

Group Knowledge and Group Knowledge Processes in School Board Decision Making

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This study examined group knowledge in three school boards, which we conceptualised as a phenomenon influenced by structural/political and social/relational elements and composed of affective, axiological, and cognitive dimensions. Several data collection techniques were used: surveys, conversation analysis, observation, and the Critical Decision Method (CDM). Results indicate that group knowledge is strongly influenced by group communication patterns and the structural and political environment. Most importantly, the results suggests that the affective, axiological, and cognitive dimensions of group knowledge are not discrete, but interact with each other within the processes of knowledge transformation and knowledge transfer

Key words: educational governance, decision-making, emotion, cognition, values

L'étude porte sur les connaissances du groupe au sein de trois conseils scolaires. D'après les auteurs, il s'agit d'un phénomène influencé par des éléments structurels/politiques et sociaux/relationnels et regroupant des dimensions affective, axiologique et cognitive. Plusieurs techniques de collecte de données ont été utilisées : sondages, analyse de conversations, observations et la *Critical Decision Method* (CDM). Les résultats indiquent que les connaissances du groupe sont fortement influencées par les méthodes de communication dans le groupe et le contexte structurel et politique. Ces résultats semblent surtout indiquer que les dimensions affective, axiologique et cognitive des connaissances du groupe ne sont pas discrètes, mais qu'elles s'influencent mutuellement au sein du processus de transformation et de transfert des connaissances.

Mots clés : gouvernance en éducation, prise de décisions, émotion, cognition, valeurs.

Much of the literature on board effectiveness emanates from the corporate sector and suggests that organizations should acquire the necessary governance knowledge by recruiting qualified board members

who have that knowledge. Because elected public sector boards do not have the luxury of acquiring members in this manner, these boards have to acquire knowledge through other means, namely through individual and group learning. Marquardt (1996) argued that the emphasis on board member knowledge is antiquated, given recent rapid social and economic changes. "What organizations *know* takes second place to what and how quickly they can *learn*" (p. xvii). In this study, we explored both what boards know (group knowledge) and the processes of knowledge transformation and transfer (group knowledge processes) that enable them to learn. Choo (1996) described the three arenas of information use as sensemaking, knowledge building, and decision-making. We focused on group decision making as the tangible manifestation of group knowledge activity in school boards.

CONCEPTUALISATION

We have appropriated a definition of knowledge that distinguishes it from similar terms such as data and information (Dixon, 2000; Sena & Shani, 1999). School board meetings are replete with information. This, in and of itself, does not constitute learning or knowledge transfer. Dixon (2000) defined knowledge as the links people make in their minds among information, action, and context. Knowledge, therefore, is a composite concept dependent on information, the meaning that individuals make of information, and the application of information in a specific context.

From the literature on governance, organizational learning, and the psychology of expertise, we inductively identified two antecedent elements that influence group knowledge and group knowledge processes (political/structural, social/relational) and three dimensions of group knowledge and group knowledge processes (affective, axiological, and cognitive). This conceptualization of group knowledge is applicable to other types of groups. The affective, axiological, and cognitive dimensions of group knowledge are common to other groupings of individuals, although elements that influence group knowledge in other settings (e.g. the social and political environment) may differ.

The Influence of Structural and Political Elements on Group Knowledge

From the literature on governance (Conger, Lawler, & Finegold, 2001; Leighton & Thain, 1997; Saskatchewan School Trustees (SSTA), 1997), we identified five major areas of the political environment to explore: board member roles (American Association of School Administrators, 1992; Smoley, 1999), administrator roles (Goldhammer 1964), the role of information (Smoley, 1999), the role of teamwork, and the role of evaluation in governance (Conger et. al., 2001; SSTA, 1997).

The Influence of Social Elements (Group Interaction and Communication) on Group Knowledge

Thompson, Levine, and Messick (1999) stated that recent research has focussed increasingly on the social elements of cognition. Social psychologists and organizational theorists have begun to explore cognition not only as an individual phenomenon, but as a social phenomenon.

Researchers of small-group decision making (e.g. Devine, 1999; Stasser, 1999; VanLear & Mabry, 1999) argue that the quality of communication among group members is key to understanding the effectiveness of group decision making. These researchers have focused on the manner in which information is communicated among group members. Information within groups is characterized as either shared (information held in common by many group members) or unshared (information uniquely held by a single group member). Propp (1997) argued that unshared information leads to more effective group decision making because the group will have a larger "communicated information base" (p. 431) because redundancy of information will be less frequent.

Although much of the literature on small-group decision making points to the value of unshared information, Stasser (1999) suggested that considerable benefits occur for groups that use shared information. The amount of shared information that a group possesses is referred to as "cognitive centrality" (p. 66). Boles (1999) stated that shared

information and knowledge provides “social validation for individual beliefs and creates socially shared realities” (p. 339).

Affective Dimensions of Group Knowledge

The importance of affect in individual and group knowledge, learning, and decision making has received much recent attention (e.g. Martin 1993; Sy & Cote, 2004). In a study of patients with lesions of the ventromedial prefrontal cortex (the area of the brain thought to be related to non-conscious emotional responses), Vogel (1997) found that brain-damaged patients made “unwise decisions” (p. 1269). She contended that this part of the brain “is part of a system that stores information about past rewards and punishments, and triggers the nonconscious emotional responses that normal people may register as intuition” (p. 1269). Her finding suggests, among other possible alternatives in decision making, emotion may be a determinant in assigning weight to a particular choice.

Affect and decision making (among other knowledge activities) are intimately connected. Martin (1993) notes “that some decision-making models recognize the relevance and potential utilization of both cognitive and affective criteria” (p. 36). It is not only the weighting of information, but the retention of key information. In other words, the available information on which to build knowledge may be skewed toward knowledge building instances in which emotions played a part.

Axiological Dimensions of Group Knowledge

Scholars have linked values to decision-making behaviours. Connor and Becker (2003), for example, defined values as “global beliefs (about desirable end-states or modes of behavior) that underlie attitudinal processes” (p. 156). Studies that have linked values and decision making have been performed through the exploration of retrospective decisions made by decision makers. Values appear to operate in a similar manner as emotions in the decision-making process. That is, values assign relative weight to alternatives available to decision makers.

In this study, we have focused on shared values within groups which Bakari, Bennett-Woods, and Stock (1997) have defined as a "subset of commonly held individual and espoused organizational values which support the strategic and operating goals of the organization and which are evident in the formal and informal structures" (p. 5). Although personal values cannot be equated with group values, they are, however, related. Bakari et al noted, "There does appear to be a general consistency between the relative importance of espoused organizational values and the personal values [of group members]" (p. 11). Marquardt (1996) referred to values and assumptions as "perceptual filters" that group members use to select and modify learning and knowledge. Levine and Moreland (1999), who identified organizational values as one dimension of shared knowledge, stated that organizational values involve "accepting the moral framework that ostensibly underlies organizational activity" (p. 270).

Cognitive Dimensions of Group Knowledge

Sena and Shani (1999) referred to two types of knowledge: tacit and explicit knowledge. Tacit knowledge is "intuitive, bodily, interpretive, ambiguous, nonlinear, and difficult to reduce to a scientific equation" (p. 8.6). Explicit knowledge is "formal, unambiguous, systematic, falsifiable, and scientific" (p. 8.6). Baumard (1999) referred to four types of knowledge transformations within organizations: articulation, tacit to explicit knowledge transformation; combination, explicit to explicit knowledge transformation; internalization, explicit to tacit knowledge transformation; and socialization, tacit to tacit knowledge transformation. Articulation occurs when knowledge that is tacitly known to individuals or to a group is uncovered through various processes including discussion and reflection. As Baumard noted, this knowledge transformation "is realized daily in organizations. The institutionalisation of tacit rules as internal regulations is a good example" (p. 24). Combination occurs when explicit knowledge is transformed into other forms of explicit-individual or explicit-collective knowledge. Internalization occurs when explicit knowledge structures are interpreted by individuals and groups and become deeply

ingrained, automatic knowledge structures. Group members internalize new explicit knowledge when they make meaning of the knowledge and generate new tacit knowledge. Socialization occurs when people in organizations transfer knowledge without codifying the manner in which they transmit or receive the knowledge. Baumard again noted, "The principal characteristic of socialization is its resistance to codification" (p. 26). In socialization, the transmission of the knowledge is not made explicit and the receiver of the knowledge does not consciously codify the new knowledge structures into categories, types, and the like.

METHOD

Tacit knowledge, because it resists articulation and expression by the individual, cannot be studied through standard knowledge elicitation techniques. For this reason, Klein, Calderwood, and MacGregor (1989) concluded: "It is essential that knowledge elicitation methods include some means of representing the contribution made by tacit knowledge and by perceptual learning" (p. 463). Consequently, we used the Critical Decision Method (CDM), a processes of reflective practice applied to retrospective non-routine incidents. Klein et al noted, "Although the CDM shares many features with other interview methods. . . it offers some specific features that distinguish it from these and other knowledge elicitation strategies" (p. 465). Reflective practice is designed as a method for participants to look back and examine their own behaviour after an incident has passed. It is more than a recounting of an incident; it is a process in which an individual examines not only the chronology of an event, but also the underlying causes and motivations of the actors in the events. In this way, participants, through reflective practice, attribute sense to their actions and to events after they have occurred (Baumard, 1999). They can examine the elements of the event after the pressures of performing are no longer a distraction. "When the question of crisis arrives, the atmosphere is 'de-dramatized': an in-depth discussion can take place of the knowledge the actor used at the moment of crisis" (p. 97). In this way, actors can uncover the underlying knowledge structures at play in their own decision making.

Although reflective practice is one important element, the CDM has the additional features of a focus on non-routine incidents and on cognitive probing to uncover the underlying tacit knowledge structures in decision making. The basic premise of the CDM is that the knowledge structures used in decision making are best demonstrated in times of crisis.

The rationale for the CDM is that expertise does not stand out in routine cases, which may be performed by mediocre and skilled personnel using the same strategies. Expertise does not emerge for novel cases, because the novelty may limit the use of experience. Nonroutine cases, however, are rich source for observations about expertise. (Klein, 1992, p. 178)

We used a variant of the CDM, using group interviews rather than individual interviews, to elicit the individual and collective tacit knowledge structures of the boards being studied.

Design of the Study

We asked the provincial school boards' association to nominate several boards that they considered functional. We believed that characteristics of group knowledge and group knowledge processes were more likely to be present in these boards than in dysfunctional boards. From this list, we selected three school boards that were conveniently located to ensure maximum access to the sites.

We administered a survey that asked each board member and administrator for his or her beliefs and perceptions about the purposes of education, the roles of board members and administrators, the role of information, the role of teamwork, and the role of evaluation. This survey was a five-point Likert scale with 1 being strongly disagree and 5 being strongly agree. We analysed the surveys administered at the beginning of each case and compared results with political and structural indicators of board effectiveness identified in the literature (Canadian School Boards Association, 1991; Conger et al., 2001; Leighton & Thain, 1997; Saskatchewan School Trustees Association et al., 1997). We also examined the data for alignment on response items between board members and administrators.

The board meetings were audio taped and video taped and the data were analysed using conversation analysis (Miller 1994; Silverman, 2000) to identify patterns in communication and interpersonal interaction among board members and administrators. This allowed us to record not only the content of the discussions and the responses to the cognitive probing, but also to analyse other clues to tacit knowledge and group dynamics.

Critical Decision Method (CDM): Eliciting Tacit Knowledge Through Reflective Practice

We asked each board to tell about a time when the board faced a critical decision. We verified the temporal elements of each story by searching board minutes and then we identified the decision points. Within each board decision, several individual decision points occurred. For example, in a decision to fire an employee, there are decision points about whether to hold a hearing or a public consultation, and so on. Finally, we returned to the boards with structured questions to probe the variety of knowledge structures that each board employed in resolving its critical decisions (Klein et al., 1989).

Cognitive probing. Once we established the incident timeline and decision points, we used cognitive probes to elicit the explicit and tacit knowledge that each board used during each decision point of non-routine incidents. With the cognitive probes, we could ask questions about cues, knowledge, analogues, goals, rules, experience, training, time pressure, situation assessment, and hypothetical situations.

RESEARCH CONTEXT

The following is a brief description of each school board and a summary of each of the critical decision narratives.

Prairie School Divisions. Prairie School Division, a small rural school division in Western Canada, had an enrolment of approximately 1200 students from kindergarten to grade 12. There were six board members (three male, three female), one board chair (male), one director (male), and one administrator (female) who served on the governance team of

this school system. The governance team (i.e., grouping of board members and administrators) was one that negotiated the issues through story telling and the construction of a collective board history.

This board recounted the story of an incident that happened in January 2000, in which a driver had left a disabled student on the school bus for the entire school day. The incident took place during winter, and although it was a relatively mild day, the time of year of the incident played a part in the seriousness of the event.

The Director of Education added some of the details that took place between the time that the incident occurred and the board meeting the following day.

I got notified at 3:20... and went over and verified that everything was okay.... I contacted [the board chair] that evening or early the next morning.... And after I had made sure that the child was safe, and I talked to [the secretary-treasurer] and said do we have to meet with the bus driver, because we have to hear his side.... But then in the morning, [the secretary-treasurer] and myself and [name omitted] the bus supervisor, met with [the bus driver] and got his side of the story. So we went through that process and we offered [the bus driver] the opportunity to state his case to the board, because they are the board, the employing board. And they make the decision to terminate contracts. I make recommendations as to whether a contract is terminated or not. (Prairie School Division director)

The Board Chair discussed the board's response to the news that this girl had been left on the bus and outlined the events that unfolded at the board meeting that followed.

First we talked to the parent of the little girl, and then we talked to the bus driver.... Unfortunately, in interviewing the bus driver, we didn't come away with the feeling that he understood those things, and certainly didn't have a solution to prevent the problem from happening again.... So we discussed it for quite a while and decided... to take his name off the spare list, and we asked the bus supervisor to take the record of our decision over to him and to tell him that if he had any problems with that or had anything more to tell us, that he could contact [the secretary-treasurer] to hear him at the next meeting. (Prairie School Division board chair)

St. Ferdinand School Division. The St. Ferdinand School Division was a medium-sized, urban Catholic Separate division in Western Canada with an enrolment of approximately 20,000 students from kindergarten

to grade 12. There were six board members (three male, three female), one board chair (male), one director (male), and one administrator (female) who served on the governance team of this school system. This governance team operated in a formal manner. This board modelled itself after the Carver (1990) policy-governance model; consequently, the director continually reminded the board members of the duties of governance when he believed they strayed into administration.

The members of the governance team recounted a story of a challenge to the learning resources being used in the school division. A delegation requested permission to speak to the board in December 2001. The delegation was concerned that students were reading the *Harry Potter* books in school; they thought these books were inappropriate for students in a Catholic separate school system. The director and board chair agreed to hear a presentation from the delegation at the next board meeting.

January 2002, they [the delegation] came to the board. The board received their presentation, and then recommended it to an administrative committee, as per policy.... The committee met as per policy and it reviewed the learning resource, and determined that it was appropriate and it came back to the board with its recommendations... at that meeting. There was no discussion of it at that point, although the delegation came to hear the decision of the committee and basically the decision was made and we carried on with the business of the board. (St. Ferdinand Separate School division) (The Director of Education)

The recounting of the story reflected the governance team's approach to discussion. The board and administration struggled to keep a disinterested stance in discussing the events. There were similar "factual" descriptions of the elements of the critical decision, but it also became apparent that significant tacit collective and individual structures were embedded in the narrative.

Branchland School Division. The Branchland School Division, a small rural school division in Western Canada, had approximately 2600 students in kindergarten to grade 12. There were six board members (one male, five female), one board chair (male), one director (male), and three administrators (one male, two female) who served on the governance team of this school system.

Board members and administrators recounted the story of a set of decisions around closing schools or reconfiguring grades in two small communities that were having difficulty sustaining enrolments at the high-school level. The story started in October 2001. Board members and administrators met and decided that because the current level of enrolments in those communities could not be sustained, they needed to address the problem.

The board examined enrolment projections for the small schools and discussed the options of multi-grading. They made a decision to invite the local boards of those communities to discuss the situation so that the local boards “essentially look at the same information that the division board had,” and consider possible options for program delivery.

FINDINGS: STRUCTURAL AND POLITICAL ELEMENTS

Survey responses from the St. Ferdinand School Board showed the strongest support for the differentiation of board member and administrator roles. Participants responded that the primary role of the board was policy making (mean = 4.69; SD = .63), and that the primary role of administration was policy implementation (mean = 4.58; SD = .67). In the other boards, the support for the distinction between policy implementation and policy making was less pronounced. Although we cannot determine that understanding the distinct roles of board and professionals might contribute to each group’s functioning, we noted that distinct roles were not a prerequisite for functioning. That is, these boards were functional in the absence of overly prescriptive distinctions between board members’ and administrators’ roles. In fact, our observation of two of the three boards suggested that equality of input was of value to board functioning. We do not deny that administrative knowledge was important, but noted that it was one of many types of unique knowledge present among the governance teams.

Each group emphasized teamwork between the board and the administration. In the Prairie School Board, governance team members responded that it is more important for the board to act as a cohesive team than to represent diverse interests (mean = 4.44; SD = .73). This team strongly agreed that the director and board members should work

together as a team (mean = 5.0). In the St. Ferdinand School Board, the board members responded to the statement "it is more important that a board act as a cohesive team than act to represent diverse interests" with a mean score of 2.33 (SD = 1.03); administrators agreed with the statement (mean = 4.0; SD = 1.15). However, the responses to the statement "the director and board members should work together as a team" garnered strong support from both groups (entire group mean = 4.54; SD = .52; board mean = 4.33; administrator mean = 4.71). Board members and administrators disagreed with the statement "the school board should act and appear to act independent of the director of education" (entire group mean = 2.31; SD = 1.38). Interestingly, we found variability in the responses to this question in administrators' responses (SD = 1.72). Similarly, the Branchland School Board agreed that it was more important for the board to act as a cohesive team than to represent diverse interests (mean = 4.09; SD = .83). This governance team showed strong support for the statement "the director and board members should work together as a team" (mean = 4.73; SD = .47).

The observed boards suggested a much more dynamic set of relationships between board members and administrators than was suggested in the literature. Smoley (1999) argued that boards must act independently of the CEO. The boards in this study clearly responded that board members should not act independently of the administration. The responses to the survey and our observations of the governance teams in action suggested an interdependence with, rather than independence from, each other's knowledge. The St. Ferdinand School Board demonstrated the highest level of role differentiation. The members of this governance team, however, struggled with role differentiation, and, during the critical decision in dealing with the Harry Potter books, they appeared to disregard this role separation.

FINDINGS: SOCIAL AND RELATIONAL ELEMENTS

We analysed the social and relational elements through conversation analysis and sociograms. We videotaped each group and analysed statements using Propp's (1997) categories of information valence (information valence provides an analysis of the prevalence of shared

versus unshared information in group deliberations). We analysed interactions on length of statements, frequency of statements, and intended recipients. Because each board had a unique way of communicating, it had a unique way of sharing knowledge. The Prairie School Board approached decision making by generating consensus through the telling of stories and the use of predominantly shared information, thereby building the story about the incident collectively. The director's role was one of chief story-teller and synthesiser of the group story. The St. Ferdinand School Board communication patterns were transactional. Governance team members spoke directly to each other; however, a number of statements of unshared information occurred. They directed communication between group members rather than to the group as a whole. With the Branchland School Board, participants often directed communication to the entire group. This group generated consensus by balancing alternatives. We noted little evidence of the negotiation of competing perspectives; rather we noted evidence of an attempt to generate a complete picture of the issue through the use of predominantly shared information.

Although the research literature on small groups has suggested that unshared information indicates effective decision making (e.g. Devine, 1999), we observed in our study that boards could operate with predominantly shared information. The literature on rational decision making holds implicit assumptions about unshared information as a desirable condition: more information results in better decisions. This assumption also presupposes that group decision making is, or ought to be, rational, that is, decisions are objective, arrived at objectively by dispassionate decision makers, and based upon a preponderance of evidence in support of one alternative (i.e., rational versus non-rational; not rational versus empirical). Two of these school boards demonstrated a consensual decision-making approach that was low in unshared information. Rather than indicating that the decision making of these two boards was less than rational and therefore less than optimal, it is more likely that low unshared information indicated that their decision was optimal because it reflected a consensually constructed position.

FINDINGS: TACIT AND EXPLICIT KNOWLEDGE STRUCTURES EMBEDDED IN THE BOARD NARRATIVES

Explicit knowledge modes are the easiest knowledge modes to capture. Tacit knowledge, on the other hand, presented more difficulty for us. Therefore, we explored tacit knowledge structures in considerably more depth.

Explicit-individual

In the Branchland School Board, for example, explicit knowledge was distributed throughout the group. Technical knowledge about issues resided in all members of the group. For example, the board chair spoke about industry standards for the number of mechanics to maintain a bus fleet. Other board members had explicit knowledge of board processes or policies. One board member had individual explicit knowledge acquired at an in-service about how to involve communities during amalgamation talks.

Explicit-collective

School boards' mission statements and policies are a source of explicit knowledge. They are, however, only explicit collective knowledge if the group knows them. For knowledge to be explicit and collective, all members of a group must know it. Boards that act in a way that reflects its mission statement are perhaps operating on tacit collective knowledge rather than explicit collective knowledge. Only when collective knowledge has been codified and is known collectively can it be explicit collective knowledge.

Many examples of explicit collective structures occurred in this study. Board members in the Branchland School Board referred to "our policy" when asked about information to direct their decision making. Members of this group relied on their collective knowledge and knew it in an explicit way. Explicit collective knowledge sources such as policies, board minutes, and mission statements are formal; however, many sources of less formal explicit collective knowledge, most notably the stories told by the boards, occurred in our study.

Tacit-individual

The tacit knowledge of the people involved in this study was evident throughout the critical decision narratives. Participants used terms such as “I felt,” “I thought,” or “I sensed”: terms that suggested the existence of tacit structures within individuals. Participants’ language suggested that knowledge structures were comprised of highly integrated cognitive and affective dimensions. That is, at least part of what group members knew about the incidents was reported through the use of language that pointed not only to cognitive dimensions but also to emotions that were involved in decision making.

In the St. Ferdinand School Board, group members had knowledge about the actors in the incident. A board member commented on a previous relationship with one of the people in the delegation. She indicated that a negative feeling about this person had an effect on the way in which she viewed the debate.

When I was receiving e-mails and when I looked at, and the phone calls, I looked at who sent it, and of course the one person, I had his mother as a staff nurse, and she was always on this level. And I thought, Oh God, not again. You’re even getting it at board level. And so I had a mental block too, and I was glad that it went to a committee. (St. Ferdinand School Board member)

The board members and administrators identified members of the delegation as “fundamentalist Christians.” Not only were they influenced by knowledge of the actors, but they also had knowledge of the type of people that might think in a similar, literal fashion. One board member commented, “I was pleased that we did not allow a group of minority radicals to infiltrate the way that we teach the Catholic dimension.”

This powerful tacit structure had a great impact on the group decision-making process. The board member’s comment illustrated the integration of cognitive, affective, and axiological dimensions in the decision-making process. Although this board member commented on his individual visceral response to the delegation, group members shared this knowledge structure. In this way, it was both tacit-individual and tacit-collective.

Tacit-collective

Tacit collective structures were also embedded in the critical decision narratives. Board members and administrators referred to “we felt,” “the board felt,” or “we think” when discussing the issues confronting the board. Considerable overlap occurred between tacit individual and tacit collective knowledge structures. That is, tacit collective structures were also, at least in part, tacit individual structures. Tacit collective structures resided in the group, and we also found evidence of these structures in individuals, but the manner in which these structures were transformed and utilized made them collective knowledge. Baumard (1999) stated, “The existence of collective knowledge does not presuppose the homogeneity of this knowledge. It may be entirely heterogeneous, but nonetheless belong integrally to a community” (p. 21).

In Prairie School Board, the board chair stated, “We didn’t come away with a feeling that he understood those things”; this comment signaled that the board had generated a collective knowledge structure about the state of mind of the employee. Certainly, they could have had an explicit dimension to their knowledge about the employee’s state of mind, but the board chair used the term “feel” which suggested a tacit collective response to the employee’s statement. We expect that this “feeling” was made explicit in subsequent discussions, but a tacit understanding of what ought to happen, combined with the group’s experience of what actually happened, resulted in the emergence of a group tacit response. This response resulted in ambiguity because the board felt confusion when their expectations about what ought to happen did not occur. Similarly, when the board chair spoke of “what we were looking for,” he pointed to the group’s tacit collective expectation.

In the example of the St. Ferdinand School Board, the most significant collective tacit knowledge structure was the interpretation scheme that the board used to assess the validity of the information coming from the delegation. The director made explicit the interpretation scheme of the governance team when he suggested a strategy for dealing with a delegation’s interpretation. He stated,

This is probably one of the rules of thumb you'd go with around interpretation and diversification, you would stand little to gain around interpretation. And so the board said, we're not here to do that. We will receive what they say, and might ask a few clarifying questions. (St. Ferdinand School Board director)

He made this interpretation scheme explicit, but he did not create it. The scheme already existed collectively. Board members knew that the delegation held a different interpretation from the governance team, but their knowledge of their own interpretation and how it differed from that of the delegation was tacitly held. This interpretation scheme was a powerful determinant of the types of new knowledge that the group would admit. The fact that the board chose not to entertain a debate of interpretation meant that the interpretation scheme of the group remained tacit.

FINDINGS: THE TRANSFORMATION OF KNOWLEDGE IN SCHOOL BOARDS

In the Prairie School Board, the board chair's comments clearly indicated that considerable movement and development of knowledge structures occurred during board deliberations. The board chair stated that he was leaning toward supporting the employee at the outset of the process, but his feelings about what ought to happen changed as the meeting progressed. Given that he saw such a revision in his thinking about the issue, some dynamic knowledge transfer process must have taken place within the board.

Articulation

In the case of the Prairie School Board, the communication patterns witnessed were primarily composed of shared information. The group members built a collective story of the incident and transferred some of their tacit knowledge (indicated by terms such as "I felt," "I sensed") to others through the process of articulation. The group members held tacit knowledge structures about the way people in their local communities might react to the situation. They may have held explicit knowledge of the sentiments in their communities, but a large part of what they knew

about the communities they represented was tacitly held and was expressed as feelings about the issue or a sense of the issue. The sense of how the communities might react was actually a complex tacit knowledge structure that was developed through the board members' immersion in the culture of the community that they represented. These tacit knowledge structures were representations in the group member's minds of the complex realities of the external environment. When the group members spoke of the sense they had about the community's reaction, they were rendering this knowledge at least partly explicit. Clearly, what was being made explicit were knowledge structures that included affective, axiological, as well as cognitive dimensions.

Combination

In the Prairie School Board, the secretary/treasurer stated that she could provide articles to the board members if they wanted to learn more about the issue. She also shared explicit knowledge about similar cases in other jurisdictions. Board members read materials together at their meetings and, in this way, they transformed explicit knowledge into explicit collective knowledge. In this governance team, the communication patterns indicated a high level of explicit to explicit knowledge transformation.

Internalization

With each of the school boards, we noted internalization of the knowledge structures embedded in their mission statements. The primary concern of the Prairie School Board, the welfare of children, was both tacit and explicit, but the tacit elements witnessed in the critical decision narrative were a result of an internalization of the mission statement at some point prior to this study. Similarly, the governance team of the St. Ferdinand School Board had internalized the notion of distinctiveness (from its mission statement) as demonstrated in its adoption of a tacit Catholic interpretation scheme. The Branchland School Board had clearly adopted and internalized the value of small schools as articulated in its mission statement.

Socialization

Socialization is difficult to observe because it is a direct transfer of non-codified knowledge among participants. We could infer that such transfers took place in the participants' statements and the groups' communication patterns. In the Prairie School Board, the director stated that he had the same feeling that the board members had about the incident, suggesting some tacit-to-tacit knowledge transfer occurring within the governance team. He added that the administrators and board members were closely aligned on this issue, as they were for most issues facing the group. Once again, the knowledge being transformed included affective ("I felt," "we felt") and axiological ("I believed," "we believed") dimensions. The group knowledge processes involved the transformation and transfer of what individuals knew, felt, and believed.

There was evidence in the group communication patterns of a transfer of tacit knowledge of how the governance teams ought to interact. Board members and administrators communicated in similar ways within the groups and this suggested that there had been tacit to tacit transfer about the proper forms of interaction for each group. In the St. Ferdinand School Board, for example, the group members had been socialized to use a transactional approach as the appropriate form of interaction, while in the Branchland School Board, group members had been socialized into a pattern that relied heavily on communication to the entire group rather than between individuals.

CONCLUSION

The diversity of roles and relationships that existed in each board suggested that an integrated approach to roles rather than a differentiated approach might be successful. This finding challenges many rational approaches (e.g. Carver, 1990; Conger et al., 2001; CSBA, 1991; SSTA, 1997) to board member and administrator roles. The groups in this study appeared to function without overly prescriptive distinctions between board members' and administrators' roles. In addition, participants indicated that the ability of administrators and

board members to work as a team was important to each group's functioning.

An examination of group knowledge requires that an accounting of the manner in which social and relational elements influence group knowledge and group knowledge processes. In particular, we found that communication patterns have an influence on the cognitive processes found within each group. We found that groups can function with primarily shared information, confirming Stasser's (1999) supposition that shared information provides "social validation for individual beliefs and creates socially shared realities" (p. 339). New board member induction often focuses on training around board processes and protocol. If many different effective board configurations are dependent upon the social context of the group, it would be beneficial for board member induction to focus on enculturation or orientation to the social context of the board. Less emphasis should be placed on global definitions of roles and processes and more placed on maintaining and developing productive social processes in the specific context of the group. Induction and training should focus on induction into the social life of the board, communication patterns, values and norms, organizational stories, and the creating of socially shared realities.

A study of group knowledge processes must take into account not only the cognitive dimension, but also the values and interpretation schemes that are instrumental in integrating knowledge structures into a group, and the role of emotion in the decision-making process. The findings of this study confirm the assertions of Martin (1993) that cognitive activity (e.g., decision making) and emotions are highly integrated. Similarly, participants' responses support Connor and Becker's (2003) proposition that values are operative in the decision-making process.

Value statements of participants in this study seemed to be involved in the assigning of relative weights among choice alternatives. This finding suggests that decision making is more than rational, in that it is dependent not only on cognitive dimensions, but also axiological dimensions. Further, collective values were developed and group members were part of building the collective narratives and

interpretation schemes that were used in negotiating critical decisions (Marquardt, 1996). That is, values not only operated at a personal level, but also shared values existed that served to select what constituted valid knowledge in each of the groups.

Similarly, affect appeared to be involved in the weighting of alternative choices. Participants often used phrases such as "I felt," "we sensed," or "I thought" to point to tacit knowledge structures that were emotional in nature. Again, this finding suggests that group knowledge processes are situated within an interplay among cognitive, axiological, and affective dimensions.

In this study, we have found that technical-rational approaches to roles or relationships do not capture the complexity of roles and relationships in groups. Similarly, group decision making, group knowledge, and group knowledge building are more than rational. Group knowledge processes are situated within a cultural, cognitive, social, affective, axiological, and political milieu. Denhardt (1993) stated that administrators' tasks are "not to find quick solutions driven by individual choices; rather, [they are] ... the creation of shared interests and shared responsibility" (pp. viii-ix). In this study, we have demonstrated that group knowledge and group knowledge processes are not only cognitive processes, but shared processes that involve the social, the political, the affect, and values. Board and group development, therefore, ought to consider the recognition, understanding, and development of not only the technical-rational elements of group practice, but also the role and function of interpersonal, normative, and emotional dispositions in group decision making.

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