for specific program changes to teachers. Change facilitators should also work to incorporate and institutionalize these characteristics into district operations. ([xlvii], p. 211)*

55. Principle: The effectiveness of consultants correlates positively with curriculum implementation.

Guideline: ***Effective consultants/change facilitators should mobilize support for implementation, plan at a systems level to provide the framework for implementation, coordinate or deliver necessary in-service for the proposed change, and interpret and work within the unfolding context to assist teachers in the foreseen and many***

unforseen incidents that occur during implementation. ([xlviii], p. 212)

I. Assessing, Using, and Shaping the Organization

56. Principle: The nature of the organization will influence the success or failure of implementation. School districts in which power is dispersed so that more involvement and collaborative decision-making occur closer to the point of delivery, with monitoring and support from the district level, are generally more effective in implementing change.

Guideline: ***Change facilitators should promote this general approach through their influence with district administrators, and practice this approach by emphasizing collaborative decision-making with central monitoring and support during implementation. ([xxi], p. 155)***

57. Principle: Although school districts tend to be "loosely coupled" and do not respond exclusively to lines of authority, a

variety of linkages (interpersonal, cultural, structural), or lines of communication and influence, exist which can impact upon implementation.

Guideline: ***Change facilitators should be observant of significant established linkages or influences which exist within the school district or within schools, use these sources of influence to promote attitudes and practices which are advantageous to the implementation of the innovation, and work to create ongoing linkages or lines of influence which may be beneficial to implementation. ([xxii], p. 156)***

58. Principle: Implementation is more likely to occur when an innovation is viewed as being rational from a number of perspectives - scientifically, politically, bureaucratically, economically, ideologically, practically, and socially.

Guideline: ***Change facilitators should organize the implementation effort so as to emphasize that the change appears rational from multiple perspectives. ([xxiii], p. 156)***

59. Principle: Successful implementation of curriculum change requires structural and organizational changes within schools and school districts in order to support and facilitate such changes.

Guideline: *Change facilitators should work to achieve these structural and organizational changes so as to ensure that the innovation is supported and institutionalized. ([xx], p. 154)*

60. Principle: The institutionalization of an innovation depends upon the degree to which teachers assimilate new practices and the degree to which the organization incorporates those practices and procedures which support the innovation into its daily and long-range operations.

Guideline: *Change facilitators should work during implementation to ensure assimilation of the practices of the innovation into teacher beliefs and routines, and incorporation of innovation requirements into the funding, training, and other*

procedures of the organization. ([iv], p. 48)

61. Principle: Since a general capacity of the organization to implement innovation is a benefit to the implementation of any particular innovation, particular implementation efforts should pay attention not only to specific changes but to whether or not the institution is developing.

Guideline: ***Change facilitators should encourage those aspects of institutional change which enable the organization to manage implementation more effectively: the building of collaborative structures, emphasis on curriculum, and other organizational features identified in other principles. ([xxiv], p. 157)***

J. Utilizing Internal and External Support

62. Principle: Active co-operation in a general sense between board trustees and district

office staff correlates positively with the implementation of innovations.

Guideline: *Change facilitators should encourage continued active co-operation between the school board and the district, and should work during implementation to maximize the benefits of such existing co-operation or to minimize the negative impact of conflict that is beyond the control of the change facilitators. ([lxiii], p. 246)*

63. Principle: Board support for specific innovations correlates positively with successful implementation.

Guideline: *In planning for implementation, change facilitators should attempt to communicate the goals and requirements of the innovation clearly to board trustees and gain their financial and moral support. ([lxiv], p. 246)*

64. Principle: Community support correlates positively with implementation. In particular,

parent involvement and support influences student achievement and can positively influence program implementation.

Guideline: *Change facilitators should assist teachers in clearly communicating the nature of program changes to parents and the community, and in soliciting specific instructional help from parents at home or through school visits. ([lxv], p. 247)*

65. Principle: Public (provincial, national, or international) concerns or beliefs about education can influence the reaction of local communities to innovations.

Guideline: *Change facilitators should be aware of current public issues/concerns regarding education, and be prepared to draw upon sentiments that are advantageous to the innovation or to discuss and resolve public concerns which are disadvantageous. Where necessary, the change facilitator should talk to teachers about how the innovation fits with current public sentiments/beliefs so*

that teachers are assisted in their dealings with the community. ([lxx], p. 278)

66. Principle: The provincial ministry or department of education can influence implementation through its development of policy, through the adoption process and pre-implementation orientation, through the availability of resources or personnel, and through program reviews.

Guideline: ***Change facilitators at the district level should seek to influence these processes to the benefit of district implementation and should capitalize upon those aspects of ministry action or service which are advantageous to program implementation at the district level. ([lxxi], p. 279)***

67. Principle: University faculties of education and teachers' unions have a potential positive influence on implementation through research, and through collaboration and sharing with local boards.

Guideline: *Change facilitators at the district level should encourage such ongoing collaboration and access any services (personnel, resources, research, etc.) from University faculties, teachers' unions and/or other sources which may be of benefit to program implementation in the district, while at the same time providing strong local leadership for implementation. ([lxxii], p. 280)*

Implications for Further Research

This study presents principles and guidelines for program implementation in school districts developed from a comprehensive review of the literature on educational change. Further studies of actual implementation efforts in which school districts attempt to follow such guidelines for program implementation would serve to confirm, revise, or extend upon particular principles and guidelines. As previously indicated, the potential for external agencies to collaborate with school districts in the implementation process deserves to be studied more fully. Furthermore, such studies may identify previously unconsidered factors from which further principles and guidelines can be developed.

Studies of attempts to bring about planned change in school districts can focus on all of the principles and guidelines, or on a particular category of guidelines. It is also necessary, through research, to explore in more detail how the various factors which influence implementation interact with each other during the implementation process.

Another challenge for educational research is to determine how school districts can best make the transition from the current uncertainty about implementation to an approach based on a knowledge of planned change and adherence to comprehensive implementation guidelines. The guidelines for program implementation developed in this study are in themselves proposals for change in the practices and beliefs of personnel in school districts. Like any other change proposal, these guidelines depend upon the implementation process for their impact in school districts. In implementing these approaches to implementation, change facilitators would presumably utilize the knowledge acquired through the principles and guidelines themselves. Further studies of how school districts make this change, and of how district personnel incorporate sound implementation approaches into their practices and beliefs, are essential in order to ensure that these proposals for changes in implementation approaches and beliefs are implemented in school districts.

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