

School Principals and Change Processes in the Secondary School

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Most research on the principal's role and on classroom-based instructional change has been confined to the elementary school. This article examines principals' roles in large urban secondary schools as they initiate comprehensive classroom-based curriculum change. Based on case studies of three urban high school principals in one district, the article traces formal and informal events that affected adoption and implementation of the 4Mat system of instruction over a two-year period. In particular, we link the three principals' roles as managers of curriculum change to goals, strategies for involvement, sources of pressure and support, the roles of teachers and of district personnel, and the overall impact of the change on the three schools. We identify eight themes that highlight both the complexity of curriculum change in the high school and the potential for further change.

La plupart des recherches sur le rôle du directeur d'école dans les changements pédagogiques apportés en classe ont trait à l'école primaire. Cet article présente le rôle de directeurs de grandes écoles secondaires urbaines dans l'implantation de modifications de programmes au niveau des classes. On y étudie le cas de trois directeurs d'écoles secondaires d'un même district qui ont introduit un nouveau système d'enseignement. L'article fait état des événements formels et informels qui ont eu une incidence sur l'implantation de ce système pendant une période de deux ans. Les objectifs des trois directeurs, les stratégies adoptées par ces derniers, les oppositions et les appuis au système, le rôle des enseignants et du personnel du district ainsi que l'impact général du changement sur les trois écoles ont tous influencé les résultats. Nous suggérons huit lectures de ces événements, qui montrent toutes qu'il est à la fois possible et complexe d'implanter des changements de programmes au secondaire.

Although we know much about change processes in the elementary school, we know little about change—particularly internally-initiated change—in secondary schools. An intensive study of four school systems in Ontario (Fullan, Anderson, & Newton, 1986) showed how little we understand change in secondary schools. Hall, Hord, Rutherford, and Huling (1984) are among the few who write about change in secondary schools, and they suggest high school administrators and teachers are more interested in change than normally thought. Weindling and Earley (1986) draw attention to differences between change initiated outside the school and change from within.

They indicated that internally-initiated change in secondary schools is more prevalent than previously assumed.

Our study considered three principals of large, urban secondary schools who aimed to improve instruction. Although the literature clearly establishes the principal as a central causal agent of change (e.g., Berman & McLaughlin, 1977; Cox, 1983; Leithwood & Montgomery, 1982; Miles, 1983), studies show that most principals are reactive rather than proactive. They give much more time to maintenance than to change (e.g., Crowson & Porter-Gehrie, 1980; Sarason, 1982; Wolcott, 1973). After describing the methodology, related literature, and key events, the findings are reported around eight major themes.

PURPOSES AND METHODOLOGY

This study's general purposes were to investigate how three urban secondary school principals initiated and managed a particular instructional innovation and to determine aspects of the change process unique to a secondary-school setting. The innovation was the 4Mat System of classroom instruction, based on learning styles and right-brain, left-brain thinking (McCarthy, 1982). Specific questions that guided this study were:

1. What events, formal and informal, took place prior to initial workshops, at the workshops, and during the next two school years?
2. What were the reasons for initial interest in the innovation?
3. What strategies did the principals use to interest and involve staff and to relate to central office?
4. What did each principal *think* and *do* during each term of the school year?
5. What were the effects of various events and factors?
6. What were the sources of pressure and support for the principals?
7. What are the plans for continuation?
8. How did the principals use knowledge?

The study provided for reflection-in-action: the three principals engaged in three in-depth, semi-structured interviews during 1984–1985; they participated in meetings of a steering group that included external facilitators; and they wrote reports of their experiences. Another perspective was provided by having a central office consultant take part in all of these activities.

Sources of data included interview transcripts, notes and materials from meetings of the steering group, papers written by the three principals and the consultant (see Hogg & Treliving, 1986; Lacey, Pinkney, & Wensley, 1986; McCarthy & Leflar, 1986), and printed materials from external consultants (an expert on change processes, the developers of 4Mat, and an authority on evaluation, the central office and each school).

REVIEW OF LITERATURE

Berman (1981) has provided a useful review of research on educational change. His analysis shows that work in the 1960s assumed dissemination of innovations in "rational" systems. Later, emphasis shifted to the adoption of change and the characteristics of adopters, followed by a concentration on implementation of change in particular organizational and environmental contexts. Another historical perspective has been provided by Fullan (1982, 1986), who notes that the study of change since 1970 has moved from documentation of failure to analysis of success, and now emphasizes the management of change.

Increasingly, researchers want to find out how principals influence curriculum implementation and school improvement. Two major American studies deserve special attention because of their breadth and potential impact upon the role of the principal. Almost a decade ago, the Rand Change Agent Studies determined the effectiveness of federally-funded projects in education. One finding important to our purposes is that one-third of the teachers thought their principals functioned primarily as routine administrators uninvolved in change (Berman & McLaughlin, 1977). They also reported that projects with active (rather than only verbal) support of principals were more likely to succeed. A second major study of Dissemination Efforts Supporting School Improvement (DESSI) studied over 4,000 teachers, 400 schools, and 146 school districts in 10 states involved in programs for school improvement (from federal to local levels). These programs included the National Diffusion Network, a commercially marketed program for the handicapped, state-administered Title IV-C adoption grants, and locally developed Title IV-C adoption grants. The authors conclude (Crandall & Loucks, 1983, p. 26):

1. School improvement is a highly complicated process which requires time and resources to be successful. Don't expect important changes to occur overnight, or for free. But equally important is the realization that we *really do know how to do it better*.
2. It takes people to help people change. While technical knowledge and skills, in the form of effective, validated practices, are critically important, these practices must be delivered and supported by sensitive, credible people.
3. Every individual and agency at each level of the educational enterprise has an important role to play in improving teachers' delivery of instruction to students. Only when each level plays its role can the quality and content of education be upgraded.
4. Forceful leadership with competent assistance and support creates the impetus and the wherewithal that are necessary for change. Formulating challenging goals and taking strides to meet them are important first steps even if adjustments must be made along the way.
5. The current government-supported infrastructure for school improvement should be reinforced with well-informed policies and enhanced with more co-ordination

between agencies and offices and more attention to the current and future needs of schools.

Other DESSI researchers are more specific. Based on interviews with 144 principals, Cox (1983) reports that principals active in successful school improvement insure that: staff know successful implementation is a top priority; necessary materials are available; teachers have access to resource personnel; scheduling provides time for teachers to use the practice; the climate is conducive to continuous and systematic problem solving; and teachers understand that all components of the practice are to be implemented. Principals also prevented premature evaluation through the establishing of practicable time frames with teachers, central offices, and parents. Miles's (1983) study of 12 elementary and secondary schools stated that a program's curricular durability depends mostly on teacher mastery and commitment, administrative action, and teacher-administrator harmony. Using Miles's data, Huberman (1983) concluded that implementation often succeeded when administrators exerted strong and continuous pressure on teachers. He emphasized, however, that such pressure must be combined with effective and sustained support for teachers. Huberman's summary statement is useful:

Where does this leave us? Overall, it suggests the administrators, both at the central office and building levels, have to go to center stage and stay there if school improvement efforts are to succeed. (1983, p. 27)

Despite these rather definite conclusions, we know little about change in the secondary school and about the principal's associated role. We may speculate that program-oriented principals make a difference, and that ongoing professional development and assistance linked to change is essential. Preliminary findings from a study of improvement in five urban high schools in the U.S. already indicate this (Miles, 1986). But still we may ask how principals of huge secondary schools cope with multiple demands. What are the functions of the administrative team—vice-principals and department heads? How does change occur within the school?

DESCRIPTION OF INVESTIGATION

We investigated a public school system serving over 65,000 students in a city of more than 500,000 people. The work dealt with 3 of 22 secondary schools. As parts of the same system, the schools had much in common, but they also obviously differed, particularly in size. School 1 had approximately 2,000 students and 150 teachers, School 2 had 1,700 students and over 100 teachers, and School 3 had 800 students and 50 teachers. The most experienced principal (6 years) was in the largest school, the principal of School 2 was in

her second year, and the principal of the smallest school was just appointed when this study began. The innovation we chose to study was the 4Mat System approach to classroom instruction (see McCarthy, 1982 and McCarthy & Leflar, 1986). The 4Mat System is based on learning-style research. The system is illustrated by means of a circle divided into four quadrants that represent four learning styles. Each quadrant has one section oriented to the left mode of the brain and one to the right. As teachers plan and teach, they concentrate on "life experience" in quadrant 1, on "explanation" in quadrant 2, on "application" in quadrant 3, and on "extension" in quadrant 4. As McCarthy says, "The result is a cyclical teaching method in which all learning styles are served while alternately using left and right teaching modes" (1982, p. 22). The 4Mat system may be applied to any subject area and classroom.

CHRONOLOGY OF EVENTS

1983 November

1. Principals of Schools 1 and 2 and a district consultant attended a conference on 4Mat and decided "to do something."

1984 January-June

2. In 1984 February, Principals 1 and 2 and a few teachers from their schools attended a 4Mat conference in a neighbouring jurisdiction.
3. Principals 1 and 2 sent the board consultant a proposal for teacher workshops.
4. The board consultant, on behalf of the principals, made contact with the external change facilitator. (Over two years there were several meetings of the three principals, the board curriculum consultant, and the external facilitator, who together constituted a steering group.)

1984 Summer

5. During June and August, there were four days of workshops with external facilitators (4Mat) for teachers and principals (152 attended from a possible total of 307).

1984 September-December

6. On October 29, about 50 people attended a follow-up workshop with a 4Mat facilitator.
7. There was a workshop for line administrators and central office consultants November 1-2.

8. Inter-school writing teams of teachers and subject consultants from central office were formed in French, English, mathematics, and theatre arts.

1985 January-June

9. An English and mathematics workshop was held in 1985 February.
10. The consultant became vice-principal of School 1 and central office appointed a new 4Mat contact.
11. In April an external facilitator (4Mat) met with the steering group to discuss plans for 1985–1986.
12. Principals 2 and 3 prepared a report on 4Mat in their schools for other administrators in their area.
13. The three principals prepared a report for central office.

1985 Summer

14. The school system paid teams of writers to incorporate 4Mat into three subject areas.
15. The system funded a research project with an external facilitator. Researchers would examine 4Mat's effects on student learning, changes in student behaviours at school, effects on the learning environment, and new ways to organize the curriculum.

1985–1986

16. Selected teachers were designated 4Mat coaches and assumed responsibility for management of 4Mat at the staff level.
17. Principal 2 was promoted to superintendent.

This list may suggest that the process was linear and rational: it was not. The two principals who began the project were personal friends, had worked together since the 1970s, and shared a professional belief system. One of their beliefs, that it is important to do more for students in secondary schools, was a major reason for their early interest in 4Mat. As these principals anticipated, the board consultant supported their 4Mat proposal. Earlier, the principals had invited certain teachers whom they perceived as influential to attend the February workshop in a neighbouring district. The summer workshops for teachers from the three schools were very well received by most participants, but ten teachers from School 2 left the August session because they thought it unproductive. Central office was not happy that 3 schools out of 22 in the system were being funded for an innovation that had not been evaluated. Personnel at central office believed the innovation should be evaluated

immediately on the premise that if 4Mat was "good for some schools, it was good for all." On the other hand, the three principals strongly believed that 4Mat should be tried out in their schools before it was evaluated and disseminated.

Two additional points about the chronology of events should be noted. First, by the spring of 1986 the three principals and the consultant occupied positions different from those in which they had started the 4Mat project. Second, as the project evolved the principals' role shifted from initiator to facilitator of the changes.

We turn now to events at the three schools, where circumstances varied markedly.

SCHOOL 1

In 1984 September, after the summer workshops attended by 55 of 150 teachers, the principal set up a planning group of himself, two vice-principals, and two department heads. Shortly thereafter, this group met with eight subject representatives and organized a meeting for teachers who had attended the summer workshops. In early fall, teachers began to work in small groups. They held two meetings in October to prepare for the follow-up visit of the 4Mat consultant. The principal reported that users were forming clusters, that one vice-principal had organized professional development around 4Mat, and that other staff were showing leadership. In this school, 4Mat activity centred around small groups of teachers in particular subjects. These teachers attended 4Mat workshops in October and February, and received support from the principal and vice-principals. The principal, for example, set up a 4Mat bulletin board outside his office, and discussed 4Mat during his interviews with department heads in the spring of 1985. Inter-school events associated with 4Mat also influenced what was happening inside the school.

Several factors caused the momentum for 4Mat to vary considerably from month to month. As the principals expressed it, in the early fall of 1984 there was a flurry of activity followed by "a time for consolidation" from November to January. In addition to heavy day-to-day demands in a school of over 2,000 students, the principal said "other things, such as the Directions Committee, come roaring down the pipe." The first report of student progress was required in November. Christmas activities and other events took the school to the end of the first term in January.

These intervening activities constituted additional pressures on the principal. By the end of November 1985 he believed more superintendents were supportive, yet he expressed frustration with what he saw as the priority of politics and finance in the central office. Lack of contact with central office

prompted him to say, "I feel like a maverick in my own system." The external facilitators (4Mat and change) provided positive pressure, as did the interviews. Despite these positive pressures, shared leadership in the school, growing involvement of teachers, congruence between the innovation and his personal values, and his high status as a professional, Principal 1 in the middle of the project's first full year remarked, "I hesitate to say this, but there are times when I wish I could get a pat on the back. There is a tendency to say 'who cares?' and let it go."

It should be noted that Principal 1 gave as high priority to his own learning as to student learning. At the first interview, he commented, "I'm learning so much." He appreciated learning more about change from the external facilitator, and considered it vital to help teachers learn about the effects of change as they attempted to implement 4Mat.

The 4Mat innovation in this school seems likely to continue because of the principal's knowledge and skill, a team of 4Mat leaders that includes administrators and teachers, integration of 4Mat into other aspects of the school, and plans for monitoring and evaluation. The last two factors—integration and evaluation—apply to all three schools, but the first two considerations—the principal's knowledge and the team of 4Mat leaders—pertain much more to this school than to the other two. Still, even in School 1 implementation is threatened by a perceived lack of support and understanding by the system.

SCHOOL 2

In this school, 30 of 109 teachers attended the summer workshops but ten of them were dissatisfied and left early. As in School 1, the principal arranged a fall meeting for 4Mat teachers in which the group attempted to clarify the innovation, shared concerns, expressed needs, and planned. Teachers had until January 1985 to submit informal written plans, because the principal wanted the teachers to have time to interact. An external resource person with expertise in learning styles made a presentation to the staff at an early fall meeting. In October, department heads had a retreat that incorporated 4Mat in its agenda. To accomplish this, the principal said she had used "a little bit of manipulation," asking presenters to integrate 4Mat into topics of time management and student evaluation.

The principal also used a technique called "invitational learning," whereby she placed an article on 4Mat in a teacher's box and asked for a response. She believed she supported 4Mat with interaction, time off, reminders, and materials. For example, at the initiative of some teachers a student was hired to develop 4Mat materials. In spring of 1985, a professional development day for all staff included elements of 4Mat, and programming for semesters in

department groups was related to 4Mat. It was also reported that 4Mat principles had been integrated into classroom visits, discussions, and criteria for hiring. The impact of 4Mat is indicated by the remark that it had become part of the culture of the school.

At School 2, the most dramatic intervening factor was that on the day of the May interview 13 teachers received notice of termination. The principal observed, "How can you ask a teacher who is afraid of being a victim of funding cut-backs to prepare materials on her own time?" Earlier in the year, the principal had stated that, "We are in the business of selling programs—we serve three generations with programs now and, if we get the daycare centre, it will be four."

A source of pressure and frustration for the principal was what she perceived as a tremendous gap between the politics and the practice of education—between line administrators and instruction." She saw the school system as big and torn in every direction, with extra demands just too heavy. She went on to say that she knew much more needed to be done about 4Mat, adding, "I have not done a very good job of monitoring and nurturing. . . . I simply haven't been able to."

The initiative for 4Mat can be attributed more to Principal 2 than to anyone else. At the first workshop she said "Let's do something." She directed the proposal to the consultant in central office she knew would support it. It was her idea to contact the external change facilitator. Years before, as vice-principal in School 1, she had established an informal professional development group which at times met in her home and to which all principals and the consultant had belonged at various times. She demonstrated vision, energy, and commitment.

The promotion of Principal 2 to superintendent may be good for the system, but bodes poorly for 4Mat in School 2. Ten teachers began with a negative impression of 4Mat. The principal was more responsible for the innovation in this school than in School 1, partly because neither the vice-principals nor many teachers assumed leadership roles, and partly because of the principal's style.

SCHOOL 3

Principal 1 laid the groundwork for 4Mat in School 3 before he was transferred to School 1 in 1984 June. Principal 3 was promoted from vice-principal at School 1. When 4Mat was being introduced during spring and summer of 1984, Principal 3 indicated that he was distracted by his promotion and had to miss some of the summer workshops. He appreciated his predecessor's work and said that 4Mat was a good talking point for him with the 24 of 50 staff who had attended the summer sessions. 4Mat grads met early in the fall to identify needs and share ideas. One or two meetings were held in early

october. To encourage attendance at the October workshop, the principal contacted each teacher individually and offered a shortened-period day. In November and December, 4Mat reportedly gave way to other priorities such as report cards and football. The staff interpreted the October workshop to mean they could be looser with 4Mat, and the principal, sensing the pressure, suggested they move more slowly on 4Mat. The momentum picked up early in 1985, when some teachers formed writing teams and incorporated 4Mat into their lessons and units. In May, 9 of 12 teachers who responded to a survey thought 4Mat had helped them to become more effective teachers, reported that they were continuing to find new applications, and said that they would recommend 4Mat to colleagues in other schools.

The future of School 3 was in doubt. It was located in a community likely to be affected by a recent provincial policy for full funding for Catholic secondary schools. A significant number of students might shift from School 3 to the local Catholic high school. In these circumstances, community relations were particularly important to the principal. The principal found, too, that 4Mat added to his workload since his vice-principal had responsibility for discipline and attendance.

Beyond these factors, Principal 3 remarked that he did not know where the central office stood on 4Mat. He felt strongly that the system should give time for implementation before evaluation and before any decision to adopt the system. Meetings of the Steering Group and the interviews offered both support and pressure. He expressed appreciation particularly to the external change facilitator who had offered specific guidelines for the September meeting. he added, "I'd been a bit nervous before we went into it."

In School 3, the principal is the only administrator actively supporting the innovation. Added to this difficulty, the principal is increasingly worried about the future of the school. Finally, he joined 4Mat later than the other two principals and felt less confidence in his knowledge of it and of the change process. He gained support from the Steering group; but the membership has changed dramatically, the consultant having gone to School 1 and Principal 2 having been promoted.

THEMES

This study was intended to obtain insight into three secondary school principals' management of an instructional change they had initiated, and to identify features of the change process unique to secondary schools. The interviewer paid special attention to those aims in interviews with the principals. Topics included initial interest in the innovation, events and their impact, strategies for involvement, intervening factors, sources of pressure and support, planning for implementation and continuation, and knowledge utilization. For our purposes, data have been clustered around eight

themes that we believe pertinent either to secondary schools or to the innovation and management aspects of change. The four themes that characterize the secondary school setting are: high schools' interest in curriculum change, the uphill internal battle, the uphill external battle, and change cycles; the four themes that characterize innovation and management of change are: the complexity of the innovation, spontaneity, the role of peer support, and schools and districts as consumers of research. We do not claim either that the setting or management themes are immutable or that they are uniquely confined to secondary schools. They do, however, make sense as variable in secondary school change processes.

THE SECONDARY SCHOOL SETTING

High schools' interest in curriculum change

We have a case of three high school principals and large numbers of teachers actively pursuing a curriculum change under difficult circumstances. The innovation, 4Mat, was attractive but required considerable development to get to the point of practical use and payoff. Resource support was limited. One could say that the three principals were not typical of high school principals, but they might represent the newer breed of principals (see Fullan, Anderson, & Newton, 1986 on criteria for promotion to leadership positions in school systems). The teachers were probably representative. Schools showed more initiative and follow-through than did line administrators outside the school. Many teachers were uninterested, but it may be that they do not yet realize the extent of the payoff for curricular change in high schools. Internal and external conditions are not conducive to stimulating and prodding the potential.

The Uphill Internal Battle

Despite the innovation's potential, progress depends on sophisticated attention to detail and persistence on the part of the principal. There are different ways to succeed, but probably more ways to fail than to succeed. The potential is difficult to realize because teachers are not used to principal follow-through and do not realize that "this time it will be different." Potential leaders (vice-principals and department heads) do not see themselves or are not seen as curricular leaders. In short, high school staff have no experience working as collectivities (in this case, small groups working on similar curricular tasks). There is no experience that leads them to see, let alone follow, fruitful patterns of development. Consequently, the principal is charting unfamiliar normative territory without the help of administrative co-

leaders. These principals are learning about the change process as they go along (there is nothing in their training or experience that has prepared them for this role, especially at the level of practical decisions). Vice-principals and department heads exercise little instructional leadership. Teachers begin to work together, but little in their previous experience tells them how best to do this or gives them faith that working together will be productive and worthwhile.

Nonetheless, in the fall term after the August workshop, the three principals, using slightly different methods, provided support for and pressure on groups of teachers to formulate and follow modest or informal implementation plans—all this on top of the daily crises of a large secondary school.

The Uphill External Battle

According to the three principals' perceptions, the authority hierarchy outside the school raises two problems: first, principals see their immediate supervisors—area superintendents—as political and bureaucratic figures who have little time for, or understanding of the kinds of change that produce curriculum improvement; second, the principals are uncertain in dealing with the central office. At each phase, when small expeditures ("small" as principals saw them) were required, principals thought the uncertain period preceding decision making was too long. They sensed that superintendents had reservations just when they ought to have embraced the project, considering principals' and teachers' motivation and voluntary effort.

We did not interview the superintendents. We inferred that they had two problems. First, they were unsure what kind of project they had on their hands: 4Mat seemed to them vague, and the measurable payoff distant and unpredictable. Second, if 4Mat were a good project, it should be available to the other 19 high schools in the district, not just limited to the 3 receiving special attention and special resources.

This theme—how principals should think of and deal with external superintendents—did not come up in the principal's discourse in the first year of implementation. The principals individually or collectively never developed an ongoing strategy for working with area superintendents. On the other hand, area and central administrators did not recognize that principals, and a substantial proportion of three school staffs, were willing to invest professional time and energies on curriculum improvement. According to principals, senior administrators should have appreciated, even embraced, what they were doing; superintendents claimed they were willing to invest in the principals' project, but wanted to see results.

In short, curriculum change was seen to be the principals' project (indeed, it was) in a system that normally introduces curriculum change from the

outside and that does not expect high school principals to initiate curriculum change of this magnitude.

Change Cycles

In each school, the year marked widely different amounts of innovation-related activity. The general pattern of the cycles can be characterized as follows:

June-August Workshop—The sky is the limit

November-January—Bottoming out

February—Glimmer of hope

May—Renewed enthusiasm

Second Year—Monitoring and evaluation

The sky-is-the-limit reaction in the June to August period was predictable. The 4Mat consultants were well prepared, and the opportunity to work on interesting curriculum ideas was enticing. But this was prior to implementation.

The September and October period was also “positive.” Between June and September, the Steering Group discussed in great detail the research finding that the first few months of implementation were critical, and were often a period of anxiety and frustration. The principals understood this and went to great lengths to keep or, rather, get things moving. They kept 4Mat in the forefront, got groups of teachers to meet, and obtained agreement from teachers to write modest implementation plans. Despite the normal heavy demands at the beginning of a new school year, people did work on 4Mat curriculum.

The November to January period was lowest in various ways. People did not keep up their effort in the face of slow progress (innovation requires time-consuming development work) and mounting pressure from normal school-year events. The principals were physically and emotionally drained. But three planned events established the conditions of later success: first, a shift from principal-initiated events to teacher-initiated activities among small groups of teachers as leaders began to appear; second, a 4Mat consultants’ workshop for central administrators (November) attracted the administrators’ support; and third, several district office curriculum consultants were invited to work with subgroups of teachers on writing teams. In these conditions, the February 4Mat workshop for English and Math teachers became a catalytic agent. The February workshop was a teacher-initiated occasion, consolidating English and Math coordinators’ support for and the advocacy of 4Mat.

Although future plans were unclear by May of the first year, principals and

consultants were preparing for more change. As it turned out, 1985–1986 and summer of 1986 saw significant developments—involvement of the research branch, further teacher commitment, provision of resources for writing teams, and return visits by the 4Mat consultant.

We should again emphasize that there were internal school variations. The change cycle generally was characterized at once by fragility (at any time the project might be scrapped) and by inevitability (several key conditions were in place). For example, the leadership team of School 1 protected the innovation in periods of low activity when principals and staff were preoccupied.

The Management of Change

Secondary schools tend to be content-oriented; they are not used to emphasizing innovative instructional methods. The 4Mat innovation directly calls into question traditional teaching methodologies and learning styles. 4Mat is intuitively appealing, but in practice is not easily clarified and adapted to classroom use. Teachers thus found the innovation difficult and none too clear: it took considerable time and effort to carry out the development work necessary to get to the point of full use in the classroom. It was also difficult to convey its practical meaning and payoff to administrators. Successful implementation depends on clarity and relatively early payoff, according to research literature. The learning principles underlying 4Mat were so powerful and intuitively attractive to many teachers that they kept at it. Still, the teachers underestimated the developmental and adaptive curriculum work to be done.

It was only in the summer of 1986 that significant resources were allocated to writing teams. But this reversal of the usual demonstrated that the seemingly logical approach may not be the best. That is, the normal practice is to begin the process with curriculum writing, which is often followed by failed implementation. In the present case, many of the conditions for maximizing the use of the materials about to be written were already in place—teacher demand for the materials, principal support, district consultant support, recognition by central administrators, and widespread awareness of 4Mat through system-wide workshops.

Spontaneity

A chance remark signalled large-scale change across the three schools. As two principals and a consultant met at an out-of-district conference on 4Mat in 1983 November, someone said “Let’s do something.” All three were interested in curriculum improvement and were willing to take initiatives. They

represent, in our assessment, a new breed of local administrators directly interested in program improvement.

The two principals and the consultant began to prepare a proposal to submit to the Superintendent of Curriculum. At the same time, they began to build interest among teachers. In 1984 February, the two principals and a few selected teacher leaders in the schools attended a one-day 4Mat workshop in a neighbouring jurisdiction. Teachers and central office personnel endorsed a four-day 4Mat conference.

Since one of the principals was moving to a new school, teachers in a third school were invited to participate. There was a large turnout—some 150 from approximately 300 teachers in the three schools. Reaction was positive.

It took a combination of favourable and unplanned conditions for 4Mat to begin. These included (a) an attractive innovation, (b) curriculum-oriented school leaders who were also close colleagues, (c) one curriculum consultant who provided a necessary entry to central office resources and legitimacy, and (d) a new provincial government curriculum policy at the secondary level which implied curriculum reform. We suspect that many educational changes are initiated in this eclectic way.

The Role of Peer Support

This theme has two aspects—psychological and technical. Given the friendship and professional collegiality of the three principals, mutual psychological support occurred regularly—daily and weekly both informally and formally—through phone calls, informal discussions at district meetings called for other purposes, and the regular meetings of the three principals, the curriculum consultant, and the external change process consultant. Technical support was provided at monthly meetings with the exchange between principals of current activities, plans, and problems. The group took ideas from the literature and applied them. Three such ideas were that

1. implementation is likely if teachers are interacting during implementation. One should therefore get two or more teachers to work on a 4Mat unit over a period of time.
2. change involves both support and pressure. Therefore how can one devise activities with staff that keeps these aspects in balance?
3. it is necessary to plan for implementation, but elaborate plans are too time-consuming and complex. Try, then, to formulate modest implementation plans a few months at a time.

Without ongoing mutual support, principals would not have kept the project going. Teaching is a lonely profession, but principals work in even more isolation from other principals. Barnett (1985) describes one approach—

Peer-Assisted Learning (PAL)—that provides structured support for principals engaged in reform.

Another important dimension of peer support occurs within the school. In School 1 there was a leadership team whereas in the other two schools the principals thought that everything fell on their shoulders.

School and Districts as Consumers of Research

The principals and teachers did not have a history of drawing on research. Yet they took readily and increasingly to research. The theory, research, and development underlying 4Mat provided strong pedagogical and conceptual reasons to accept 4Mat. The three principals and curriculum consultants accepted and used implementation research findings. The principals, teachers, and district staff committed themselves to sophisticated and comprehensive evaluation research on both implementation and outcomes. In each case, they recognized the usefulness of research in achieving their own goals.

CONCLUSION

We believe this study has raised important issues about the process of change in secondary schools. It shows the importance of the high school principal's role in curriculum change. The difficulties and complexities facing the principal and teachers who attempt significant change are captured in the eight themes. The importance of stimulation and support from outside the school is evident in the roles of those who developed the innovation, of change facilitators, of evaluators, of district consultants, and of other key individuals. We have not attempted to assess the worth of the particular innovation involved. Rather, we have sought to characterize the process of change as it unfolded, although there was considerable support for the innovation among teachers.

Three matters require more research. First, change processes internal to the school are introduced in our study but not examined in great detail. We need to know much more about change as it unfolds in the school, including the role of school leaders, teacher-teacher relations, department head-teacher interaction, change cycles in the school year, etc.

Second, broadly based internal leadership including principals, vice-principals, and department heads is especially important in large secondary schools. The role of vice-principals and department heads in change has been neglected both in theory and practice.

Third, we do not know enough about district-school configurations in the process of change (see Louis, 1987, for some recent formulations). Our case study showed that innovation was initiated by principals and that they found

superintendents' support to be questionable. We are, however, examining only one innovation and this from the viewpoint of supporters. While innovative superintendents have much more difficult relationships with secondary schools as compared to elementary schools, it is not clear why. We have elsewhere discussed the need for district and school-level co-development (Fullan, Anderson, & Newton, 1986). The shape that this takes in secondary schools will be particular. But in any case relationships between schools and district will have to be examined carefully where they aim to undertake multiple innovations. In particular, we would encourage the study of secondary school characteristics, and research on management of change in high schools.

REFERENCES

- Barnett, B. (1985, April). A synthesis for improving practice. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago.
- Berman, P. (1981). Educational change: An implementation paradigm. In R. Lehming & M. Kane (Eds.), *Improving schools: Using what we know* (pp. 253–286). Beverly Hills, CA: Sage Publications.
- Berman, P., & McLaughlin, M. (1977). *Federal programs supporting educational change: Vol. 8. Implementing and sustaining innovations*. Santa Monica, CA: Rand Corporation.
- Cox, P. L. (1983). Complementary roles in successful change. *Educational Leadership*, 41, 10–13.
- Crandall, D. P., & Loucks, S. F. (1983). *A roadmap for school improvement: Executive summary of the study of dissemination efforts supporting school improvement* (Vol. 10). Andover, MA: The Network.
- Crowson, R., & Porter-Gehrie, C. (1980, April). *The school principalship: An organizational stability role*. Paper presented at the Annual Meeting of the American Educational Research Association, Boston.
- Fullan, M. (1982). *The meaning of educational change*. Toronto: Ontario Institute for Studies in Education.
- Fullan, M. (1986). Improving the implementation of educational change. *School Organization*, 6, 321–326.
- Fullan, M., Anderson, S., & Newton, E. (1986). *Support systems for implementing curriculum in school boards*. Toronto: Ontario Institute for Studies in Education.
- Hall, G. E., Hord, S. M., Rutherford, W. L., & Huling, L. E. (1984). Change in high schools: Rolling stones or asleep at the wheel? *Educational Leadership*, 41, 58–62.
- Hogg, C. G., & Treliving, J. T. (1986, April). *The role of the central office in bringing about curricular change*. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco.
- Huberman, M. A. (1983). School improvement strategies that work: Some scenarios. *Educational Leadership*, 41, 23–27.
- Lacey, V. S., Pinkney, T. S., & Wensley, T. A. (1986, April). *The role of in-school administrators in bringing about curricular change: The principal's perspective*. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco.

- Leithwood, K., & Montgomery, D. (1982). The role of the elementary school principal in program improvement. *Review of Educational Research*, 52, 309–339.
- Louis, K. S. (1977, February). *The role of school districts in school innovation*. Paper prepared for a conference on Organizational Policy for School Improvement, Ontario Institute for Studies in Education, Toronto.
- McCarthy, B. (1982). Improving staff development through CBAM and 4Mat. *Educational Leadership*, 40, 20–25.
- McCarthy, B., & Leflar, S. (1986, April). *The 4Mat developer/trainer's perspective*. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco.
- Miles, M. B. (1983). Unraveling the mystery of institutionalization. *Educational Leadership*, 41, 13–19.
- Miles, M. B. (1986, April). *Improving the urban high school: Some preliminary news from 5 cases*. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco.
- Sarason, S. (1982). *The culture of the school and the problem of change* (2nd ed.). Boston: Allyn & Bacon.
- Weindling, D., & Earley, P. (1986). How heads manage change. *School Organization*, 6, 8–14.
- Wolcott, H. (1973). *The man in the principal's office*. New York: Holt, Rinehart & Winston.

Die Mehrzahl der Forschungsarbeiten zur Rolle des Schulleiters und zu unterrichtsbezogenen Änderungen innerhalb des Klassenraumes betrifft die Grundschulen. Im folgenden Artikel wird die Rolle des Schulleiters in großen städtischen weiterführenden Schulen bei der Einführung umfangreicher Lehrplanänderungen innerhalb des Klassenraums untersucht. Der Artikel befaßt sich mit den Fällen dreier städtischer Oberschulleiter, die im selben Bezirk ein neues Unterrichtssystem—“4Mat”—eingeführt haben. Der Artikel zeichnet formelle und nicht formelle Ereignisse auf, die die Annahme des neuen Systems und seine Durchführung über einen Zeitraum von zwei Jahren beeinflussten. Die Zielsetzungen der drei Schulleiter, ihre Taktik zur Förderung der Allgemeinbeteiligung, druckverursachende Faktoren und Formen der Unterstützung, die Rolle der Lehrer und des regionalen Personals, sowie die Einfluß der Änderungen insgesamt auf die drei Schulen hatten alle Einfluß auf das Ergebnis. Wir stellen acht mögliche Blickwinkel auf diese Ereignisse vor, von denen alle das Potential für Lehrplanänderung auf Oberschulebene und dessen Vielschichtigkeit aufzeigen.

La mayoría de las investigaciones sobre el papel del rector y sobre los cambios pedagógicos de la enseñanza en clase, atañen a las escuelas elementales. Este artículo examina el papel de los rectores en las grandes escuelas secundarias urbanas, que inician cambios curriculares comprehensivos en la enseñanza en clase. Considera los casos de tres rectores de colegios urbanos en un distrito, quienes introdujeron un nuevo sistema de enseñanza, 4mat. El artículo investiga eventos formales e informales que afectaron la adopción del nuevo sistema y su implementación en un periodo de dos años. Los propósitos de los tres rectores, sus estrategias de participación, fuentes de presión y apoyo, el papel del enseñante y del personal del distrito y el impacto global del cambio en los tres colegios, influenciaron el resultado.

Sugerimos ocho perspectivas sobre estos eventos, donde todos manifiestan la posibilidad de efectuar cambios curriculares en el nivel secundario y muestran también la complejidad de los mismos.

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