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Contained Entity of an Educational Innovation: The Realities of Micropolitics

This study was about a single case of educational innovation and excellence in educational technology in a secondary school in Ontario. The researcher explored the question of how the innovation resulted from an individual effort and attainment remained a "contained entity" after its decade-long existence. From the lenses of multiple realities, the researcher critically interpreted how micropolitics including gender and power dynamics and teacher resistance could create complexities for the institutionalization of the innovation. The district was urged to consider the lack of time and professional development issues raised by teachers. Further research was required to address the conspicuous absence of gender gap in this study.

Cette étude porte sur un cas unique d'innovation et d'excellence en matière de technologie éducative dans une école secondaire en Ontario. Le chercheur s'est penché sur l'origine de l'innovation (elle a découlé d'un effort individuel) et sur les résultats qu'elle a donnés (après dix ans d'existence, elle demeurait toujours une 'entité confinée'. Partant de divers optiques, le chercheur a entrepris une interprétation critique de la mesure dans laquelle la micropolitique, y compris la dynamique du genre et du pouvoir et la résistance des enseignants, pouvait rendre plus complexe l'institutionnalisation de l'innovation. L'on a encouragé le district de tenir compte des problèmes soulevés par les enseignants relatifs au manque de temps et au perfectionnement professionnel. L'absence bien évidente de fossé entre les genres doit faire l'objet de recherches supplémentaires.

Educational improvement has been a long-lasting issue all over the world, and the debates over educational change are as complex and multidimensional as are schools. However, these debates seldom shed light on the effect of educational technology on the improvement of secondary school systems. In today's schools, few fundamental changes have occurred as a result of technology (Aviram, 2000).

By investigating the implementation of a long-term innovation in educational technology, I attempt to understand why educational institutions in general are so resistant to change and why school-wide implementation of innovation does not happen, keeping the question of sustainability at bay. An innovation, according to Rogers (1995) is a notion, exercise, or object that is considered as novel by persons who are adopting it. Although secondary schools are no strangers to continual barrages of new programs or innovations, not all are implemented, let alone institutionalized. Sustainability of an innovation does not mean mere continuation of a project; sustainability has little to do with high-priced projects that can be discarded when they are losing money or

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when enrollment is falling (Hargreaves, 2001; Huberman & Miles, 1984). Unfortunately, researchers often overlook the questions why the change process is not implemented and what the problems are that obstruct a smooth implementation of innovations in schools. Moreover, proponents of innovations and micropolitics hardly ever cross one another's path. I focused on the internal factors that inhibited the implementation of an innovation in a case study of one secondary school where an integrated program in educational technology was designed for senior students in English. The program has managed to survive for several years, a rare phenomenon in secondary schools. Despite its decade-long existence, the sustainability of the joint venture between the two schools in Ontario, Canada and Denmark discussed in this report is in question because of its lack of teacher support and student involvement: limited to an enclave of middle-class A-level students. The research question addressed in this article is: How do the key internal factors affect the school-wide implementation of an innovation? Of particular interest to the research question are contexts that determine whether any innovation will see daylight or suffer premature death. In this article I concentrate on contexts of equity, rapid worsening of teachers' working conditions, and micropolitics including gender dynamics, power, and teacher rivalry and resistance (Ball, 1993; Corbett, Firestone, & Rossman, 1987; Fink, 2000; Hargreaves, 1994; Hargreaves & Fink, 2000; Hoyle, 1982; Huberman, 1992; Huberman & Miles, 1984; Kirkpatrick & Cuban, 1998).

Research Framework

The theoretical framework of the research was built using multivocal literature in the area of educational change or innovation, technology, and sustainability. First, Rogers' (1995) model of Diffusion of Innovations was used to frame questions to participants about what the innovation was, why it needed to be diffused, who were the adopters, and how they communicated their decisions to others.

Second, Fullan and Stiegelbauer's (1991) three phases of educational change (initiation, implementation, and continuation or institutionalization) were used to frame questions about factors supporting or obstructing implementation in this school. However, once I was in the research site, teachers' unwillingness to participate in the study drew me closer to the model of micropolitics, or the political life in and around the school. Qualitative research methodology and its permissiveness allowed the study to focus more on power, conflict over unequal distribution of resources, factional rivalry among teachers, and the societal influences on schools (Ball, 1993; Corbett et al., 1987; Fink, 2000; Hoyle, 1982).

Third, I drew on research on the reform context of educational change and the changing nature of teachers' work to frame questions to participants about the context of change and issues of time and workload.

Fourth, I addressed more specific concerns on educational change and the innovation in educational technology. Eliciting overriding concepts from the literature, I framed questions about learning goals, the critical nature of the learning generated, equity, and access to technology (Bigum & Kenway, 1998; Bryson & de Castell, 1994; Kearsley, 1998; Kerr, 1996; Means, 1994).

Research Design

A qualitative method was adopted to investigate the *how* aspect of the research question. Following Yin (1989), the construction of reality in this case study was formulated through multiple sources of evidence: (a) observation in one joint session; the purpose was to observe teachers only and their integration of educational technology in the classroom; (b) taped interviews with six teachers and the principal; and through (c) preliminary data accessed from the students' Web site and the secondary data (district documents and the project-related literature). These methods produced descriptive data about participants' worlds as they experienced them (Bogdan & Taylor, 1975). Furthermore, as an occasional teacher I have had the opportunity to observe classroom practices informally and chat with several teachers in the same school site. Observations and interviews took place between September 2001 and May 2002. Each structured interview with the principal, the initiator, and six teachers took about 65-70 minutes (see Appendix).

A purposeful sampling technique was used to select participants for this study. Six criteria were considered for the selection of teachers as participants. First, one participant had to be a practicing teacher performing leadership roles in Project SK. Second, given the sex and age differences in the use of computers, the sample was designed to be sex- and age-mixed (AAUW Educational Foundation Commission, 2000; Kirpatrick & Cuban, 1998). Four of the teachers interviewed, including the initiator, were women in various stages of their careers. Three, including a retired and a high-profile teacher in the district and a current teacher leader, were men. Third, to increase internal validity, the sample included (a) teachers from many departments, and (b) three teachers who had declined any involvement with Project SK. Including non-involved teachers in the sample was meant to investigate resistance models of Rogers (1995), Huberman (1992), Ball (1993), and Hoyle (1982) and the relevance of their findings. I had to reduce the numbers of participants because many teachers refused to participate in this study.

Data Analysis

Participants' answers were recorded and transcribed using selective verbatim techniques, or by transcribing key parts selectively (Acheson & Gall, 1992). I also made field notes reflecting on how I saw people and events after each interview and observation. Data obtained from the separate sources such as observation, interviews, field notes, and primary and secondary documents were filled with conceptual codes in order to separate individuals' responses and ensure anonymity. Once segmented, I coded five sections derived from the research questions: initiation, communication, implementation, concerns, and continuation. Emerging themes of micropolitics and patterns were later identified for ongoing analysis during and after the fieldwork.

Names of the district, school, and its educators were not disclosed (the school and the initiators were given pseudonyms).

I adopted a comparative data analysis strategy to find similarities and disparities between participants' comments in order to support the emerging issue of micropolitics of the school environment that was making the innovation a "contained entity."

Findings

A Promising Global Project: Introducing Project SK

In contrast to mandated top-down reforms, some change-seeking schools embrace change initiatives that are more bottom-up in orientation using new approaches to teaching and learning (Hargreaves, 1997; Means, 1994). The focal point of this case study, Project SK (all names are pseudonyms), was one of those bottom-up innovations in educational technology in a Greater Toronto area secondary school called Lynnwood. Donna J, the school's department head in English, initiated the program. A veteran teacher fondly recalled Lynnwood as an exciting and creative place where a group of teachers was known to make things happen; the school's teacher-driven change initiatives were well known and "not commonly found in Ontario." That was then; the study found many teachers' outlooks were changed to a residual bitterness in an era of teacher-bashing and a visible tug of war between the high-ranking members of the then Progressive Conservative government, including a vocal Premier, Mike Harris, and highly politicized secondary schoolteachers. During the late 1990s and early 2000s, Ontario underwent a sweeping mandated educational reform that eroded teachers' autonomy and intensified their working conditions. Although a handful of district-wide prominent Lynnwood teachers were evidently proud of their inventive outlets, other teachers in the school were weary of innovation overloads and intensification of their professional lives. Rather than innovations, rank-and-file teachers were preoccupied with the political turmoil in the province, a recent teachers' strike, and a bitter haggling process with the school district.

Lynnwood is a strong liberal arts and athletic school in an affluent suburb of Toronto. Ninety percent of Lynnwood graduates go to college or university. During the study, the school had 1,250 enrolled students, 60% of whom did not speak English at home.

Project SK, a joint venture between Lynnwood and a school in Denmark was set up in 1992-1993. This program was a brainchild of two teachers: Donna J of Lynnwood and Finn S of a school in Denmark. The two initiators met at a conference in Boston organized by the Apple Computer Corporation. The district administrators endorsed the course because they liked the global visions of the two initiators. A Web site link was established between the two schools so that a group of English teachers and students could exchange ideas on curriculum, assignments, lessons, and projects. As well, through discussions and live chats, students and teachers formed a cyberlearning community complemented by yearly visits to each other's school. The exchange visits included sightseeing, socializing, and joint classroom work.

Teachers in this "very unique and authentic" program used information technology (IT) as an object of enquiry and active learning that was far from "technology worship" (Postman, 1996). With the new activist issues every year such as Utopia, violence in schools, nationalism, or sovereignty, students were exposed to global perspectives. They worked together using their higher-order thinking or intellectual abilities and sharing information and daily experiences among a group of peers. I was able to observe one of the joint sessions at Lynnwood in October 2001. A Danish teacher introduced that year's theme, *Utopia*, with one of the word's connotations: *nowhere*. She brought in Plato and

his *Dialogue*, the significance of the word *idealism*, and the need to look for a better world. She also brought in another paradigm, *dystopia*, and reminded students of Orwell's *1984* and Huxley's *Brave New World*. She ended by saying, "We strive for Utopia because we want a better tomorrow." Later, students and teachers would expand the theme by posting their messages on line.

Project SK's cultural component and exchange visits, however, resonated with the principal. "My own belief is that as much as technology is important, it is no panacea. It is secondary to face-to-face communication," he emphasized. The goal of the Project, which has served about 500 students thus far, was not to promote information technology, but to create "a learning environment where IT can be used to enhance the academic and social skills of students to prepare them to be global citizens," Donna J and her Danish colleagues (2002) wrote in an on-line article.

In 1992 the Project had a modest beginning with a Macintosh computer hooked up to a single telephone line via a slow modem. Today the virtual classroom has high-speed Internet access, and the WWW is full of Web sites with new media: pictures, video clips, slide shows, and popular chat facilities. In the student section of the Web site, one slot was for the schoolwork and called "My Area," and another section was for the personal communications between students and called "Bistro."

In addition to exchange via a fluid e-medium, McLuhan's (1964) idea of research-based heuristic learning was incorporated into this program. By posting messages on the Project's Web page, participating students have had the opportunity to build what Castells (1996) calls the "new form of orality." With the help of online learning, students learned (be it William Shakespeare or global issues) from each other, and found out that the "writing process is a progressive experience."

The Project always managed to gain overwhelming support from students. "Clearly it has been/is most worthwhile to them," said a veteran teacher who had participated in this program and traveled to Denmark on more than one occasion. Both Donna J and the principal talked about the distinct characteristics of student exchange and the importance of human communication and cultural enrichment. Yet the cost of travel became a major impediment for many Lynnwood students, prohibiting them from participating in this program. The Project, therefore, was not prevalent among minority and poor students. The success of any school's innovation depends on end-users or students. If many of them were excluded from the virtual community or exchange because of socioeconomic constraints, it made this innovation "a contained entity" for students as well. Sustainability of an educational program cannot be detached from the question of overall well-being and common good of public education (Hargreaves, 2001; Hargreaves & Fink, 2000). The principal referred to Canadian diversity as a strength of Project SK and compared it with the monolithic Danish culture, "The Danes' concepts of sovereignty and nationality do not apply here. We define our Canadian identity and diversity when we go there." Many Lynnwood teachers, however, disagreed with him that this highly academic course had little to do with diversity and was often frequented by academically inclined and mainstream students from white, affluent families.

Many Lynnwood teachers had doubts about the sustainability of this program once the initiating teachers left it; there seemed to be an undercurrent of “we simply don’t have the time.” Although Project SK had survived for about 10 years, it had done so on the basis of little teacher involvement. Many teachers publicly or privately divulged that they had no involvement in this program.

Findings of this research suggested a strong connection between contexts—outside and inside an organization in which the bottom-up innovation was grown—and the innovation. Project SK influenced and was influenced by the surrounding environment as it interacted with Lynnwood’s structural, cultural, and political factors. Excellence that stemmed from the innovation was the result of an individual effort and attainment; evidently absent from this study was a school-wide systemic implementation.

According to Fullan and Stiegelbauer (1991), in order to be successful, educational innovators have to bridge the gulf between administrative structure and the multiple realities of people in schools. Needless to say, the multiple realities that were making the Project a contained entity were adding extra pressures to the sustainability factor of the program. Below are some of the realities and concerns that were integral parts of this innovative program to explain its lack of wider implementation.

Profile of an Exceptional Innovator: Power and Gender Politics

The micropolitics of power relationships is more active in secondary schools than it is usually given credit for; so are the department heads’ connections with innovations. “Micropolitics refers to the use of formal and informal power by individuals and groups to achieve their goals in organizations” (Blasé, 1991, p. 11). A veteran teacher leader, Donna J had the power, intention, and drive to create conditions that nurture learning. However, she was not an average teacher. She said that according to her Myers-Briggs profile (a personality-type assessment), she fitted “within the small window of teachers’ profile and not with Myers-Briggs’ usual category of 60% teachers.” She taught additional qualification (AQ) courses in computer education at two local universities. She had also won the Marshall McLuhan Distinguished Teacher award in 1988 and had free Internet access for five years on the A Link communicating worldwide with teachers about global issues—her “very personal experience” in an institutional setting. Donna J had experimented with cutting-edge educational technologies such as “desktop publishing, script writing, DVD, and electronic camera.” Furthermore, in the school community this omnipresent teacher was valued because of her commitment to the profession and her personal integrity working numerous hours on the Project.

Although she was known as a caring and exceptional teacher, some educators in the school viewed Donna J’s personal ardor as one of the Project’s many strengths and weaknesses. The principal of Lynnwood alluded to the exercise of Donna J’s power as a department head while he was explaining how power relationships were at work in the diffusion of a “personally driven” program.

Donna J has the desire to keep the Project too close to her own chest and protect it as her baby; because she serves as the department head, she is

overloaded in driving the Project forward. She is not as predisposed in welcoming others into the Project. I think she is a bit overprotective.

In other words, the Project lacked the invitational component. However, formal and informal conversations with four teachers revealed that they were invited to participate in this Project. They all declined Donna J's offer for various reasons except for one critical reason: all were busy teachers and lacked enough time to be involved with anything outside their work schedules.

Although in secondary schools gender dynamics are not often talked about, researchers (Datnow, 1998; Hubbard & Datnow, 2000) question the balance of power in the change process between men and women. During the interview, Donna J was never asked if she would receive better treatment from the teaching staff at Lynnwood if she were a male teacher. In the later stage of the study, I e-mailed and asked her this question; she has not yet responded. Donna J left a strong impression that she did not like to complain, which reminded me of Acker's (1999) proverbial conclusion: "Women are expected to go on 'doing good' but to keep quiet about 'feeling bad'" (p. 292).

Women's contributions in innovations and school reforms are considered insignificant by schools' old boys' network. Innovations initiated by female teachers are undoubtedly heroic acts, yet they fail to make a dent in schools' educational undertakings (Bascia & Young, 2001; Datnow, 1998). These authors' assessments of inherent limitations of projects run by female teachers-administrators were not far from Lynnwood teachers' perception about Project SK's decade-long limited existence as a contained entity with an insulated life. Teachers interpreted this program's deficiency in extensive student and teacher participation as an insignificant and a low-profile innovation.

However, Donna J had certainly shattered the stereotypical image that women are behind their male counterparts in computer expertise. Computers and computer programs are culturally perceived as a male enterprise. The imbalances of participation and concomitant lack of role models thus discourage women from expressing interest in computer clubs and camps (Kirkpatrick & Cuban, 1998) and may explain why girls were so well represented in Donna J's Denmark class. I began this study with the assumption that girls were behind boys in terms of their interest and familiarity with computers. Nonetheless, every teacher I interviewed, including Donna J, said that girls were equally interested and thoughtfully contributed throughout this program.

The catch 22 of teacher involvement in educational innovation: Damned if they do and damned if they don't

Some researchers suggest that educational innovations are noticed and rewarded by district administrators because innovations open career paths and prestige rankings for creative and influential teachers (Ball, 1993; Huberman & Miles, 1984).

Lynnwood teachers' views about successful innovation and its links to the progression of educators' career paths were mixed. Many Lynnwood teachers wondered how many of their efforts were noticed by administrators, let alone rewarded. Some accused their school district of paying lip service to educational innovations.

The data revealed an ideological split between Donna J and her colleagues that had little to do with the merit of the innovation discussed in this study. From the beginning of this study, conflicting messages were signaled by teachers about how they saw their relationship with Project SK or the lack of a relationship with the project. Teachers' careers are not separated from who they are in their personal and professional lives. Donna J clearly sided with change and stated that she had students' interests in mind. Some of her colleagues' views, however, were not that far apart from what Ball (1993) and Huberman and Miles (1984) suggested above. As a senior colleague of hers said, "High-profile innovative ventures of influential teachers get limelight and preferential treatment."

Donna J passionately viewed this program, widely known as "her baby" from a closed angle. She never complained about her over-intensive workload, but all the teachers interviewed acknowledged that without the initiator and the principal, this program would be nowhere today. Although she never discussed her personal life, her colleagues seemed to understand the difficult balance between her personal and private lives, as "She has kids and a home to look after." In regard to the intensification of teachers' workload, Donna J and her colleagues appeared to be of conflicting opinions; she said that she had implemented the Project all the way.

I made them [kids] excited. I never had trouble communicating my ideas. If you plan good things for students, make them aware where they are, things become easier.

Education ought to be about change. When you are excited and enthused, you do more and want to do well. I am very accessible; not that other teachers are inaccessible. I am accessible in different ways. Is it easier? No. I do it because it adds interest to the whole process of being a teacher.

In Ontario's highly unsettling educational climate, these views about priorities were likely to cause direct or indirect conflict resulting in tense relationships. Whereas other teachers were saying they simply did not have the time for the innovation, Donna J's comment and visible action suggested that she found time for the innovation. The crux of the problems was opposing views of teachers that stemmed from their individual lives and perspectives. The rifts between two groups of teachers are obvious and visible in many high schools. The first groups are influential teachers who have close ties with the school and sometimes even with district administration. The second groups of teachers have political connections; often they are longstanding members of teachers' unions (Ball, 1993). Although the Ontario Secondary School Teachers' Federation had some unresolved issues with the exchange program, some teachers candidly talked about how the overload of innovations was causing intensification in their professional lives, which had in effect far-reaching negative consequences in their personal lives.

The literature on school change sides with teachers and does not hold a favorable opinion about innovators who work in isolation. Hargreaves (2001) are critical about the "individual credit" these exceptionally charismatic leaders are accorded, which destroys the foundation of democratic ways of doing things as other teachers feel excluded from the reform initiatives. Clearly

there is an emphasis on wider teacher involvement in innovations (Fullan & Hargreaves, 1991). One might argue, however, that these researchers do not render justice to innovators and their bold and heroic acts to push the change agenda of schools forward without reaping any reward. Aside from gaining the intrinsic reward of pushing her reform agenda forward, Donna J was not better off than any other teacher in the school in terms of gaining recognition or material rewards for her labor of love. Her extra efforts and pioneering acts were not always understood or appreciated by others: a sad scenario also evident in Fink's study (2000) that is quite consistent with the gloomy picture of school change.

The stories of new and innovative schools referred to throughout have the stuff of classic tragedy—heroic leaders laid low by often unfair criticism, exciting visions of new educational world blinded by people's timidity and fears, and promising organizations and institutions destroyed or significantly diminished by internal and external discords. (p. 166)

Amid all the inertia, reluctance, and cynicism about educational change, innovators like Donna J accepted their leadership roles in a bittersweet way, predominantly banking on the positive aspects of their experience as innovators. The moral purpose of teaching to make a difference in her students' lives was not so hidden in her following comment: "People still respond positively to good ideas. I have never seen educators that stand in the way of kids' good learning; we have plenty of other good things going on in this school." Her next statement, however, betrayed the positiveness she held.

It is hard for me to explain what other people are thinking. I can only speak for myself of what I am doing; I somehow find time. I don't do things so that other people could see me as a model, but when I am doing it, I am a model.

The controversial world of educational innovation is riddled with the blame game. The distinction between the right foot and the wrong one is often in the eyes of the beholder. The following section on teacher resistance elaborates on the "catch 22's" other side: teachers who do not participate in educational innovation and suffer equally. Disgruntled teachers fear that they will "get the stick" if they do not show commitment toward the school's projects.

Teacher Resistance: The "Institutional Grammar"

Teacher resistance appeared to be a "profane concept" (Corbett et al., 1987) at Lynnwood. Except for one or two teachers, most teachers I spoke to denied the existence of teacher resistance to Project SK. Research points out that innovations are often the work of a handful of teachers (Huberman, 1992; Rogers, 1995). Despite Lynnwood's reputation as an innovative school, a veteran teacher who had successfully managed various innovations in the school said, "For the most part, innovations are carried out by a minority of teachers." His disappointment with the lonely process of leading innovations was reflected in his following observation.

Over time, it could be frustrating and tiring. Some teachers' reluctance to participate could even turn into guerrilla activities. Innovations, in these very insulated cases, depend on the personality and energy of innovators. Donna J had hoped that this Project would metamorphosize into something larger. However, she ended up largely carrying the burden herself.

Although there was no overt resistance or subversive activities to thwart this program, teachers' lack of receptivity seemed to be an uncomfortable topic for the principal. He explained teacher reluctance or resistance from a broad perspective, "It has to do with the person's own difficulty and nothing to do with the Project. Negative feeling may arise from all kinds of reasons, personal and political." Another teacher decided to articulate the resistance issue further, including territorialism and its effect on the overall teacher relationships.

I bet there was [teacher resistance] and still is. Resistance comes from people's personality ... Many teachers are not happy about the two weeks of classes students miss while they are visiting Denmark. Teachers have a tendency to think that the topic they teach is the most important one. Sometimes jealousy is associated with resistance to change as high-profile teachers and their initiatives might make many of us look bad. I don't like the idea that you don't do things because you don't have the time. If you love something, you find time to do it.

The word *jealousy* resonated with the principal: "A lot of it [resistance] could be professional jealousies," he said. Aside from jealousy, teacher resistance does not just happen overnight. The "dark side of organizational life" (Hoyle, 1982, p. 87) or the micropolitics of school life (Ball, 1993) accompanies the glitter of educational innovations. When money is tight, resources are hard to come by, and chances of promotion are bleak, a fierce competition for resources is likely to be common (Ball, 1993). Lynnwood was no exception to this rule. A substantial number of Lynnwood teachers disliked and even envied Project SK's resourcefulness and high visibility in the district office. "Initially some teachers were intimidated by the innovation. Some of them even saw this innovation as a product of favoritism as the Project was supported [by the district]. It put some people off," the principal informed.

What were some of the concerns of teachers? Teacher resistance to an existing or new program was not always straightforward. Teachers considered the pros and cons, and most important the practicality of the innovation. The gist of interviews with Lynnwood teachers suggested that teachers in general preferred slow and moderate to radical and drastic changes. In a nutshell, conversations with teachers denoted that they often considered technological change initiatives from multiple possibilities: (a) whether they would be pedagogically suitable or usable in their classrooms (the practicality or the programmatic realities [Sarason, 1996] of schools); (b) how extensive was the nature of changes, as then teachers had to come to grips with too many changes; and (c) how extensively teachers' personal time, initiative, and technological proficiency would be needed in order to implement the change. The more widespread the changes were, the more they demanded teachers' commitment, and the less was the likelihood of their adaptability.

Some Lynnwood teachers were vocal about the district's role in innovation as "all talk with very little actions." Many of them wondered whether there was a real understanding of how demanding teachers' lives were these days. One said that the district took all the credit for this program even though the teachers had received no help from the district. The truth was, however, that ongoing district support had been extended by providing supply teachers during absences working on this program. A veteran teacher revealed that

teacher resentment was mounting because teachers were required to be on call for those away or busy with the Project work. He also elaborated on the other side of this debate: To be or not to be in an innovation depended on the depth of support teachers obtained for their projects.

Donna J had easy access to the requisite computer technology. Funds were found to pay for costs such as paying supply teachers for absent Lynnwood teachers when their visit to Copenhagen or the reciprocal visits of the Danes caused these teachers to be absent.

This kind of help is not always extended to average teachers. They rarely receive technological training that offers them the "kind of deeper understanding or comfort level" required to use it accurately in a classroom (Kearsley, 1998, p. 49). All Lynnwood teachers interviewed complained about the lack of professional development time. As a result of the recent cutbacks in Ontario's teacher development time or professional development days, teachers were in essence confined in their classrooms; they had little access to new ideas or prospects for networking opportunities. This senior teacher did not hide her disappointment when she said, "Now we have several modified days for professional development. However, with half a day, you hardly get enough information." A teacher leader at Lynnwood added, "It is hard to keep up with all the innovations out there." He provided his account of why Project SK had not been extended beyond one classroom, "Maybe lack of knowledge is an issue here. If we had professional development time, we could have looked into programs like this one."

Furthermore, teachers seldom have the continual personal contact to keep abreast of innovative knowledge (Carlson, 1972; House, 1974; Huberman & Miles, 1984). One lamented that not all teachers had had the privilege to go to conferences, whereas the "key here is to be able to maintain communication with teachers from other countries." He said it was difficult to develop a program like this on one's own, "Donna J made this connection when she was on a conference. You need to make a personal connection with other educators." Researchers tend to confirm this view. Solid support behind even a novice teacher in technology can make up for his or her limitations: "With good support and easy access, even teachers who are not pedagogically, technically, or socially strong can carry out classroom technology innovation" (Zhao, Pugh, Sheldon, & Byers, 2002).

The principal viewed this issue from another lens by stating that all Project SK-related teachers had personal interests in making global connections. Aside from being exceptional teachers, they were "senior and comfortable teachers, although that just might be a fluke. Therefore, this Project does not require professional development. Once Donna J went to a conference in Copenhagen, which she would have gone to anyway." The extensive involvement of senior teachers in innovations is not so coincidental to Huberman (1992), who argues that teachers' personal teaching efficacy and pride in the craft are contingent on the successful track record of their professional lives. Senior Lynnwood teachers who took on innovative projects were exemplary teachers with extraordinary teaching careers.

During the formal and informal conversations with teachers, another frequently mentioned concern of teachers was raised: general lack of respect for their work coming from all directions, from policymakers, district officials, and parents. Where was the incentive for teachers to be cutting-edge, experimental, and innovative? One teacher leader of the school confirmed the inner turmoil of teachers' experience.

On the one hand, you can say teachers lack will to be involved in innovation. On the other hand, there is a true lack of time when you teach a full year high school; that is like teaching additional two classes. And you are sitting there struggling to find times with your family; and [if] then someone comes in and says, "Hey, develop a project like the Denmark one," we kind of look at each other and say, "We don't think so." Maybe in a few years, if the pendulum swings, classes come back to normal, people may feel like innovating a little more. Right now, they don't have the excitement or passion to do anything outside the norm. Another thing, there is no recognition for doing any extra work. This Project is Donna J's personal satisfaction; she does it as a labor of love; there seems to be so little recognition even for a global project like this one. The outside community often doesn't appreciate teachers' work. Parents often don't realize teachers' effort and what the greatest bargains their kids are getting.

The frustration many teachers felt about their working conditions and the no-win situation was obvious in the reflection of one veteran teacher.

It is unfortunate that the limited numbers of new teachers are coming under very trying circumstances. There is so much residual bitterness, and I don't know how long it will last. An innovation needs on-going concrete support from the community; oftentimes, you get lip service. Then again, in a year-long school like Lynnwood, where teachers have 150-160 students, mandatory teaching schedules, and have to go through this complicated evaluation process, I don't know how one can expect teachers to undertake educational innovation in a meaningful way.

Conclusion

In an effort to understand complex and loosely coupled organizations such as schools, I aimed at portraying an innovation through the multiple realities of school professionals. Despite the lack of wider teacher and student involvement, Project SK continues to exist because of (a) the strong support from participating students and their parents; (b) persistence, creativity, and hard work of two exceptional teacher leaders; and (c) the ongoing assistance from the principals and the district. The future of the Project depends on continual support from the above stakeholders. Thus predicting the future of this innovation would be premature. Considering the impending departure of the current principal, it would be interesting to see how this Program evolves in the coming years.

Innovative culture in schools is transferred from one generation to another because of the hard work of few and prominent teachers. Furthermore, innovations in schools and their likely failures have a long history of power struggle. As Mangham (1979) cautions, innovation typically entails "the strong advocacy of some and the strong opposition of others" (p. 133). Findings of the study suggested teacher collaboration as a two-way street. Teachers' decisions

to participate in an innovation often clashed with internal politics, teachers' ego of doing other person's project, and of course lack of time. On the other hand, Project SK was needed to create a vision of an inclusive school that required a community's input.

The district must find a way to make innovations union-friendly so that responsibilities related to innovations do not get in the way of union contracts, not to mention mending the strained relationships between the district office and teachers. I urge the district to consider two most crucial problems that teachers in this study raised: first, the lack of time and second, the lack of professional development issues. Teachers need consistent and ongoing administrative and symbolic/visible support from the district that would allow them to plan, initiate, and implement innovative undertakings with a significantly less intensified workload. The district also needs to provide teachers with ample opportunity for professional development that must be directly related to the innovation. District support here means more than just providing supply teachers when teachers are absent working on this project. Many teachers in this site had little, sometimes even no, idea what this project entailed; professional development sessions with help from the district could address that challenge. Until and unless the district addresses these concerns of resentful teachers discussed in this study, meaningful teacher involvement in innovations is highly unlikely.

Perhaps an innovation like Project SK also needs cross-pollination to district-wide schools that are interested in making global connections. This could only happen if the district rendered support and linked schools to one another.

For Project SK, technology was brought in to support an enquiry-oriented classroom, but not to introduce socially just educational practices suggested by Bigum and Kenway (1998). Project SK might have changed classroom practices, but these changes were limited to academically inclined students from affluent families. Educational technology is not a neutral enterprise; it has both political and social connotations. Those in charge of technological innovation have a say in deciding who will be in and out of the networked society.

Studies have shown that girls in secondary schools are farther behind in their use of computers than boys (AAUW, 2000; Kirkpatrick & Cuban, 1998); this was not what happened at Lynnwood. The AAUW study found the digital divide in computer knowledge and use was linked to social inequality in terms of income level, race, and specifically sex. Nevertheless, the gender difference in the use of computers was not visible at Lynnwood. I wonder if girls' strong presence in this program corresponds to (a) the middle-class status of participating girls; (b) the integration of a "fluency model" or the "infusion of technology across the curriculum" (AAUW, p. 19) to teach literature and not an end; the subject in which girls are known to be more proficient than boys; (c) the positive influence of a female role model like Donna J who inspired girls to come forward and take part in a technological program. All three issues require further study.

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Appendix

Interview Guide: Principal

Initiation (Research Question 1)

1. Can you tell me a bit about Project SK?
2. What is the nature of your involvement in this project?
3. Who initiated and implemented the adoption and planning of Project SK?
4. Why was it brought in to your school?

Communication (Research Question 2)

1. How was the new Project SK program communicated to teachers?
2. How did this affect teachers' understanding of the innovation?
3. Did you encounter any barriers to communication (probe, such as, information overload, teacher resistance/reluctance, etc.)?
4. How is communication about change normally dealt with in the school, e.g., staff meetings, memos, etc.? What are the norms and expectation of communication here?

Implementation (Research Question 3)

1. How would you describe your school's philosophy in terms of using educational technology in the classroom?
2. How does Project SK fit in with the school's curriculum and other current change initiatives?
3. Which teachers are involved with the project? Does this project attract particular kinds of teachers?
4. What assistance and professional development were provided for teachers and by whom to help them implement the project?

Concerns (Research Question 3a)

1. Did you face any teacher resistance in implementing this project? If yes, how did your school cope with it?
2. Would you be able to give me some ideas/background about the make-up of the student body that participate mostly in this project, in terms of gender, class, and race?
3. Would you like to talk about any other concerns you have had about this project?

Continuation (Research Question 4)

1. How extensively has the project been implemented so far? Has educational technology been used routinely in the classroom and has it been a regular part of the school's teaching/learning?
2. What do you see as the future of the project? What challenges still need to be addressed?
3. In your view what are the factors that will affect the sustainability of the project?
4. How will teachers be able to accommodate the innovative program within their overall workload?
5. Is there anything else that you would like to add here about Project SK?

Interview Guide: Teachers

Initiation (Research Question 1)

1. Can you tell me a bit about Project SK?
2. What is the nature of your involvement in this project?
3. Who initiated and implemented the adoption and planning of Project SK?
4. Why was it brought in to your school?

Communication (Research Question 2)

1. How was the new Project SK program communicated to teachers?
2. Did communication affect your or other teachers' understanding of the innovation?
3. Did you encounter any barriers to communication (probe, such as, information overload, teacher resistance/reluctance, etc.)?
4. How is communication about change normally dealt with in the school, e.g., staff meetings, memos, etc.? What are the norms and expectation of communication here?

Implementation (Research Question. 3)

1. How involved are you with the project? If you are involved, what motivated you to be involved with this project? If you are not, why is this the case?
2. How would you describe your teaching philosophy in terms of using educational technology in the classroom?
3. Do you use educational technology in your personal life at all?
4. How does Project SK fit in with the school's curriculum and other current change initiatives?
5. What assistance and professional development were provided for teachers and by whom to help them implement the project?

Concerns (Research Question 3a)

1. Was/is there any teacher resistance in implementing this Project? If yes, how did the school deal with it?
2. Would you be able to give me some ideas/background about the make-up of the student body that participate mostly in this project, in terms of gender, class, and race?
3. Would you like to talk about any other concerns you have had about this project?

Continuation (Research Question. 4)

1. How extensively has the project been implemented so far? Has educational technology been used routinely in the classroom and has it been a regular part of the school's teaching/learning?
2. What do you see as the future of the project? What challenges still need to be addressed?
3. In your view what are the factors that will affect the sustainability of the project?
4. How will you be able to accommodate the innovative program within your overall workload?
5. Is there anything else that you would like to add here about Project SK?