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ABSTRACT

This paper revisits the literature on the nature of school organizations and presents a view of secondary schools as complex social systems, as opposed to bureaucratic-rational structures. Research was conducted into three Western Australia secondary schools planning to implement school-based decision making and planning procedures. The restructuring program reflected a corporate managerialist perspective viewing schools as rational systems and reform as a matter of linkage tightening. The first section reviews organizational theory literature to develop a rationale for viewing schools as open social systems. The second section focuses on research methods employed to assess the possible effect of subsystem linkage and an open social system on implementing school-based management. The third section offers a brief cross-case analysis of the three secondary schools, focusing on the schools' subsystem linkage and participants' use of information. The final section presents concluding comments and implications for action. A secondary school's organizational character is strongly affected by the existence of separate subject departments, which foster strong departmental allegiance among teachers. This pedagogical subsystem is more weakly linked with a school's structural and cultural subsystems. Introducing participatory decision making through school-based management can be perceived as threatening the pedagogical subsystem's autonomy. Reform strategies must consider existing subsystem linkages. (Contains 26 references.) (MLH)

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Schools as Open Social Systems : A Study of Site Specific Restructuring

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Paper prepared for presentation at the Annual meeting of the American Educational Research Association (AERA), New Orleans, April 1994.

Background and Rationale

With the number of restructuring and reform endeavours presently confronting education systems in North America the United Kingdom, Australia and elsewhere it seems timely to examine the area of educational change management. Understanding the dynamics and complexities of implementing reform appears critical to the success of restructuring and school improvement endeavours. Since the 1980's literature on educational change has recognised that process of implementing restructuring and reform is subject to the influence of many factors over a long period of time. This realisation led researchers to consider not only the characteristics of the innovation itself but also the organisational, and contextual explanations of the change process. In particular researchers such as Huberman (1983) and Fullan (1985) view implementation as context dependent. These writers advocate focusing on the school context or "micro" implementation process to understand change. Here implementation is viewed as influenced by the social or cultural characteristics of the setting. From this perspective, change involved alteration to the cultural context, to the beliefs and practices of its members, and to relationships among people within the organisation targeted for change. In short, change can be seen as the creation of a new setting. The adoption of this perspective suggests that those with the responsibility for formulating the policies and implementing change at the school level need to view change as context and setting dependent. Thus, understanding the nature of the school is critical in facilitating the type of transformation required for restructuring and school improvement.

This paper revisits literature on the nature of school organisations and presents a view of schools, particularly secondary schools, as complex social systems that is an association of people bounded together in mutually interdependent relationships. This perspective represents a clear shift from the conception of schools as bureaucratic-rational structures. Based on this view of schools, research was conducted into three secondary schools in Western Australian that were about to implement school-based decision-making and planning procedures as part of restructuring and reform. The restructuring program reflected a corporate managerialist perspective that views schools as rational systems. Under this perspective, reform is a matter of tightening links between parts of the school system so that the system functions as corporate entity.

It was hoped that this research would not only provide insights into the dynamics of the change process but also provided an opportunity to assess the appropriateness viewing schools as open social systems rather. Hence data were sought to assess not only the nature of school organisational characteristics but also the impact of these characteristics on the implementation of school-based management.

This paper is organised around four sections. The first section presents a brief overview of literature on organisational theory in order to develop a rationale for the conception of schools as open social systems. The second section focuses on research methods employed to assess the possible impact of sub-system linkage and the "open" nature of the social system on the implementation of school based

management. The third section offers a brief cross-case analysis of the three secondary schools. To account for implementation actions, specific attention is given to nature of the school's sub-system linkage and participants use of information. The fourth and final section presents some concluding comments and implications for action.

Theoretical Perspectives: Re conceptualising the Nature of Schools

Since the end of World War Two, organisational thought has largely reflected work derived from the behavioural sciences. The behavioural science approach focuses on work behaviour in formal organisations. Based largely on work done by Weber (1947) schools are seen as a formal structure designed to achieve specific organisational goals. The behaviour of individuals in the organisation is thus viewed as purposeful, disciplined, and rational and may be explained in terms of reaction to forces within the organisation. During the 1970's and 1980's this rational perspective has remained the dominant model for policy makers, organisational theorists, and educational administrators.

Viewing organisations as rational systems has led to a concentration on the adoption of supervisory style by administrators as the key to effective change. This in turn has seen the development of rational management models such as "management by objectives" [MBO], (Kenezovich, 1973) and "performance evaluation and review techniques" to facilitate rational decision-making, and enhance efficiency and effectiveness of the organisation.

As the research on change began to accumulate, particularly within educational organisations, it became apparent that many schools did not function as rational systems. According to Baldrige & Burnham (1975), research during the 1970's indicated that a school's goals, structures, activities, and outcomes were not tightly and logically connected with clear lines of communication, and that people were not rational actors guided by what is good for the collective welfare of the organisation. In short, schools were not rational systems. This led to the adoption of a "natural" social system orientation to the analysis of organisational behaviour. This orientation suggests the organisation is made up of a collection of groups that collaborate to achieve system goals on some occasions, and on other occasions cooperate to accomplish the goals of their own groups. Such a notion of flexible cooperation between members of the school organisation prompted researchers to examine the internal dynamics of the sub systems of schools.

A closer focus on the nature of educational organisations resulted in researchers such as March & Olsen (1976), and Weick (1976) to describe such organisations as "loosely coupled systems". By this they suggested that the organisation lacked co-ordination within the various sub-systems that constituted the organisation. This was especially so with respect to co-ordination of the pedagogic sub-system, that is the sub-system concerned with teaching and instructional activities. In support, Deal and Celotti (1980) argued that due to such loose coupling, the formal organisation and the

. administration of the school do not significantly affect methods of classroom instruction. That is, teachers in their classrooms function largely independently from the administration of the school.

Although loose coupling theories are relatively new, more than twenty years ago Bidwell (1965) analysed structural "looseness" in school organisations. He noted that in order to deal with the problem of variability in student abilities on a day-to-day basis, teachers needed to have freedom to make professional judgements:

Teachers tend to resist official authority in the instructional arena and to press for professional discretion. (Bidwell, 1965, p1014)

Similarly Mintzberg noted:

In the professionally bureaucratic setting relations between teachers and administrators are ideally shaped by the notion of professional expertness and excellence and are defined in terms of structural looseness. (Mintzberg, 1979, p349)

This view of loose coupling between the administration and the classroom is also supported by writers such as Clear (1970), Schmuck & Miles (1971), and Dreeben (1973). Indeed, the autonomy of teachers seems undeniable in schools given the extensive research evidence that there is limited supervision of a teacher's classroom activity (Lortie, 1975), and little teacher accountability for their in-class activities (Cohen, Deal, Meyer, & Scott, 1976).

The view of educational organisations being composed of loosely linked parts has provided a focus for an increasing number of researchers. Research conducted by Meyer & Rowan (1978), and more recently by Firestone (1985), indicated that the view of schools as loosely coupled systems is more realistic than the traditional view of a rational-bureaucratic organisation. However, while such looseness might well exist, the demand for uniformity in product (student educational outcomes), and comparability between schools requires a routinisation of some school activities. Hoy and Miskel (1987) therefore view schools as possessing two organisational domains. The first domain is a bureaucratic one consisting of tightly linked institutional and managerial functions. The second domain is a loosely linked professional one concerned with the process of teaching and learning. Deal & Celotti (1980) suggested that the lack of linkage between these two domains might explain why the greatest part of organisationally planned change targeted at teaching and learning is seldom implemented, and the greatest part of change in teaching and learning is not organisationally planned.

The view that schools are composed of distinct domains led writers such as Hoy and Miskel (1987) to propose the existence of at least three sub-systems within the school. These sub-systems include a "technical" system concerned with teaching and learning, a "managerial" system concerned with administration, co-ordinating work, and an "institutional" system concerned with connecting the school to its environment. According to Hoy and Miskel, each sub-system exercises authority over its respective decision-making arena.

In distinct yet related work Wilson and Dickson Corbett (1983) focused on the relationships existing between sub-systems of schools. Using the term "linkages" to refer to the degree to which such parts of the organisation are able to function independently, they identified three types of linkage:

1. Cultural linkages refer to the organisational mechanisms that emphasise the creation or co-ordination of similar behaviour patterns through the development of shared definitions. The establishment of agreed upon school goals promotes cultural linkages;
2. Structural linkages refer to the way by which a school controls member's behaviour. There are two ways:
 - a) rules and their enforcement, the more rules are enforced the greater the linkage;
 - b) limiting the discretion of members over the tasks they perform. Less individual discretion increased linkage.
3. Interpersonal linkages refer to opportunities for staff to interact about their work through discussion, and observation of colleagues performances.

Importantly, the focus on both cultural aspects and the structural linkages does much to recognise and accommodate the competing notions that schools be viewed as either structures or cultures.

Integrating the work of Hoy and Miskel with Wilson and Dickson Corbett's notion of domains and linkage resulted in a view of schools as an organised whole composed of sub-systems and activities that interact with each other. As a multi-dimensional social identity, the school also exists within change environments. These environments is defined as anything outside the school that affects the knowledge and actions of members. Since information and ideas flow between members of the school and its environments, the boundary between the school and its environments is not closed. However, in an attempt to maintain internal stability, the interactions between sub-systems and environments, control structures and procedures are established to monitor these environments, control information flow and promote common sense of purpose e.g. development planning; school based management. Schools so characterised are stable yet dynamic, flexible yet with tight and loose relationships among sub-systems. The open social system characteristics of the school are represented in Figure 1. Here the sub-systems that comprise the school are seen as interacting with each other and elements that comprise the environment.

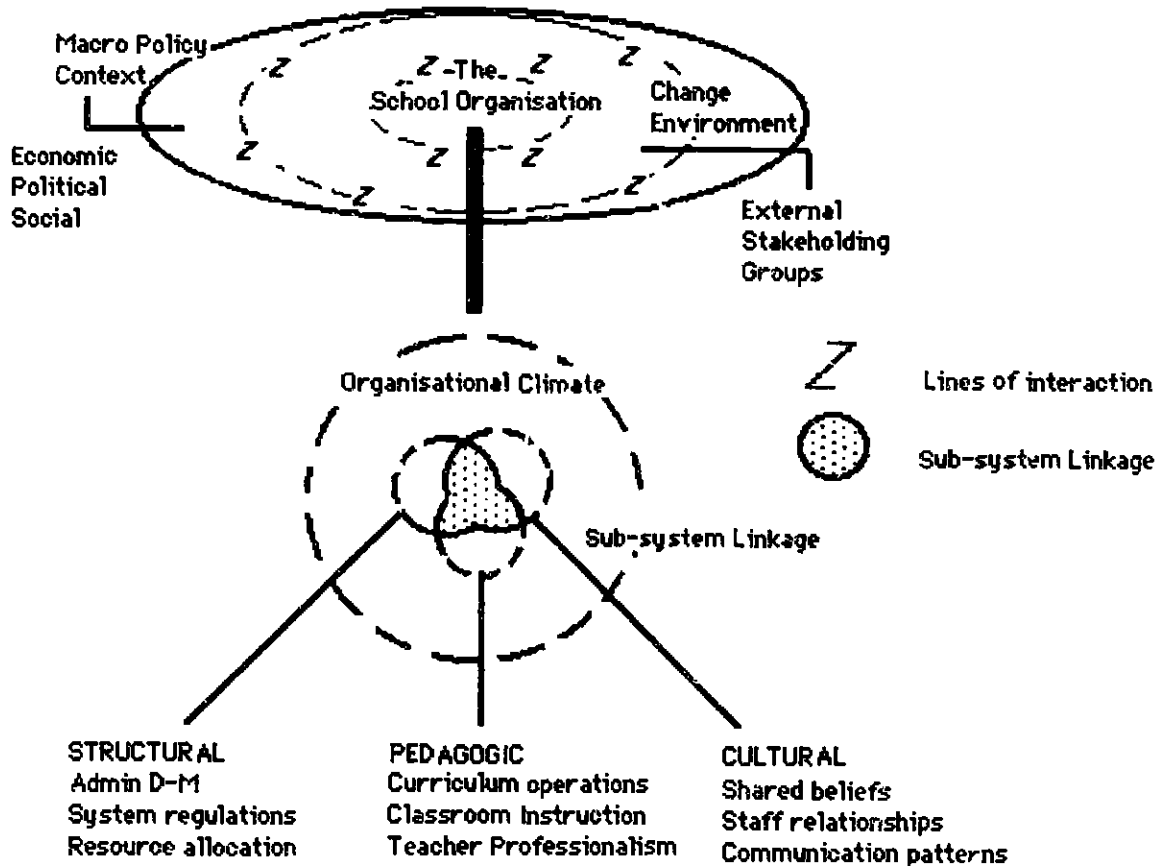


FIGURE: 1

The School as an Open Social System

Research Approach

Based on the conception of schools as open social systems a three year study was undertaken concerning the implementation of restructuring policies intended to devolve decision-making to the school-site level. Specifically these policies concerned the establishment of participatory decision-making groups and development planning procedures. As previously mentioned the intention was not only provide insights into the dynamics of the change process but also to assess the appropriateness of the open social systems perspective. Consequently data were sought regarding the affect of sub-system linkage and the "open" nature of the social system on the implementation process. To achieve this, a multi-instrument approach was required, including interviews with school level personnel, observation of meetings and informal interactions, and the administration of questionnaires.

To assess the extent of sub-system linkage within each school, a survey instrument was developed. Dimensions and items were derived from the work done by Wilson & Dickson Corbett (1983), and Knezevich (1984). A total of 18 items was used, six for each dimension or sub-system. Respondents were asked to indicate on a three point Likert scale [high, moderate, or low] their perceptions about cultural, structural, and pedagogic linkages that existed within the school.

Description of dimensions.

Cultural Linkage refers to the degree to which organisational mechanisms create and co-ordinate shared goals and behaviour patterns among members of staff.

A high score = High Cultural Linkage

Structural Linkage refers to the degree to which organisational mechanisms control the behaviour of members of staff.

A high score = High Structural Linkage.

Pedagogic Linkage refers to the degree to which organisational mechanisms co-ordinate and control the classroom teaching of members of staff.

A high score = High Pedagogic Linkage

Examples of items used for each dimension:

Cultural Linkage

Teachers hold a shared sense of purpose (goal sharing) at this school.

[H M L]

Teachers' collaborate on joint activities.

[H M L]

Structural linkage

Teachers' roles [duties and responsibilities] are clearly defined.

[H M L]

Senior staff supervise teachers closely

[H M L]

Pedagogic Linkage

Teachers have a great deal of professional freedom.

[H M L]

Teachers frequently observe their colleagues teaching.

[H M L]

This questionnaire was administered to the members of staff of three senior secondary schools in Perth, Western Australian. Care was taken to ensure the inclusion of respondents from each of the seven curriculum teaching areas operating in each school. By using this sampling procedure, information more reflective of individual teaching departments as well as the whole staff could be gained. Responses for each scale were tallied and rated as high, moderate or low. It is important to note that these ratings were viewed as supporting data for information gained through observations and interviews conducted with staff members concerning linkage.

To assess the "open" nature of each school, attention was given the factors affecting the implementation decision-making within site specific planning committees. At each school these committees were composed of representatives drawn from the school staff and parents. The brief of each committee was to make decisions regarding the structure and function of a school decision-making group and to formulate guide-lines for the establishment of such a group within the school. It was anticipated that data collected about the interactions and deliberations within each group would enable some assessment about the "open" nature of each school. Specifically this involved the

analysis of information usage, communication patterns and the observation of interactions of participants during these meetings. This enabled information flows for each school to be analysed and mapped.

In the case analyses that follow, data concerning sub-system linkage, information flow and change leadership at each school have been combine. This has enabled a more comprehensive account of relationships between secondary school organisation and the implementation of site-based management.

Case Analysis

Sub-system Linkage

Data tends to confirm the view that the school organisation is composed of a number of distinct sub-systems. The extent to which these sub-systems are interdependent or linked, varies across school sites. Where sub-system linkage is weak, as in the case of Jardine Senior High School (SHS), the sub-systems tend to operate largely independently of each other. At Jardine SHS responses indicated a lack of whole-school commitment and divisions between teaching departments and the administration of the school. Teachers indicated they operated independently from their school administration. There was limited emphasis on following policies and regulations in the school, and limited supervision of teachers by senior staff. Further, teachers felt free to question administrative decisions and did not feel bound by any such decisions. This questionnaire data is supported by both observation field notes, and interview transcripts. As the following teachers noted:

Jardine is a school that operates almost independently from any top down direction from the administration. I feel a definite lack of pressure to live up to certain expectations. There are those expectations but it is just assumed that you will do it. (Teacher 1)

...It is a school where almost everything is left to run by itself, there is very little overall co-ordinated leadership from the top. (Teacher 2)

A significant factor affecting the characteristics of Jardine Senior High School is the length of residency of many staff. As the Deputy Principal points out:

This school has been running for thirty-two years on a departmental line and everyone is fairly well entrenched. Some of the senior staff have been at this school directing their departments for 22-23 years. (Mervin)

It would seem this length of service at the school has created for many staff, a sense of security, stability, self-reliance and independence. As a consequence the teachers in this school viewed the establishment of school decision-making groups and school development planning as an administrative innovation belonging to the structural sub-system and of little significance to cultural and pedagogic sub-systems of the school. Consequently minimal interest was shown in participating in the implementation of school based management. Indeed for some staff at Jardine SHS, concern was expressed that a school-based decision-making group might reduce the autonomy of the

pedagogic sub-system by exerting influence over curriculum and instruction issues. Further, there was some concern expressed about school-based management serving as a mechanism to make teachers more accountable at the school and Central Office level. Staff with such concerns either rejected the innovation outright or sought to participate in the implementation process with the aim to restrict the intrusiveness of the change.

Data for Maylup SHS indicated that linkage was tighter than for Jardine SHS. There was a greater sense of shared purpose among staff and the teachers indicated a moderate emphasis was placed on following policies. Similarly there were some mechanisms for influencing and monitoring the manner in which teachers planned or operated in the classroom. However, these were not considered intrusive. In short sub-system linkage at this school was moderate.

At Langley SHS, stronger sub-system linkage was apparent. In this case there existed a "whole-school" perspective shared by many teachers and members of the administration. Staff could have input to important school policy decisions and they held regular meetings to discuss teaching methods and strategies. Both staff and administrators viewed the establishment of school based management would bring desirable changes to the whole-school. This stance combined with subsequent implementation action by the staff at Langley SHS, lends support the assertion by Rosenblum & Louis (1981) and Wilson & Dickson Corbett (1983), that the higher the sub-system linkage the increased likelihood of meaningful implementation.

Interestingly the organisational changes associated with school based management such as participatory decision-making and whole school planning, appear to have the capacity to enhance linkage between the sub-systems. Indeed, implicit in the reform program was a focus on cultural transformation; that is, establishing procedures for the creation of collaborative school culture that would align structural, pedagogic and cultural domains of the school. However, the apparent existence a number of competing cultures within the school and weak linkages between these sub-systems suggests that the implementation of restructuring and reform programs will be complex and conflicted.

Information

The importance of information in planning for implementation and the manner in which such information was communicated to members of the planning committee, played a critical role in determining the implementation events at all three schools. Information concerning the establishment of school decision-making groups and development planning stemmed from a number of sources and took different forms. Such information ranged from the "official" Ministry of Education documents, through to statements issued from organisations such as the Western Australian Council of State School Organisations, (representing parent organisations), and the Teachers' Union. In addition, models of school-based management and development planning procedures also flowed into schools from other schools and interstate.

An additional type of information stemmed from participants situational knowledge of the school setting. This information was often not made explicit within the planning committee. It was the type of information that was acquired through an association with the school either as a parent or a member of staff. In each steering committee there were participants who had more than five years of direct association with the school and had acquired a knowledge about both the operations of the school and the nature of the community it the school served. Such tacit information served to shape perceptions not only about what was desirable for the school but also what was possible within the given environment. In addition, some information about the characteristics of the school setting was made explicit through verbal descriptions by participants or through data derived from surveys conducted by the school.

The flow of information stemming from sources external to the school has been mapped for each site. The relative importance of each type of information about the implementation process is indicated by the thickness of the flow lines. Relative importance was assessed by analysing the use of particular information by members of the committee both during their deliberations and for specific decision points related to implementation action.

Information flow Langley SHS

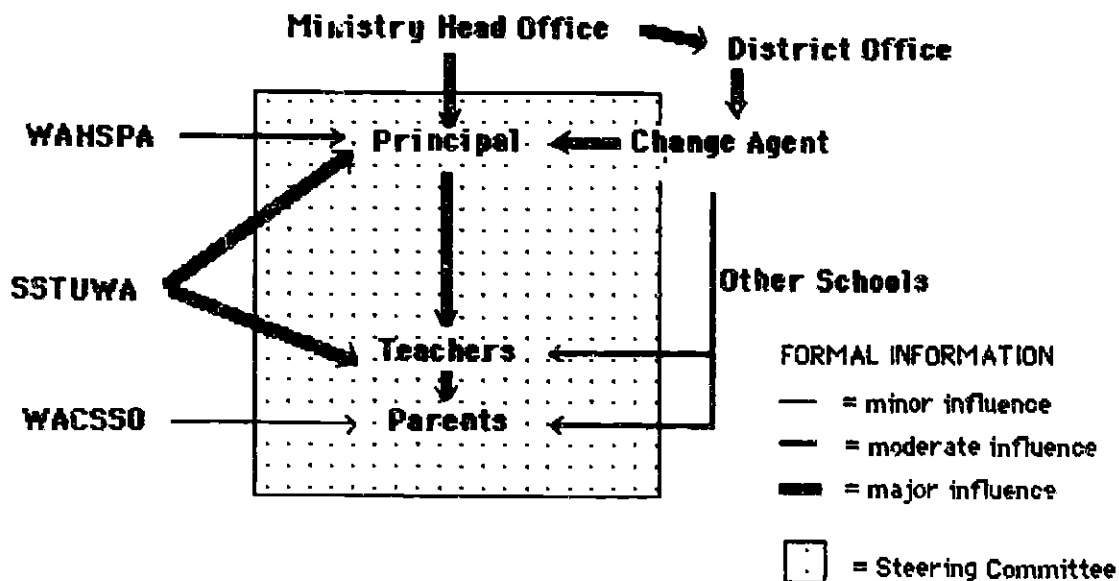


FIGURE 2
Information Flow Langley SHS

For the steering committee at Langley SHS the most influential information was obtained from the Ministry of Education, the District Office, an imported model of school development planning developed by Caldwell and Spinks (1988) and the State School Teachers Union (SSTU). For the co-

ordinator of the steering committee, the Caldwell and Spinks model appeared to match the type of Ministry documents relating to development planning and resource management.

As the co-ordinator speculated:

I suspect that what we are going to be told to do by the Ministry will reflect pretty much some of the stuff that constitutes the Caldwell and Spinks Model.

In addition to the documents and models obtained from outside the school, further information concerned with development planning was also obtained by survey instruments issued to staff.

Information Flow Jardine SHS

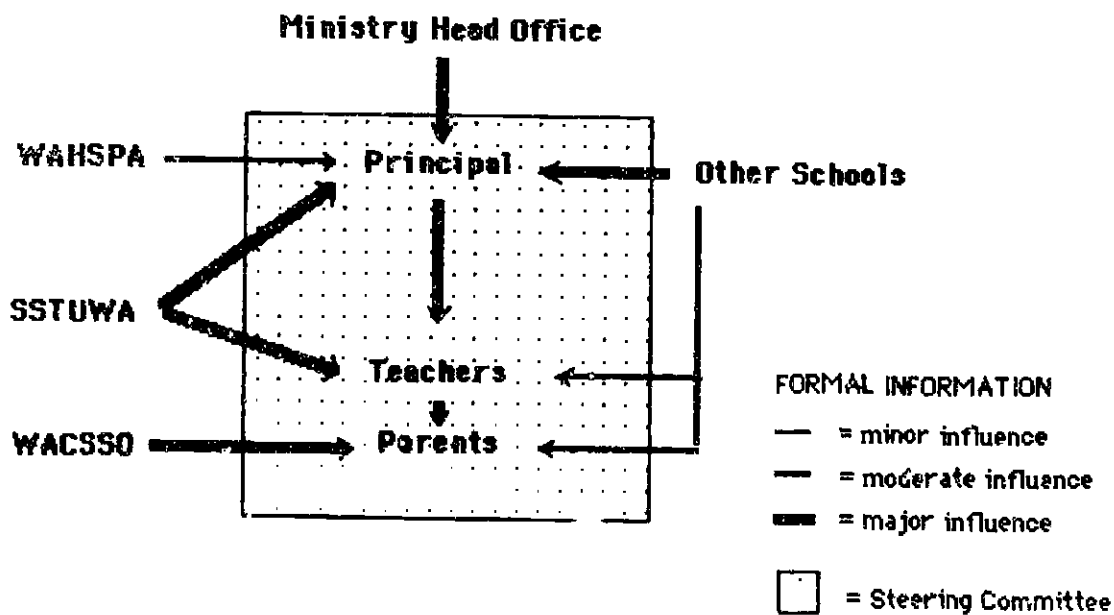


FIGURE 3
Information Flow Jardine SHS

For Jardine, official documents relating to the structure and functions of a school decision-making group, coupled with information derived from experience, served to direct the Principal's stance on the type of group to be established. From the first meeting of the planning committee the Principal presented a "model" detailing the possible structure of school based management. For parent representatives, information disseminated from WACSSO appeared the most influential. Such information, coupled with the enabling legislation, offered support for the creation of a school decision-making group that functioned as a standing committee of the existing Parents & Citizens body (P&C). A decision-making group established in this way would ensure that the P&C would retain its power base and limit the impact this new group might otherwise make on the existing operations of the P&C. Dominating all other sources of information was that supplied by the State School Teachers Union (SSTU).

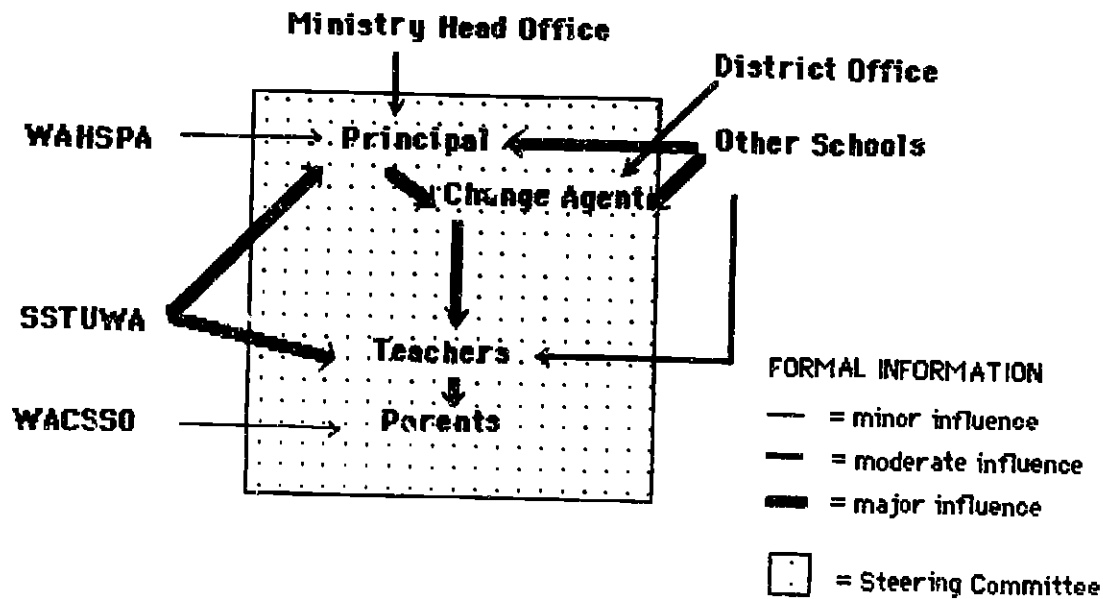


FIGURE 4
Information Flow Maylup SHS

For Maylup, the information of most influence in the implementation process stemmed from other schools, rather than from the Ministry of Education. The committee members opted for the establishment of a properly constituted school decision-making group to be known as the Maylup School Board. The Chairperson of the steering committee was given the responsibility of drafting such a constitution. Subsequently the Chairperson obtained a copy of the constitution of an Independent school's council and used this as a basis for the Maylup School Board. As with both Langley SHS and Jardine SHS information stemming from the State School Teachers Union was to exert most influence of the planning process.

In addition to the type and origin of information the carrier or communicator of the information appeared to influence the manner in which the members of the planning committee responded to the information. All official Ministry of Education information was disseminated to the school and members of the planning committees through the Principal. This dissemination procedure permitted the Principals to screen and selectively communicate ideas to members of the planning committee. All Principals, but especially those at Maylup SHS and Langley SHS, used the "authority" of such Ministry information to direct the planning process. When staff or parents forwarded ideas about possible functions of the school decision-making group that were contrary to those held by the Principal, the Principal would counter and limit such ideas with a general reference to "stated Ministry of Education intentions".

The Principals at both Maylup SHS and Jardine SHS relied heavily on information about school-based management obtained from their previous schools. Such information in the form of "preferred models" were promoted and discussed in detail within the planning committee. Lack of consideration of alternative models or information related to school-based management did not appear an issue at Langley SHS or at Maylup SHS, where participants appeared to readily accept suggestions proposed by the Principal. However, in light of the Principal dominance of these planning committees, the existence of effective participatory decision-making is questionable.

At Jardine SHS, parent members of the planning committee sought alternative information about the possible structure and functions of school-based management. This alternative information, especially that obtained from State Organisation of Parent and Citizen body (WACSSO) was used by parent members of the planning committee to support their views about the structure and function of school-based management and to oppose the Principal's model. Subsequent meetings became conflicted rather than collaborative, and lead to hostility and intransigence among members.

A critical external intervention affecting the implementation process at all three schools was the industrial action taken by the Teachers' Union during the latter part of 1989. This action was to effectively bring to a halt to planning for the implementation of school based management in all three schools under study. There appear several factors that prompted the Union to impose a ban on the implementation process. The first factor involves union concern over what it saw as inadequate consultation between the Ministry and the Union about the key aspects of the restructuring program. While the Union was represented on early working parties associated with policy formulation, they took a contrary stance on several core aspects of the program and were soon excluded from policy development process. Isolated from a direct collaboration in the planning for implementation, the Union was forced to adopt a relationship based more on negotiation than participation.

The second factor, involved the Union's concern about the impact implementation of school based management was having on the working conditions of its members and the disruption it was causing the educational operations of schools. Accordingly the union issued a directive to all members to cease participation in the implementation of both school decision-making groups and development planning.

The impact of such industrial action on the implementation process in all three schools not only reinforces the concept of schools as open social systems but demonstrates how susceptible the implementation process is to external political interventions.

Concluding Comments and Implications for Action

The data derived from the three case studies confirms that view of Crossley (1984) and Huberman & Miles (1984) that schools operate as open social systems. As social systems, schools are comprised of a complex pattern of relationships. It is the nature of these relationships that forms the context in which restructuring and reform takes place. At secondary school level the organisational character of the school is strongly affected by the existence of separate subject departments. This organisational feature tends to foster strong "department allegiance" among teachers. This pedagogical sub-system thus becomes more weakly linked with the structural and cultural sub-systems of the school. In such situations teachers view their subject department as the base for formal and informal influence over decision-making. The introduction of participatory decision-making through school based management can be perceived to threaten the autonomy of the pedagogical sub-system.

Strategies designed for the implementation of innovations in secondary schools should take account of the existing sub-system linkage. Linkage may be enhanced by targeting the subject department level and providing opportunities for intra-department and whole-school collaboration to be developed. Principals, senior administrators and teachers require skills to move from individual subject orientated thinking to collective, whole-school thinking; to move from isolated decision-making patterns to group decision-making. In short, members of the school community must begin to see their roles as school-referenced.

The notion of a unitary prevailing organisational culture existing in secondary schools appears under question. Data derived from the sub-system linkage questionnaire related to the cultural sub-system, indicate several alternative and competing cultures might exist with the school. These cultures tended to operate around the different teaching departments and reflected markedly different beliefs, values, and relationships across departments and between departments and the administration of the school. (Hargraves & Macmillian, 1992). The extent to which school-level cultural norms, beliefs and practices are shared at the department level, is likely to affect the success or failure of restructuring and reform endeavours. This would seem especially so for restructuring and reform that focuses on the establishment of site based decision-making and planning and assumes that a prevailing school culture exists to be transformed. Viewing secondary schools as multi-cultural social systems might provide greater insight and understanding about the nature of these complex communities. Certainly such a perspective seems to warrant further investigation.

As open social systems, schools are not only exposed to ideas and information stemming from the general and specific change environments, but is also affected by political and ideological turbulence occurring within those environments. While such information and external interventions clearly impact on the change events, it appears school characteristics such as sub-system linkage appears to influence the type and range of information used and the particular change strategies employed.

While the flow of alternative information has potential to cause confusion and differences of opinion among steering committee members, it also holds benefits. Under a participatory decision-making approach the quality of decision outcomes often depends upon the consideration of viable alternatives. Information about such alternatives must be accessible to all members. That is, information must be available to all and in a form that is useful to the decision-makers. Consequently action needs to be taken to ensure that the information flow between participants in the implementation process needs to be multi-directional. A communication network should be established that facilitates information sharing from Ministry of Education to school, within schools, from school to school, school to community and back again.

In conclusion the unique nature of a school's organisational characteristics appears to not only influence a school's preparedness and capacity to undertake restructuring and reform but also type of information used and the change strategies employed to implement change. To gain an understanding of the dynamics and complexities of the implementation process, it seems essential to view change as context dependent. At both Ministry of Education and school level, close attention needs to be given to the nature of the school as an organisation as well as the characteristics of its environment. Through such an approach to change, appropriate support and strategies might be developed that better facilitate the type of organisational transformation that is intended to promote school development and create self managing schools.

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