Using Action Research in British Columbia: Preliminary Findings from School Improvement Projects in Seven Schools, 2002-2004

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ABSTRACT: The School Improvement Grants Program is a British Columbia-based action research project to support efforts to raise literacy and math skills in public schools serving low-socioeconomic status neighborhoods. The program – which provides $25,000 in planning and implementation grants for each participating school over 2.5 years – began in 2001 and has just complete its first cycle of seven schools. Although effects were noted in the domains of teacher learning, staff collaboration, teacher professional development and parental involvement, preliminary findings have not yielded significant improvements in student outcomes. This research highlights some of the challenges of using action research to improve student learning.

Introduction

In January 2001, the Society for the Advancement of Excellence in Education (SAEE), a charitable foundation based in Kelowna, initiated a “School Improvement Grants Program” in British Columbia to improve public school performance through research-based projects.1After issuing a call for school improvement project proposals from provincial schools with low-achieving students in poor socio-economic neighborhoods, the society offered planning grants of $5000 to various applicants in April 2001 and, in April 2002, seven schools were selected to receive implementation grants of $20,000 to undertake improvement projects over a two-year period.2

To assist the schools in their implementation activities, the society appointed the writers of this paper to serve as project analysts and evaluators. Our role throughout the projects remained facilitative. Our principal responsibilities included facilitating communications between school staffs and the society, informing teachers about other studies and measurement tools available in the various educational literatures, and generally, supporting the seven interventions by answering teachers’ questions and helping them to remain confident in the work they were doing. Ultimately, we were responsible for analyzing the strengths, weaknesses and comparative features of the schools projects and suggesting recommendations for future school improvement projects.

Shortly after our appointment, we decided to take a broad approach to the evaluation process. We would collect all data generally relevant to the simple question “What happens when an external funding agency awards $25,000 to selected schools to improve teaching and learning?” The following discussion describes our preliminary findings from experiences with the seven schools and the relationship between what we found and what has been reported in the research literature about similar kinds of projects.

School Improvement Literature

Efforts to ensure uniformly high levels of educational attainment in public schools have been confounded by evidence that student achievement correlates more highly with out-of-school factors, such as socio-economic status, than with in-school factors, such as material resources. One of the earliest studies to advance this idea was American sociologist Coleman et al.’s 1966 report, which was broadly interpreted that schools don’t make a difference. Coleman et al.’s research findings were corroborated in 1972 by Christopher Jencks et al. and researchers today continue to demonstrate that, in some cases, as little as 6% of the variation in student achievement is attributable to within-school factors (Klinger, 2000; Lytton & Pyryt, 1998).

While sociologists such as Coleman and Jencks used correlative methods to determine the impact of factors in and outside schools on student performance, other researchers since the 1970s have followed another route that has produced different conclusions about schools’ impact on student achievement. Two pioneers of what has become known as the effective schools movement, George Weber and, later, Ron Edmonds, examined inner-city American schools where the achievement of students from low socio-economic backgrounds equaled or surpassed the national average. Edmonds’ influential 1979 article, “Effective Schools for the Urban Poor,” launched a research approach

which has attempted to identify the essential characteristics of schools that "successfully impart basic computation and communication skills, plus some knowledge of the sciences, social sciences, and humanities" (Brokover as cited in Lytton & Pyryt, 1998, p. 281) beyond achievement levels that could be estimated by socio-economic status (Schmoker, 1999, 2001).

Despite the appeal of this research to educational administrators and policy makers anxious to demonstrate to an increasingly critical public that "schools actually do make a difference," the effective schools literature was soon subjected to severe criticism by assorted researchers and educators who argued that identifying characteristics of effective schools provided scant guidance to educators about how to become more effective (Elliot, 1996; Frost, Durrant, Head, & Holden, 2000; Fullan, 2000; Scheerens, Bosker, & Creemers, 2000; Teddlie & Reynolds, 2001; Thrupp, 2001; Townsend, 2001).

Such criticisms, in turn, helped spawn a third line of inquiry known as "school improvement research" (cf. Manitoba School Improvement Program, 1998; Stoll & Fink, 1994). However, many early school improvement initiatives were largely imposed in a top-down bureaucratic fashion from outside schools themselves (Frost et al., 2000). According to Canadian educational change theorist Michael Fullan, large-scale government-initiated reforms have proven spectacularly unsuccessful because they ignored "how people actually experience change as distinct from how it might have been intended" (Fullan, 1991, p. 4). Attempts at system-wide, centrally-controlled reform have been likewise discredited in the United States. In a study of American urban high schools, Louis and Miles (1990) charge that governments have greatly underestimated problems and processes associated with school improvement due to preoccupations with policy development, program initiation, and regulatory compliance (Louis & Miles, 1990). What is essential and absent, these researchers argue, are understandings about how governments can support, guide and motivate schools to build within-school capacities to deliver programs more effectively. Other researchers concur (Reynolds, 2000; Scheerens & Bosker, 1997). "Just as medical researchers will never find one antibiotic that will cure all infections," researcher Richard Sagor writes, "educators are unlikely to find the single reading program that succeeds with all learners.... It's time to cool our infatuation with programs and instead escalate our investments in people" (Sagor, 2000, p. 35).

Within this context of educational reform, educational researchers and policymakers have championed action research as a means of giving teachers greater control over their professional growth through research, reflection, and improvements to instructional practice. Born in the ground-breaking work of the German fugitive and social psychologist Kurt Lewin and his students at the Iowa Child-Testing Station during the 1930s and 1940s, which included such notables as Ronald Lippitt, Ralph White, Alex Bavelas, and John French. It was later applied by Teachers College, Columbia Dean Stephen Corey, who encouraged educators to use action research to examine and modify their own practices. Viewed by many as soft science, action research lost its popularity in the late 1950s when the Soviet launching of Sputnik led to a recasting of America's educational agenda. However, it resurfaced as a viable methodology in the late 1970s through Lawrence Stenhouse and John Elliot's application of action research in developing large-scale teaching theories (McLean, 1995). Wideman (2002) found action research to be effective in Ontario's elementary schools, since:

educational literature, presentations, and workshops inform but cannot replace teachers' personal investigations of how to improve learning in their own classrooms. When teachers themselves identify a meaningful problem with their practice, they take responsibility for resolving it and therefore become directors of their own professional growth. (p. 21)

Generally defined, action research is "a disciplined process of inquiry conducted by and for those taking the action" (Sagor, 2000, p. 4). As such, it requires "teachers and school administrators to delineate their teaching and leadership strategies, identify their potential outcomes and observe whether these outcomes do, indeed, occur" (McLean, 1995). Action research is currently popular due to its empowering effects on teachers and principals and because school staffs determine the research focus and are the primary beneficiaries of the findings (Sagor, 2000; Stallings, 1989).

Action research, however, is not without its difficulties. Counting on teachers to initiate and undertake school-based reform is sometimes problematic because teachers, do not often possess the research design and measurement skills essential to assess school-wide changes in learning. In examining United Kingdom and Canadian reform initiatives, Alma Harris has noted that effective school change requires pressure and support from both external and internal sources (Harris, 2000). In other words, effective school-wide reform may best be achieved by combining effective top-down and bottom-up approaches into one interactive research methodology (cf. Wendel, 2000). For this reason, our role as analysts and evaluators was more facilitative than directive and we provided guidance and assistance upon request from the staffs we served.

Contexts and Objectives in Seven School Sites

Project One: Chase River Elementary is located on Nanaimo's south side with a school population consisting of 204 children, eight full-time teachers, and a principal. Statistics indicate that Nanaimo is categorized as part of the province's second-worst local health area, and is regarded as part of the province's worst area in terms of economic hardships and children-at-risk. Despite the difficult social circumstances that mark this community, Chase River Elementary has less than a 10% student transiency rate, revealing a relatively stable population.

In applying for support, school staff identified children's acquisition of mathematics skills, in particular to increase the use of manipulatives, as their principal focus for improvement. They wished to investigate the question: "Will greater use of manipulatives generally increase student achievement in mathematics?" In keeping with this objective, teachers set out the following objectives for the improvement project:
1. To dedicate two mathematics lessons per week to pencil-less instruction;
2. To co-ordinate professional development activities in support of pencil-less mathematics;
3. To purchase adequate instructional materials for pencil-less mathematics; administering a parental satisfaction survey;
4. To track teacher behavior through record keeping in personal journals; and
5. To monitor student progress through provincial Foundations Skills Assessments (FSA's) and Canadian Test of Basic Skills (CTBS).

Project Two: The Conseil Scolaire Francophone (CSF) is the umbrella school district responsible for overseeing all of British Columbia's francophone schools. CSF schools involved in the improvement project include André Piolat, Gabrielle Roy, and Anne Hébert. All three schools feature K-7 programs ranging from 150 to 300 students and a majority of youngsters attending these schools come from immigrant families and families of low socioeconomic status. Prior to this project's commencement, the province of British Columbia's Foundations Skills Assessment (FSA) results indicated that students' scores were below average in French reading comprehension and writing. With this in mind, the three Francophone schools set out the following objectives as the basis for school improvement:
1. To improve students' reading abilities and attitudes through new teaching strategies;
2. To examine factors contributing to low FSA results;
3. To complement FSA results with scores from other instruments;
4. To help teachers expand their strategies for teaching reading through professional development workshops; and
5. To enable parents to assist their children with reading through a Read at Home program.

Project Three: Eric Langton Elementary enrolls 409 students in grades K-7, of whom 170 are enrolled in French Immersion programs. The school is characterized by a 24% yearly transiency rate and a high representation of low-income and non-English speaking families. Results from district-wide assessments and FSAs place many of Eric Langton's pupils below average. Staff decided on the following objectives to guide the school improvement project:
1. To increase the amount of reading material available to students;
2. To increase the amount of reading undertaken by students daily;
3. To expand teachers' instructional reading strategies in both English and French;
4. To increase parents' (family) participation in children's reading through a home-reading program and parent in-service;
5. To monitor students' reading growth using various indicators.

Project Four: Forsyth Road Elementary has 298 students in grades K-7, a staggering 86% student transiency rate, and a staff transiency rate that nears 50%. Children from 61% of families are deemed low-income, and 50% are ESL. Literacy scores at Forsyth are considerably below district and provincial averages. Accordingly, school staff set out the following objectives for their project:
1. To enhance teachers' instructional skills in literacy;
2. To monitor student development in literacy through various assessments;
3. To create a literacy drop-in center for family members to read with children; and
4. To provide reading support for parents and to monitor parents' levels of involvement.

Project Five: Unlike other schools involved in the program, Second Street Community School is, indeed, a community school, and an institution central to the life of the community around it. That is to say, it has a stable population of 497 students in grades K-7, 29 staff members and a principal, and a student transiency rate below 10%. Many residents in the community around the school once attended Second Street themselves. Despite a generally low socio-economic context and a high (50%) ESL population, school-home relations are generally excellent and teachers are linked closely to students' home lives through an active and resourceful parent advisory group. Two further characteristics are of note. Second Street's FSA results are below district and provincial norms at the grade 4 level, however by grade 7 the trend is reversed with students achieving above district and above provincial norms. Twelve members of the school's staff are also completing a graduate diploma in literacy at a nearby university. The objectives set out for the improvement project included:
1. To increase teachers' familiarity with instructional strategies such as scaffolding;
2. To engage older students from the community in helping to teach reading to younger students (peer tutoring

model);
3. To increase the school's number of culturally relevant reading materials; and
4. To develop and implement a family-literacy project.
Overall, the SAEE school improvement projects involved seven schools, five projects, 2,049 children and 79 teachers and administrators.

Methods and Data Collection

Preliminary data collection involved both qualitative and quantitative approaches. Student achievement data were collected using the following sources: year-to-year scores on standardized tests such as the British Columbia Ministry of Education Foundation Skills Assessment, the Canadian Test of Basic Skills, the Canadian Achievement Test, the British Columbia Ministry of Education Performance Standards and assorted district-designed assessment instruments. Diagnostic literacy kits included Checkpoint, Benchmark, and Developmental Reading Assessment (DRA). Students', parents' and teachers' attitudinal changes were assessed through questionnaires, surveys and journals. Focus groups and interviews were also conducted with teachers and administrators on three separate occasions over a two-year period to monitor changes in teachers' knowledge, skills and attitudes over time.

Findings and discussion. Data collected from the seven schools participating in the school improvement program show two kinds of outcomes associated with these projects: those that can be described as stable and were found consistently across all school contexts; and those that can be described as variable and inconsistent changing according to the contexts and activities of individual schools.

Variable and inconsistent outcomes. Student achievement in numeracy and literacy proved highly variable among schools and grade levels in schools. After increasing the use of mathematics manipulatives to two lessons per week, for example, Chase River teachers noted an increase in student achievement on the Canadian Test of Basic Skills ranging from .86 to 1.19 of a grade level in grades 3-6. In grade 7, however, numeracy scores declined by .05 of a grade level. This grade 7 decline in achievement was not entirely surprising, given similar results from the Third International Assessment of Student Achievement (Schmidt, Houang, & Wolfe, 1999). Nevertheless, these outcomes have intrigued Chase River teachers to the point where they have resolved to investigate the decline of mathematics achievement in grade 7 as one of the school goals next year.

Staff at Eric Langton also noted variable literacy outcomes among different grades. Over the course of the improvement project, students from kindergarten to grade 3 made impressive gains ranging from 5% to 20% in literacy sub-skills which included initial and terminal word sound recognition, as well as discrimination between upper and lower case letters. However, in spelling, a 9% in achievement was observed. The Jerry John Basic Inventory of Reading Skills produced achievement increases ranging from 8% to 18% in grades 5-7, but a 7% decline was found among grade 4 students. Comparison of provincially designed FSA scores from 2002 to 2003 indicated no significant changes in literacy scores among fourth graders or seventh graders. A possible explanation for the variance in results is the "J-curve" phenomenon that maintains that "initial efforts at reform are often accompanied by lower outcome measures of student behavior and achievement" (Erb & Stevenson, 1999, p. 36; see also Fullan, 1997).

The J-curve phenomenon holds that, in the initial stages of the reform, teachers may still be coming to grips with the changes or may not be entirely conversant with new techniques (Erb & Stevenson, 1999). However, once teachers are completely comfortable with the reform, student outcomes improve over the long run (cf. Yore, Shymansky, & Anderson, in press). According to Fullan (1997), significant reforms may first need to change the climate of a school – that is, how teachers relate to each other and to parents and students. Thus, a delay time may be built into reform efforts, whereby changing climate, relationships, and instructional practices all precede noticeable changes to student outcomes.

Differences in student transiency rates also likely constitute another factor contributing to variability in results across schools. At Eric Langton, for example, only 36% of students currently in grade 4 enrolled in kindergarten at the school. Moreover, only 21% of the grade 7 cohort have remained at the school since kindergarten. Such high turnover makes it extremely difficult to develop conclusions about the effectiveness of specific interventions given that many students tested at year's end will not be the same students who benefited from literacy initiatives implemented throughout the school year.

Transiency rates were even higher at Forsyth Road Elementary where there was an alarming student turnover rate of 86.1% and a staff turnover rate of 30.8% from 2002 to 2003. Despite significant changes to teaching strategies and implementation of a home reading program, no significant differences in literacy achievement were observed in comparative FSA scores among grade 4 students. Furthermore, although no significant change could be found in the writing ability of grade 7 students, their reading comprehension improved by approximately 23%. Such wide fluctuations in grade-level results have prompted some participating schools to question the validity of provincial

measurement instruments.

Administrators at the Conseil Scolaire Francophone questioned the reliability of FSA scores on the basis that reading comprehension results were poor but writing scores were high across the three project schools (André Piolat, Gabrielle Roy, and Anne Hébert) involved in the project from 2000 to 2001. They subsequently engaged the University of British Columbia's Dr. Kadryie Ercikan in early 2003 to assist them in interpreting FSA scores. Ercikan found that 2000 and 2001 FSAs were invalid measures in assessing French literacy. The FSA results, for example, failed to factor in inter-rater differences across years, and did not allow for methodological difficulties associated with measuring French achievement using translated English instruments, or the problem of defining scores normed on English reading comprehension outcomes.

As the preceding discussion illustrates, improving student achievement is a highly complex undertaking. Results from these school improvement projects provide strong support for some of the research literature that shows out-of-school factors contributing more significantly to student achievement than in-school factors (Lytton & Pyryt, 1998).

Noteworthy also is the importance of time in assessments of student achievement. Researchers have estimated that it takes approximately 3 years to illustrate significant change in student achievement at the elementary level and 6 years at the secondary level (Fullan, 2000). Such estimates suggest that it may be premature to expect meaningful results about student achievement from these projects at this time. The importance of time is also underscored in the J-curve phenomenon which holds that student outcomes drop initially after improvement initiatives and, later, begin to increase when teachers and students have become fully conversant with new instructional approaches or other innovations (Erb & Stevenson, 1999).

No less significant is the possible influence of high student transiency rates on achievement among schools and grade levels (Hartman, 2002). Although student mobility is an under-investigated phenomenon, research to date strongly suggests that changing schools disrupts students' progress and has negative effects on classrooms and schools they attend (Rumberger, 2003). Mobility rates also appear to vary according to race, ethnicity and family income, with children from minority and low-income families doubling on average the number of moves made by middle-class white students (U.S. Department of Education, 2002). In a longitudinal study of mobile Californians, school personnel described student mobility as a "'chaos' factor that impacts negatively on classroom learning activities, teacher morale, and administrative burdens" (Rumberger, 2003, p. 11). In the words of one teacher:

> We start on a project, and prepare for the project by putting them in the appropriate groups. When a kid leaves in the middle, we have to adjust the whole group again. It is very tiring, time consuming. Often times you lose momentum in what you are doing. It takes a lot of time to readjust and refocus and figure out how you're going to do it (Rumberger, Larson, Ream, & Parlardy, 1999, pp. 54-55).

Complicating the student achievement puzzle even more is the fact that, despite generally high levels of education and commitment, school staffs are not researchers by trade. Not surprisingly, most of the projects evaluated in the SAEE program were characterized by a lack of adequate pre- and post-intervention measures and stable control groups. This obviously led to problems in determining whether particular interventions prompted particular results above and beyond what might have normally occurred with regular classroom instruction. Moreover, in none of the projects evaluated were measures taken to establish consistency between teachers in applying new learning strategies or using new material. Thus, it was not possible for evaluators to determine whether students received equal treatment and equal access to new materials even within individual schools. As the literature points out, not all school-based improvement projects focus on measuring educational outcomes (Creemers & Reezigt, 1997; Fullan, 1991). Sometimes schools struggle with the challenges of implementing an educational change to the point that they lack the human resources necessary to measure what has actually been achieved.

Coloring the activities of the schools participating in the SAEE project is another important factor. Most of the seven schools participating in this program implemented improvement projects within the framework of larger school-wide or district-wide initiatives. As a result, it was sometimes difficult for participants to disentangle project's objectives and outcomes from earlier or broader reforms. Added to this, most school staffs were characteristically uncomfortable in trying to define school-wide educational outcomes precisely and in quantifying evidence. Part of this latter unease no doubt is attributable to teachers' lack of confidence in statistical and mathematical matters. Intrinsic reward traditions within teaching conventionally celebrate the salvation of individual students over whole classes. As Osborne puts it:

> Most teachers … get the greatest job satisfaction from seeing their students succeed. Their measure of success is not that they made a child a good Canadian, or covered the year's work, or were declared teacher of the year, or even that they helped Canadian students outperform the Japanese on an international math test, but that they helped a student [italics added] get to university or to pass grade 10 English, when all the predictions were that he or she would fail (Osborne, 1999, p. 16).

Probably the most important challenge that we faced as evaluators during the first year lay in assisting staffs to overcome their fears about research methods, their concerns about the evidence they collected, and the value of what they deemed important. Sometimes with these fears were others, in particular about the political up and

downsides of using non-public sector funds to improve public schools. In at least one school, this issue had important political and ideological overtones since several teachers did not believe that private sector funds should be used by public schools.

At times, we were caught in a dilemma. On one hand, we tried to remain faithful to the tenets of action research by encouraging teachers to control their own project. On the other, we tried in the interests of clarity to nudge school staffs toward more concrete objectives and measures of achievement. Our influence was not always successful. Once staffs had committed their plans and objectives to paper they were too busy – or possibly unaware – about how to change them.

Stable and consistent results across schools. The foregoing discussion suggests that most school staffs faced a fairly steep learning curve during the first year of school improvement activities. Great credit is due to the teachers and administrators participating in the program for the enormous amounts of time they spent finding, purchasing, and grading instructional and assessment materials to establish finer calibrations to describe children's abilities in literacy and numeracy. Observational data indicate that teachers worked hard, demonstrated extraordinary professionalism, were frugal with their spending and never gave up – even in the face of frustrating challenges. For example, in one school the launching of the home reading program was delayed significantly due to traveling book bags. The completed book bags sewn by some of the women on the Parent Advisory Council (PAC) were to be dropped off at the school by one student's grandmother who was to leave soon after for her vacation in Oliver, British Columbia, some 400 kilometers away from the school. The grandmother forgot to drop them off, accidentally took them on vacation, and, thus, inadvertently delayed the launching of the home reading program by several weeks. In spite of such frustrations, most teachers remained eternally optimistic that the interventions they were making would positively change students' lives.

We found several positive findings to be consistent and stable across all participating school sites. First, all respondents to our end-of-project questionnaire expressed the view that SAEE support enabled them to purchase the resources they deemed as essential in completing the project, as opposed to the kinds of resources usually made available by district or ministry staff. Teachers were particularly grateful that the society's support provided much-coveted release time, allowing them to attend professional development workshops and conferences or to plan and exchange ideas with other staff members. In short, SAEE support allowed teachers to escape the organizational responsibilities that traditionally confine teachers to individual classrooms for much of the school year.

In particular, this external support afforded far greater collaboration, particularly between primary and intermediate level teachers, two groups who characteristically interact only rarely. Teacher-to-teacher collaboration has been noted in the literature as an important factor in sponsoring school improvement and, according to Alma Harris, "if provincial and school board officials are serious about school improvement, they need to find ways to slow the frantic pace of teachers' lives enough to incorporate this kind of activity in the daily and yearly schedule of school activities" (Harris, 2000, p. 22). Fullan has likewise noted that school districts and state level governments have important roles to play in providing the infrastructure necessary to promote meaningful collaboration between teachers, and, eventually, reform (Fullan, 2000).

More than 80% of teachers involved in the SAEE projects indicated that they were able to expand their knowledge and skill about literacy or numeracy, notably through the increased number of professional development opportunities that the projects provided. Teachers documented adjustments to their instructional styles in various ways. One teacher explained:

I used the strategy of using pictures from a picture book and making a prediction of what the story is about. I have also started exploring the role of visual journals… These visual strategies have allowed some of my lower students to experience success and show what they have learned.

Altogether, teachers reported that they had acquired between 10 and 1,000 new resources to integrate into their lessons. By not explicitly targeting the way in which funds should be spent, the SAEE greatly enabled teachers, as Wideman puts it, to become "directors of their own professional growth" and to choose the materials and human resources they deemed essential (Wideman, 2002).

The projects also allowed teachers to extend changes in teaching strategies to other parts of the curriculum outside the focus of the action research. Such pedagogical spillover was particularly evident at Chase River where teachers bridged the relationship between students' literacy skills and their skill in deciphering mathematical word problems by directing more class time toward vocabulary analysis. Similarly, a Second Street teacher adapted skimming and partnership strategies from the school's literacy project to assist social studies students:

The content of the social studies reading was quite complex: contact and cooperation between the European explorers and the aboriginal peoples. I was impressed by the level of discussion that was undertaken by my students as they processed their thoughts about the reading in partners.

Overall, using new strategies, or adapting existing ones, another teacher concluded, created a recharge or a spark in a teacher's instructional process.

Action research also had other positive outcomes for teachers. Teachers' participation in research meant that large-scale assessment and accountability were no longer words to be feared. Teachers who responded to evaluation questionnaires affirmed that projects helped them implement a change of culture and helped them realize that, as teachers, they could guide their own professional growth through research, reflection, and improvements to instructional practice, precisely the goals of action research. Teachers likewise expressed excitement that they could work pro-actively without waiting for the education ministry or other agencies, such as the Fraser Institute, to assess student progress.

This cultural change was amply illustrated by the activities of Second Street staff in Burnaby. Throughout the project, 12 teachers participating in the literacy project enrolled in a graduate diploma program at Simon Fraser University. This program afforded teachers an opportunity to integrate much of what they learned formally at weekly classes into the student literacy project. In this case, teachers appeared motivated by two factors – their own strong professional commitment and to the fact that the Burnaby School District was prepared to credit participating teachers with a salary increase equal to a year of graduate study. The district's willingness to recognize the value of a diploma program underscores how external and well as internal factors can act together to prompt effective school change (Hargreaves & Fink, 1998). The experience at Second Street has obviously proven worthwhile. Even though the school's grade 4 FSA literacy scores are well below both district and provincial norms, by grade 7 students are performing above both district and provincial levels in reading and writing.

Preliminary Conclusions

Preliminary analyses of data from the SAEE School Improvement projects provide some interesting findings that fall into two categories: results that are highly variable and inconsistent across different school contexts, and results that appear stable and consistent across all seven schools. The most variable results are those related to student achievement. Consequently, we will continue to work with school staffs to re-examine these results and to continue to probe the factors that explain different outcomes. Nevertheless, a few preliminary conclusions can be made about the relationship between school improvement projects and student achievement. If, as Fullan (2000) notes, 3 years are required to observe changes in student achievement in elementary schools after implementation of an innovation, we can first conclude that two-year funding cycles for such projects offer too narrow a vista to assess meaningful long-term effects. Policy-makers, administrators, foundations and funding agencies may wish to consider this in planning future improvement projects.

A second finding is related to variances in student achievement that we found. Measuring and understanding student achievement is a highly complex process. Allowing for the J-curve phenomenon reported in the research literature, which suggests that student achievement normally increases after an initial post-reform decline, supporters of improvement initiatives again may be advised to set their expectations for educational change on a longer clock (cf. Erb & Stevenson, 1999). Government policymakers and other advocates of change commonly behave as if mandates, and sudden infusions of resources, can bring about immediate transformations in schools. Histories of school reform suggest otherwise (Cuban, 1988; Reese 2000). Patience is required by everyone involved in educational change to enable researchers and teachers to explore the myriad factors S including time itself S that seemingly contribute to changes in student achievement.

A third finding worthy of note in this preliminary analysis is that schools marked by high student transiency rates appear especially hampered in efforts to raise school-wide achievement levels. Although research on effects of student mobility remains sparse, a small body of scholarship amply documents the deleterious impacts of excessive mobility on the achievement of individual students (cf. Bruno & Isken, 1996; Rumberger, Larson, & Ream, 1999). Hartman's admonition is instructive in this regard:

Smaller schools and classrooms, better trained teachers, better buildings and equipment, and other essential improvements can have only minimal positive impact if the classroom is something of a revolving door, with high proportions of the students leaving and arriving during the school year and from school year to school year (Hartman, 2002, p. 227).

Transiency problems similarly compromise year-to-year comparisons of achievement measures – such as British Columbia's FSA scores – because it is unlikely in schools with high transition rates that children writing grade 7 tests were part of the school population three years earlier in grade 4. And although the provincial education ministry issues cautions about making year-to-year comparisons, parents, school trustees, and even school staffs have rarely heeded such cautions. It may be time for policy makers and administrators to begin exploring the factors that prompt excessive student mobility and to begin to devise measures that can be taken to minimize the negative impact of this phenomenon on student achievement. The issue of mobility may not seem important in the face of increasing pressures on schools to adopt reforms to raise test scores. But, as Rumberger notes, "failing to do so could easily undermine those efforts as well as hurt the students and families the schools are charged to serve" (Rumberger, 2003, p. 19). For this reason, government policymakers may be advised to invest greater support for research that

better illuminates the effects of high mobility on student outcomes and the importance of mobility among the other factors associated with student achievement.

Finally, we found that some schools possessed far greater capacity for undertaking action research than others. A few staffs were able to set clear and measurable objectives and undertake activities to measure changes in teachers' instructional strategies and in student achievement across time. Improvement activities at one school, for example, were led by a principal with a graduate degree and 12 teachers currently enrolled in graduate-level study in literacy at a nearby university. Another improvement project was guided in large part by a college instructor familiar with research design and measurement. Such research skills were not typical of the projects as a whole. Some staffs floundered at times and had difficulty both in finding measurement instruments and in gauging changes in teacher pedagogy and student progress. A few required considerable support, obliging us at times to cross the line between project evaluators and researchers. These differences and difficulties are easily understandable in light of the fact that university teacher education programs tend to prepare pre-service teachers for the world of the classroom. Few teachers that participated in the projects had research expertise in undertaking school-wide research projects. Thus, we concur with Britain's Education Department Standards Chief who concludes that the next major question to be answered is how to "move from a phase of reform predicated on national prescription to a phase predicated on schools leading reform" (Olson, 2004). Accordingly, a few prescriptions seem in order. First, because undergraduate teacher education programs generally do not prepare pre-service teachers for school-wide research projects, it is imperative for provincial and local authorities to assist school staffs in developing stronger research competencies. This might be done through incentive programs that would allow teachers to upgrade their skills through summer study, or via distance learning opportunities at universities and colleges. Similarly, governments and universities could invest more heavily in university-school partnerships to assist teachers in collecting and analyzing data, as well as sharing their findings with wider audiences. Collaborative endeavors of this nature could be instrumental in prompting a change toward a more "interactive" approach in which teachers initiate, conceptualize, implement, and analyze school reforms with the support of qualified research partners who could facilitate the process with technical and methodological help (Creemers & Reezigt, 1997).

NOTES

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1. The SAEE receives its funding from endowments and grants from various Canadian foundations. For more information about the SAEE, see www.excellenceineducation.ca or contact Helen Raham, Director, at (250) 717-1163.
2. The schools were: André-Piolat in North Vancouver; Chase River Elementary in Nanaimo; Ecole Gavrielle-roy in North Surrey; Ecole Anne-Hébert in East Vancouver; Eric Langton in Maple Ridge; Forsyth Elementary in Surrey and Second Street Community School in Burnaby.

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