IMPACT OF THE NOVA SCOTIA SCHOOL ACCREDITATION PROGRAM

ON TEACHING AND STUDENT LEARNING:

AN INITIAL STUDY

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School accreditation is one process currently mandated in Nova Scotia schools to facilitate school improvement efforts. This mixed methods study sought to discover and describe the impact of the Nova Scotia School Accreditation Program (NSSAP) specifically on teaching and student learning in three secondary schools in one school board. Surveys, interviews, and school documents provided data concerning the nature of each school's respective improvement goals and subsequent implemented strategies. An analysis follows that considers the NSSAP impact on teacher participation and student achievement, and the ambiguity of program success.

Introduction

The current era of accountability in public education mandates that schools are continuously improving so bureaucratically-initiated programs requiring administrators and teachers to participate in data-driven school reform efforts are pervasive. Most commonly, an increase in student achievement results is aspired to as evidence of an improving school. However, questions about the worth of large scale reform efforts are present in the educational literature (Elmore, 1996; Frost, Durrant, Head, & Holden, 2000; Harris, 2003; Reeves, 2004).

Because outside demands or organizational changes do not alter teacher beliefs and philosophies, changing structures does not necessarily result in improved teaching (Harris, 2003). Altering the practices of educators at the classroom level must occur if measurable gains in student achievement are to be produced (Danielson, 2002; Fullan, Hill, & Crévola, 2006; Harris, 2003; Reeves, 2004), and unless teachers are ready for such a change, it is unlikely that reforms will be implemented effectively. To this end, the focus of educational literature has shifted from traditional reform efforts to creating the capacity for change and the characteristics of effective schools because, in an age of accountability, an effective school is an improving school (Frost et al., 2000).

The Nova Scotia Context

The NSSAP is a five-year improvement program developed based on current research literature about school improvement and effective schooling. Participation is intended to facilitate continuous school improvement focused on student learning outcomes. Documents provided to Nova Scotia educators push schools to function as professional learning communities (PLCs) with staff members collectively setting a limited number of SMART school-wide improvement goals (i.e., strategic and specific, measurable, attainable, results-based, and time-bound goals) in areas of data-determined school or student weakness. More specifically, schools are encouraged to set two goals: one aiming to improve upon an element of school performance such as climate or communication, and the other focusing on improving student achievement in an area of academic weakness. Strategies that will be employed to achieve goals as well as assessment tools to measure improving performance must be identified and developed by individual schools, meaning there are no specific elements required as part of the school

improvement plan. As part of this process, it is expected that best practices for instruction and assessment will be discussed. Annual reports force collection of data, which is primarily self-reported unless standardized tests are used as an assessment tool, and provide the opportunity for data analysis and changes in classroom practice. In the end, a comprehensive final accreditation evaluation report outlines the school goals, strategies, and results. NSSAP external evaluators assess planning at the outset and progress towards accomplishing goals at the end of the program, at which time a school may be deemed accredited, meaning it could also be labeled as effective. Schools are then mandated to begin participation in the NSSAP again to ensure that continuous improvement is occurring (Nova Scotia Department of Education, 2007, 2009).

Creating the Capacity for Change

To promote educational change, administrators must allow teachers to be part of the change process rather than simply pushing external initiatives (Lambert, 2003; Leithwood, Steinach, & Jantzi, 2002). School improvement goals must relate to teachers' sense of personal and collective efficacy, and teachers must be able to rationalize use of the goals for better student outcomes (Leithwood et al., 2002). Leithwood, Harris, and Strauss (2010) go a step further and argue that members of an organization must think of the organizational goals as their own for change to occur. It follows that, for legitimate school improvement to occur, the process must be customized to the school (Danielson, 2002; Fullan et al., 2006; Harris, 2003; Reeves, 2004). Beach and Lindahl (2004) indicated that the greatest successes have resulted from applying externally developed, proven programs to the individual school setting. Many such school improvement models are fundamentally the same: plan for change by defining school background, needs, and goals; devise and implement strategies that will allow attainment of the

goals; conduct a study to collect data that will permit analysis of the effectiveness of the strategies; and review the outcome to inform future planning (Anfara, Patterson, Buehler, & Gearity, 2006; Frost et al., 2000; Lezotte & McKee, 2006).

Effective Schools

The literature reveals features common to all effective schools from the broad interrelated categories of school leadership, climate, and classroom practice. Hence, school leaders are responsible for fostering a school culture conducive to change by practicing transformational leadership, guiding teachers toward a shared vision for improved teaching and student learning and encouraging continuous efforts to achieve that vision (Harris, 2001, 2003; Joyce, 2004; Lezotte & McKee, 2006). Principals must plan collaboratively with staff to develop school-wide SMART goals for school improvement, which are a feature of effective schools (Danielson, 2002; Lezotte & McKee, 2006; O'Neill & Conzemius, 2006; Schmoker, 1999, 2006). When SMART goals are set, the team also develops clear plans for accomplishment: indicators of success, measures that will be used to collect data, specific achievement targets with timelines, and appropriate classroom strategies (O'Neill & Conzemius, 2006). Educational researchers emphasize the importance of using data for making decisions about goals and indicating improvement during this process (Fullan, 2001; Harris, 2003; Lezotte & McKee, 2006; Lindstorm & Speck, 2004). Teachers are then held accountable to achieve goals they personally helped set (O'Neill & Conzemius, 2006).

For this process to be successful, collegial professionalism must be maintained (Marzano, 2003). Some authors go further in stating that collaborative environments with professional learning communities (PLCs) at the centre must become the norm in schools (DuFour & Eaker,

1998; Harris, 2003; Schmoker, 2006). In fact, such teacher professionalism is positively correlated with student achievement (Crum & Sherman, 2008; Tschannen-Moran, Parish, & DiPaola, 2006). Such PLC practices support the growth of teacher leaders.

Shared leadership is another hallmark of an effective school (Danielson, 2006; Fullan, 2001). Teacher leaders are likely to alter instructional practices in response to SMART goals, and their work may encourage similar efforts from other educators. Classroom teachers are ultimately responsible for improving achievement. Teachers must align curricula, engage in dialogue about best practices for student learning, and implement specific instructional strategies school-wide for students to learn techniques and skills across subject areas (Harris, 2001; Reeves, 2004).

Effective schools have strong principal and teacher leaders, positive climates, and function as PLCs; they also employ staff collaboration and proven teaching techniques to improve student learning. Many schools have adopted evaluation programs to document progress toward achieving school improvement goals and to promote accountability for student learning at all levels.

School Self-Evaluation Programs

While widely employed, school self-evaluation programs have encountered criticism in the research literature. Such programs may provide unreliable information about student achievement results, as educators can easily manipulate data that is internally produced before presentation to stakeholders (Ehren & Visscher, 2006; Scriven, 1991). To prevent this occurrence, Kyriakides and Campbell (2004) suggested that external evaluators offer concurrent or subsequent meta-evaluations to school self-studies. Other researchers noted the value in

requiring external evaluations prior to recognizing a school as improving (Coffey & Millsaps, 2004; Hofman, Dijkstra, & Hofman, 2009; Nevo, 2001).

Studies from other authors reveal a lack of certainty about improvement programs yielding positive results in practice (Anfara et al., 2006; Carnoy & Loeb, 2002; Linn & Haug, 2002). This literature raises questions about gaps in the school improvement knowledge base and demands more research that may bring about definite conclusions regarding development of effective schools. This study was designed to fulfill this demand by describing the impact of the NSSAP on teaching and student learning. Data provided by surveys, interviews, and school documents allowed school improvement goals and associated strategies implemented to achieve the goals to be identified. Teacher's participation in strategy implementation and any impact on student achievement were considered in an evaluation of the NSSAP in the sample schools.

Data Collection Methods

Data collected for this study provided information to answer research questions regarding the nature of the improvement goals set, the strategies educators identified and implemented in classrooms in response to the goals, and any impact on student achievement as indicated by assessment tools or teachers. Three accredited secondary schools in one Nova Scotia school board (referred to as School A, School B, and School C), all of which had implemented the NSSAP for five years prior to receiving accreditation, participated in this concurrent embedded mixed methods multiple case study. When this study was conducted, neither School A nor B was officially involved in the accreditation process as School A had received accreditation five months prior to participating in the study and School B was accredited three months prior.

However, School C, a pilot school for the NSSAP, was just beginning a second round of the program, having been first accredited three years prior.

All three sample schools were small rural schools of similar size and housed students from Grades 7 to 12. The schools served areas where jobs were primarily agrarian or industrial in nature, so the socioeconomic status of the majority of students was similar as well. For each school, quantitative survey data were collected on the same day as the qualitative case study data. Responses from the majority of teachers in each sample school were reflected in quantitative data while case study information (documents and interviews) offered more detailed insight from fewer sources to build upon survey results.

Quantitative Data Collection

All teachers from each sample school were asked to complete a survey during a staff meeting. The survey (see Figure 1), a modified School Improvement Planning Process Survey (Anfara et al., 2006), included 15 Likert-response items that scored response to the NSSAP, specifically regarding perspectives about changes in teaching practice and perceived changes in student learning in response to the program. A total of 53 surveys for quantitative analysis were returned: 20 from School A, 18 from School B, and 15 from School C. This means that 83%, 82%, and 94%, respectively, of the teacher population in each school was sampled, so findings should be an accurate representation of opinions of the teaching staff. Descriptive statistics indicated that the variability of responses across schools was consistent and relatively low. When demographic information was considered, there were few differences in responses based on gender, years of teaching experience, or subject taught.

First, quantitative results were analyzed as pooled data from all three schools to offer a global view of the impact of the NSSAP across sample schools. Second, the results were analyzed within each sample school individually, and then similarities and differences among responses from all schools were considered. For each case, to determine whether significant differences existed among mean responses for low and high scoring survey items, a one-way analysis of variance (ANOVA) was completed. If the ANOVA revealed significant differences amongst items, Tukey's Honestly Significant Difference (HSD) post hoc test was conducted to compare individual items. All *p*-values were .05 for all statistical tests completed as part of this study.

Figure 1: Nova Scotia School Accreditation Program (NSSAP) Survey

The purpose of this survey is for you to share your views about the implementation of the Nova Scotia School Accreditation Program and related school improvement goals in your school, specifically how it has affected teaching practices and the academic achievement levels of students. Please rate each of the following items using the five-point scale: 1 (*not at all*), 2 (*hardly at all*), 3 (*moderate extent*), 4 (*very much*), or 5 (*to a great extent*).

1) I participate in implementation of the Nova Scotia School Accreditation Program (NSSAP) at my school.

2) The entire staff participates in implementation of the NSSAP.

3) It is evident that the NSSAP and related goals guide the decisions that are made at my school.

4) My school is following the NSSAP in daily practice.

5) Research-based strategies have been included as part of NSSAP goals in my school (i.e., practices that are supported by research and have positively affected student achievement).

6) The NSSAP goals and strategies are used in curriculum planning, instruction, and assessment.

7) Student achievement is regularly monitored and discussed by teachers.

8) I believe that strategies from the NSSAP are making a difference in student achievement.

9) The goals and strategies of the NSSAP are clearly communicated among the staff.

10) Professional development activities offered by my school are related to the targeted areas of the NSSAP.

11) The principal regularly discusses the NSSAP to keep the staff focused on its goals and strategies.

12) The principal and staff revisit and assess whether NSSAP goals are being met.

13) I frequently assess student learning in my classes.

14) The NSSAP is beneficial for student learning in my school.

15) The NSAAP is beneficial for teacher practice in my school.

PLEASE ALSO RESPOND TO THE FOLLOWING ITEMS:

Gender: M   F
Years of teaching experience:_____
Years of teaching experience in current school:_____
Subject you are currently teaching:_____
Area(s) of certification:_____

Qualitative Data Collection

Qualitative data were analyzed using case study methodology (Creswell, 2007). Each school was viewed as a case study. School documents that were analysed included internal evaluation reports, school improvement plans and associated strategies, annual reports to the superintendent, and final accreditation evaluation reports.

Four semi-structured, open-ended interviews were conducted at each school. Interviewees were required to have minimally two full years teaching experience in the sample school. Serendipitously, each school's participants included one accreditation co-chairperson and three teachers from at least two different disciplines.[1] The interview protocol (see Figure 2) was modeled after Clarke et al. (2003). Each approximately 40-minute interview was audio-recorded and transcribed, then analysed to offer additional insight into survey results. Within-case and cross-case analyses were completed to answer the research questions. Quantitative data were triangulated using interviews and document analysis. Document analysis also offered verification for interview claims.

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[1] While schools are expected to have two staff members serving as co-chairpersons to facilitate the accreditation process, there are no specific guidelines pertaining to selection of the co-chairpersons. This decision is made internally by the school staff.

Figure 2: Nova Scotia School Accreditation Program (NSSAP) Interview Protocol

The purpose of this interview is for you to share your views about the implementation of the Nova Scotia School Accreditation Program and related school improvement goals in your school, specifically how it has affected teaching practices and the academic achievement levels of students.

In what ways, if any, has the NSSAP and its related goals and strategies affected what you teach?

- What, if anything, have you added to or eliminated from your curricula in response to the NSSAP in your school? Explain your reasons for this action.
- When you assess students, describe what you change about what you teach, if anything, in response to the results.

In what ways, if any, has the NSSAP and its related goals and strategies affected how you teach?

- Has your school staff consulted the educational literature to determine best practices for increased student learning? Describe how you determined strategies for NSSAP goals.
- Do you feel a sense of responsibility for helping your school achieve NSSAP goals? Explain.
- Do you implement teaching strategies identified as part of your school NSSAP in your classroom teaching? If so, describe how.
- Outline the impact, if any, that the NSSAP has on the amount of preparation time required for your classes.
- Describe how the NSSAP has affected the way you assess your students, if at all.

In what ways, if any, has the NSSAP or its related goals and strategies affected the learning of your students?

- Describe how the NSSAP has affected student motivation to learn, if at all.
- Describe how the NSSAP has affected student morale, if at all.
- Describe how the NSSAP has affected student academic achievement, if at all.
- Describe how the NSSAP has affected additional academic support for students, if at all.
- Do NSSAP assessment or data collection practices at your school adequately and accurately reflect student learning? Explain.

Are there other questions or issues related to the NSSAP and its impact on teaching and student learning that you would like to discuss?

PLEASE ALSO RESPOND TO THE FOLLOWING ITEMS:

Gender: M   F
Years of teaching experience:_____
Years of teaching experience in current school:_____
Subject you are currently teaching:_____
Area(s) of certification:_____

Quantitative Survey Results

When survey results from all 53 teachers were pooled, at least 90% of participants selected 3 (*moderate extent*) or greater in response to all survey items. Likert Selection 4 (*very much*) was chosen most commonly on all items. The remaining 10% of responses were primarily Selection 2 (*hardly at all*). In fact, when mean response was calculated for survey items (see Appendix A, Table), the lowest scoring item rated higher than Selection 3 (*moderate extent*), indicating that teachers perceived that the NSSAP did impact teaching and student learning in sample schools.

However, further data analysis seems to distinguish how effectively a school emphasizes the NSSAP from the efficiency with which program strategies are implemented in classrooms. Data combined across schools showed that the three lowest scoring survey items were Items 4, 6, and 8. These questions related to the use of the NSSAP goals and strategies in daily classroom practice and any resulting impact on student achievement. The highest scoring survey items were Items 9, 10, 11, and 13. The first three items addressed clarity and frequency of communication about the NSSAP within the schools, as well as professional development activities offered in response to NSSAP target areas. The final item pertained to the frequency of assessment of student learning by teachers. An ANOVA revealed significant differences amongst mean scores for survey items ($F(14, 706) = 4.892$, $p < .001$, $\eta^2 = .088$), and Tukey's HSD identified significant differences between each of the lowest and highest scoring survey items with the exception of Items 8 and 9 ($p = .080$).

To see whether a similar discrepancy existed between the school's drive for implementation of the NSSAP and the use of NSSAP goals and strategies in classroom instruction and assessment across all three sample schools, quantitative results were considered

within each sample school. Mean survey responses for each sample school are presented in Figure 3.

One-way ANOVA tests indicated statistically significant differences in mean responses for survey items within each school (School A: $F(14, 286) = 2.487$, $p = 0.002$, $\eta^2 = .109$; School B: $F(14, 253) = 2.958$, $p < .000$, $\eta^2 = .142$; School C: $F(14, 208) = 2.983$, $p < .000$, $\eta^2 = .167$). Upon comparison of individual survey items, these results showed that, across sample schools, more significant changes have been associated with school focus and organization than individual teacher classroom practices or student achievement. Higher scoring items in School A were 1, 2, 7, 9, 11, and 13 whereas lower scoring items were 5 and 6. Teachers in School B scored Items 3, 7, and 9 through 13 higher than Items 1, 4, 6, and 8. Similarly, in School C, the highest scoring items were 10, 11, and 13 while the lowest scoring items were 4 and 8. Tukey's HSD post hoc test identified significant differences amongst school responses for each item.

Teachers in School A usually provided the highest scoring survey responses, with the exception of Items 5, 6, and 10, when they made noticeably lower selections than staff in Schools B and C. These items indicate of the degree to which research-based strategies and professional development activities were included as part of the NSSAP, as well as use of the program in planning classroom instruction and assessment. Teachers in School C generally provided the lowest scoring responses. Of particular note is that survey participants in this school chose lower Likert selections than participants in the other two sample schools for the final two survey items relating to the benefit of the NSSAP for student learning and teacher practice. School B responses were most commonly more central, with the exception of Item 1, "I participate in implementation of the NSSAP at my school," for which School B participants offered the lowest score.
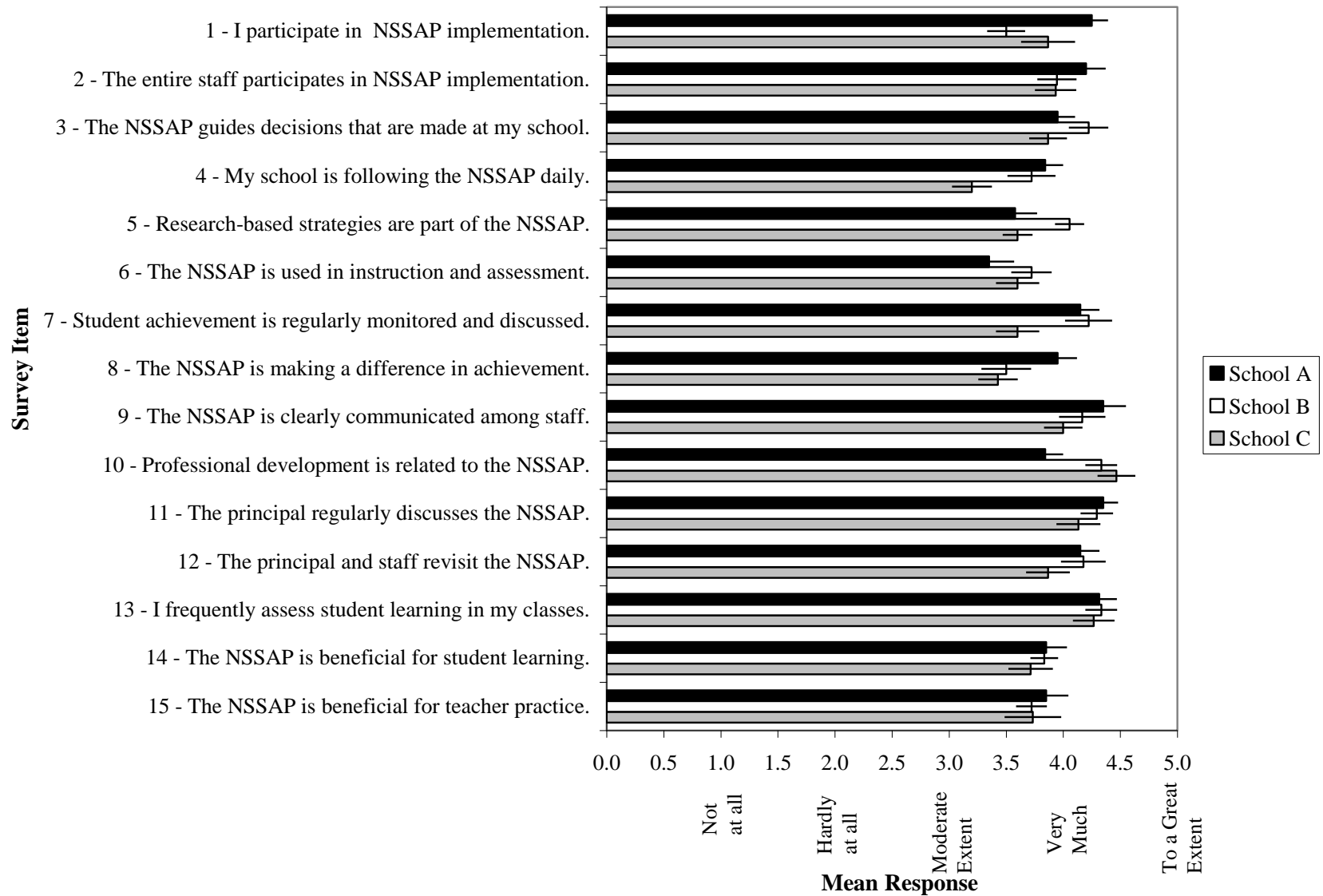
Figure 3. Mean Responses for Survey Items from Teachers in Each Sample School.

Tukey's HSD detected significant differences between School A and B for Item 1 ($p =$ .009), School A and C for Item 4 ($p = .048$), and School A and C for Item 10 ($p = .019$). These results indicate that staff in School A felt they participated in implementation of the NSSAP much more than teachers in School B, as well as followed the program in daily practice more faithfully than staff in School C, but were offered fewer professional development activities related to the targeted areas of the NSSAP.

Results from the analysis of quantitative data were combined with qualitative information from documents and interviews to provide further insight about NSSAP implementation and impact in each of the sample schools.

Qualitative Results and Discussion

Qualitative results supported trends observed in quantitative data, with one major exception: the NSSAP benefits for teaching and student learning were not the same across schools, as was indicated by mean survey scores. This suggests that strong leadership is the determining factor in the success of the NSSAP. This success level seems to relate to the administrator's degree of organization in their approach to program execution as well as the ability to offer distributed leadership by encouraging teacher leaders and PLCs to work to improve teaching and student achievement.

Teacher Participation in NSSAP Implementation

Schools may have been doing an effective job of discussing the NSSAP and emphasizing goals and strategies at an administrative level, but the program was not as prevalent in classroom teaching. Interview data revealed that this division between administrator and teacher practice

was greatest in School B: administrators and co-chairpersons in School B influenced

implementation of the NSSAP more strongly than administrators in either of the other two

sample schools, and in fact might have been more involved in program direction and execution

than teachers. One co-chairperson from School B offered the following comment, which implies

his belief in his power and control:

> I had control issues with the whole process. Everything ran through me as the co-chair…I established strategy teams and asked for chairs of the strategy teams, appointed chairs of the strategy teams. The staff really relied on me, and I, deep down, really wanted to determine what our schedule was, what would come up at a staff meeting, what PD sessions were going to be devoted to accreditation, how the day was going to run, what the expectations were. I typed up all the year end reports…I have a heightened sense of responsibility, not because we were successful, but if had we not been. (BM1, 738, 743–748, 751–753)[2]

When another interviewee was asked if she felt a sense of responsibility for helping School B

achieve NSSAP goals, she responded, "We gave our input and [school administrators] changed

things around" (BF3, 57), again pointing to the central role of the administrative staff in direction

of the program. One teacher noted his lack of involvement and detachment from the process:

> It seems like overall our school wasn't constantly involved as a whole. It seems like it was more the co-chairs kind of took on the workload and the rest of us were just sort of brought in as time goes on. We were kept informed regularly at every staff meeting about what was happening and timelines and what not, but I don't know that it's something that really positively affected the day to day teaching of everybody as a whole. (BM4, 585–589)

It seems that educators wanted to be involved in the school improvement process. This

was also evident in School C, where a teacher indicated concern that only vocal individuals had

their views heard and it may have been only these ideas that directed the accreditation process.

Her second concern was: "… is it an administration agenda, like is it driven by administration? I

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[2] The following coding methodology was used for interview quotations: the first letter, A, B, or C, represents the interviewee's school; the second letter, M or F, indicates whether the interviewee was male or female; the number, 1, 2, 3, or 4, is a randomly assigned interviewee number. The final numbers are the line(s) from which the quotation was taken from transcribed data.

think to a certain point it is in that there's a desire from the administration in where we need to go" (CF2, 1030-1033). Leading teachers to believe they have authority in NSSAP development and implementation and then undermining this influence by pushing an alternative agenda indicates that the program might be political in nature.

Teachers who felt that their input in the NSSAP was reduced or undermined seemed more pessimistic than those who were actively involved. This suggested that giving teachers a high degree of responsibility would promote achievement of accreditation goals. An interviewee in School A noted that, "if you feel you have a vested interest in something, you're going to work harder on it and you're going to be successful" (AM4, 1149–1150). Indeed, all teachers in School A, which was the most improved sample school according to the data, were active members of specific teams responsible for writing and implementing NSSAP strategies for a particular goal. Clearly, School A's administrative team welcomed their staff's input more than administrators in Schools B and C, thereby facilitating achievement of goals.

This study exemplifies the importance of teacher participation in the change process: when PLC work and shared leadership were common practices as in School A, more positive teacher attitudes (and greater improvements in student performance) resulted. This confirms findings presented in the effective schools research literature.

Achievement of Academic NSSAP Goals in Sample Schools

All three schools had at least one required academic goal along with non-academic goals. Ultimately, all goals should either directly or indirectly impact student learning and achievement. Ironically, despite the fact that all three schools were accredited at the end of the NSSAP process, only one met the academic goal as proclaimed. A summary of each sample school's

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academic goal(s), the strategies implemented to achieve the goal(s), and school performance relative to the goal(s) is provided in Appendix B, Table.

School B set a goal to improve student performance in mathematics by 5%. Because the school was accredited, it might be assumed this goal was met. This assumption was echoed by one interviewee: "I guess that, based on our results, we met our goal" (BM4, 556). Undoubtedly, a variety of administrative-level changes were implemented with the mathematics goal in mind, but student results presented in final accreditation documents did not clearly show a 5% increase. Course marks for 15 mathematics courses were presented, and marks decreased in seven of these over the accreditation period. When all the courses were considered together, calculations showed that marks went up school-wide, but not by 5%.

One interviewee noted that, while many course marks went down, they were a more accurate reflection of student knowledge of curriculum outcomes because teaching and assessment methods improved as a result of the NSSAP. On surveys, teachers in School B did indicate that the NSSAP had been beneficial for their practice. However, when junior high math assessments representative of curriculum outcomes at particular grade levels were administered, most students failed in most math strands. Further, a mathematics teacher identified professional development opportunities offered in School B as technology- and language arts-based, but did not mention mathematics. No interviewee referred to teaching strategies specifically directed to mathematics achievement. Ultimately, School B did not achieve its stated academic goal.

Data collected in this section of the study are contradictory: on surveys, teachers indicated that the NSSAP was beneficial for student learning, but the academic goal was not met. Interviewees claimed that the data collection practices in the school appropriately represented student learning, so it was not expected that teachers saw changes in their classrooms that were

not reflected by assessment tools. It is possible that teachers were reporting on small improvements in student learning (less than 5% as measured by assessment tools). Perhaps the control of NSSAP implementation by the administration influenced responses because uninvolved teachers might have assumed that other staff in the school participated in the program more fully and therefore reported that the NSSAP was beneficial "in my school" (Figure 1, Items 14 and 15).

School C adopted two academic goals during the accreditation process, intended to increase student performance by 15% and 10% in language arts and mathematics, respectively. Neither of these goals was achieved. There were modest increases in academic achievement, with language arts work improving more than mathematics. This might have been because, according to one interviewee, "We focused so much on literacy that I can't even remember doing much of the math" (CF4, 385–386). Further, a mathematics teacher who was interviewed discussed implementation of language arts in the classroom, requiring students to write out justification for mathematical solutions, but only identified weekly quizzes as a new math strategy employed. The school acknowledged these weaknesses in academic growth in the final accreditation evaluation report, and then focused on the strategies that were implemented to increase student performance. Despite the obvious failure to achieve goals as written, School C was accredited.

The results in School C confirm the importance of setting a small number of specific goals in school improvement efforts (Fullan, 2001; Harris, 2003; Lezotte & McKee, 2006; Lindstorm & Speck, 2004). Given the strong focus on literacy, it is not surprising that student performance improved more in language arts than mathematics. Such an emphasis on one academic area can result in the exclusion of others, particularly without a clear plan for

improvement or an annual review of progress towards achieving goals, which would allow attention in all relevant areas to be more easily sustained.

By contrast, the sole academic goal set by School A was to improve senior high mathematics achievement by 5%. Students and staff surpassed this goal: mean grades for both course marks and provincial examinations in mathematics increased more than 5% above baseline data. Interviewees attributed the improvement to changes in mathematics teaching strategies arising as the result of PLCs.

NSSAP Strategy Identification and Implementation

Because only certain NSSAP strategies impact teaching and student learning and achievement, the methods employed by each school when attempting to attain its academic goals merit discussion (see summary in Appendix B). Generally, Schools B and C administrators arranged for school-wide changes or the provision of targeted professional development activities for teachers and then encouraged them to implement the suggested best practices in their classrooms, but teachers were not held directly accountable for use of the strategies. Teachers in School A worked together in PLC groups to develop and implement strategies for goal achievement.

In School B, there were some changes in teaching techniques, including increased use of rubrics so that students clearly understood assignment expectations before completing work and more group projects to ease the transition from junior to senior high courses. However, changes in teacher practice were limited. As one interviewee said, "I guess we didn't really spend a whole lot of time talking about teaching strategies when it came to accreditation" (BM4, 494–495). Most of the changes implemented were mandated by administration at a school-wide level. For

example, common preparation time was arranged for math teachers and full year courses were introduced to provide students with more time for learning math concepts. Standard math assessments were designed and completed by students for each junior high grade level each year, and results were tracked. Weak students were encouraged to attend extra help sessions, all homework was posted on K-12 Planet[3], and those who did not submit assignments were required to attend the homework lunch program to complete the work. Despite these changes, School B did not attain its mathematics goal as written.

Arguably, these school-wide changes do very little to improve student understanding of academic topics. If students do not know how to complete an assignment, sending them to the homework lunch program will not mean they learn or retain concepts from the exercise. Only those students who attended extra help sessions would have benefited, and it is unlikely that the lowest achievers or the least motivated students sought extra help. Changing school structures, the main approach used by School B in NSSAP strategy implementation, does not necessarily improve teaching (Harris, 2003) or student learning. This speaks to the need to change teacher practices in the classroom if student achievement is to improve (Danielson, 2002; Fullan, Hill, & Crévola, 2006; Harris, 2003; Reeves, 2004).

Like School B, the staff in School C set a mathematics goal that was not achieved. NSSAP documents did not indicate that there was a focus on changing teacher practice in the mathematics classroom. Teacher efforts in School C focused primarily on constructing lists of mathematics resources available in the school, offering a math night for parents to learn about mathematics expectations in schools, and recommending students to appropriate courses. It

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[3] K-12 Planet is a website that allows schools to post grades, homework, test and assignment dates, and attendance information for each student. Parents and students are able to access these records from any computer using a login and password.

seems that only the latter may have had an appreciable impact on student achievement because it might have influenced classroom composition or individual student performance. Finally, the school made a concerted effort to focus on supporting struggling students via a homework lunch program and timetabling to deliver full-year courses.

On the other hand, professional development related to literacy across the curriculum was pervasive. All teachers were expected to incorporate appropriate mini-lessons into their respective curricular areas. As one interviewee explained: "We focused a lot on reading strategies, so every time we opened a text book you do a little quick mini-lesson on some of the ways of reading. Picking out important information and that kind of stuff" (CF4, 350–353). A language arts teacher indicated that the in-servicing forced her to rely more heavily on explicit instruction and modeling as well as student-developed rubrics so the students could better understand what type of work they were expected to produce. Even a mathematics teacher described the type of writing activity she implemented in her classroom. It makes sense that there was more progress towards achieving the language arts goal than the math goal because of the focus on changing classroom practice.

The staff in School A participated in few school-wide professional development activities. Rather, they were expected to work together in PLC groups to design and implement accreditation strategies. One interviewee stated that the mathematics group, the main reason for math improvement, would not have existed had it not been for the accreditation program: "We never ever really sat around as a group of math teachers and talked about how we assessed our kids. This kind of forced us to" (AF1, 590–591).

The mathematics group met every two weeks to discuss best practices presented in math workshops or educational literature and review individual student strengths and weaknesses.

Reporting back to peers about successes and failures with new teaching strategies required

teacher accountability while working to meet NSSAP goals, an element that was lacking in

School B and C. Further, School A teachers were the only interviewees to note the importance of

explicit instruction and providing students with the opportunity to learn and practice material

prior to submitting assignments for grading. This was described by one interviewee as making

the work fairer for students by providing more legitimate chances for success.

Such an approach to school improvement is advocated by the effective schools research

literature. Through shared leadership and collaboration, teachers considered student strengths

and weaknesses and changed their classroom practice to support increased student achievement.

Teachers in School A were also the most positive about the NSSAP in general and seemed the

least overwhelmed by the process.

Finally, it should be noted that School A, which had the highest scoring survey responses

and the clearest increases in student achievement, had the fewest number of NSSAP strategies

written in the most straightforward manner, as well as the most readable final accreditation

evaluation report. On the other hand, School B's documentation was more difficult to read and

interpret and offered few concise summaries of accomplishments. Documents indicated that

teachers felt overwhelmed by the process and worried about their ability to achieve goals. School

C had the lowest scoring survey results, and every interviewee provided comments about the

amount of additional time required because of meetings and classroom preparation in response to

the NSSAP "on top of everything else that they're trying to do" (CF3, 311–312).

The differences between sample schools highlight the value of a direct and streamlined

focus on few SMART goals and strategies so that teachers do not feel overwhelmed and resist

change as a result. Allowing teachers to work within a particular PLC group rather than using

whole staff in-servicing to communicate best practices seems to be more effective in promoting

teacher involvement and accountability for student improvement (DuFour & Eaker, 1998;

Schmoker, 2006).

Accountability for Teaching and Student Learning

The overwhelming conclusion from interviewees was that the most valuable aspect of the

NSSAP for teaching and student learning was the involvement of the external evaluation team

and the associated accountability element, which the research literature does note as an important

feature of school self-evaluation programs. One interviewee in School A commented:

> I think that most teachers at this school feel like it's the best thing that ever
> happened to this school. In this program, you had to make things happen. And
> there's so many things going on in schools that you could have easily let it slide if
> there wasn't the accountability part to it. (AF2, 286–289)

Appreciation of the accountability element of the NSSAP was also noted in School C:

> I guess that's just good practice, but maybe if you didn't have the accreditation
> there as being an overall external eye examining what you're doing, maybe you
> wouldn't worry quite so much about it. It has the same kind of adding a little extra
> pressure as the provincial exams would. (CF1, 1295–1298)

One School B interviewee stated: "I don't think anybody can honestly say that the process of

going through accreditation is a bad thing" (BM2, 385–386). Another commented further: "I

think it's a good program because it really makes us see what things we need to change in our

school and how we can go about it" (BF3, 148–149).

It does seem that teacher attitudes towards the NSSAP and associated change are

positive. In each sample school, the program had been ongoing for five years, which is nearly the

six years that Fullan (2001) indicates is necessary for implementation of change in a secondary

school. Teacher attitudes revealed in this study suggest that the desire for improvement is

becoming part of the school culture. Despite this reaction, the finding from this section is puzzling. While teachers in the sample schools implied that the process of accreditation accounts for school improvement, the results presented in the NSSAP documents would challenge such a conclusion: in two out of the three sample schools, the academic goals were not reached. However, these schools were accredited by the province. It may be that the province will accept small improvements alone for accreditation or that the non-academic goals carry significant weight as part of the process. Since there are no specific published requirements a school must meet to achieve accredited status, the credibility of the program could be questioned.

Final Conclusions and Recommendations

At least 90% of survey respondents in this study indicated that the NSSAP was beneficial, indicating that it is a theoretically sound program with the potential to result in significant school improvement in teaching and student achievement if implemented in a particular manner under certain conditions. Indeed, based on research literature focused on creating the capacity for change in schools, this conclusion might have been expected: externally developed programs applied to individual school settings have resulted in the most successful school improvement efforts (Beach & Lindahl, 2004). In fact, the findings from this study confirm the current research literature surrounding effective schools and school improvement as well as suggest that the NSSAP, if implemented in its ideal form, could be used as a model to develop an improving school. However, this study indicates that the administration of the program suffers from two major shortcomings. First, the NSSAP was not consistently implemented among the three schools in its ideal form, limiting its success. Second, two of the three schools were accredited without meeting accreditation goals, thus devaluing the program's

intentions and suggesting that, in these two cases, the NSSAP exists as a self-fulfilling prophecy. Based on this study's conclusions, the following recommendations are offered.

First, administrators must ensure that the NSSAP is implemented in its mandated fashion, with PLC structure and teacher participation as integral components. In short, after providing time for the staff to examine and interpret the data arising from the initial external school review and the subsequent collaborative setting of SMART goals, an administrator should work with the staff to organize the necessary number of PLC groups. In such groups, each teacher team is responsible for one main task, ensuring accountability for the assignment. Allowing teachers to focus on and achieve a particular task would promote success while hopefully preventing teachers from feeling overwhelmed. This approach would ensure that the program was being implemented according to recommendations from the research literature concerning creating the capacity for change and effective schools.

Second, it must be questioned whether schools should be accredited if they do not meet the stated NSSAP goals. While survey responses from teachers indicated that the NSSAP was beneficial for teaching and student learning, schools failed to meet academic goals as written. Perhaps this was the result of teachers noting changes in their classrooms that were not reflected by assessment tools used as part of the process, or perhaps this was a response that school administrators had encouraged teachers to provide in discussions with external evaluators during the accreditation review process to ensure that accredited status was received. It might also be suggested that, because it is mandated from the Nova Scotia Department of Education that all schools are responsible for participating in the NSSAP, perhaps the external evaluation team, as the evaluating agent for the Department of Education, is intentionally less critical of each schools' NSSAP results than it should be during execution of the final accreditation evaluation

review. While this might help ensure that a school receives accredited status, it undermines the accountability element of the program because actual improvement as planned is of no significance.

If authentic school improvement for the betterment of the students is the mandated purpose of the NSSAP, the accreditation program should be followed in its intended form, with a more truthful critical external review and evaluation of a school's actual strengths and weaknesses throughout the process. Perhaps schools should be evaluated along a scale of achievement such as proficient, satisfactory, and needs improvement. This would effectively distinguish successful schools from those that were less effective (for example, School A from Schools B and C in this study). It would seem that if this was instigated, the NSSAP would be effective, and not a self-fulfilling prophecy. To create this situation, the mandate of the external evaluation team needs to be reviewed along with its use of both quantitative and qualitative data and data collection instruments.

It is hoped that an effective school is a school that is always improving by consistently evaluating pedagogy, teachers, and long-term educational goals. The NSSAP, a costly venture involving many participants and support resources, is one vehicle for this ongoing evaluation to be administered. In many cases, during the five-year NSSAP process, there are numerous teacher and administrator changes, as was noted in the three schools in this study. Is it logical to assume that the goals and strategies associated with the NSSAP can be successfully administered by a school administration that was not part of the original accreditation team? If the NSSAP initiates authentic changes to school culture due to the promotion of distributed leadership, staff turnover should have little impact on program success. However, it has been found that periodic dips in school performance have occurred when there has been staff turnover (Leithwood et al., 2010).

Again, this raises questions about whether this school improvement program is being implemented in its mandated fashion. As well, if some schools (B and C, for example) are accredited without fulfilling their goals, is the NSSAP a worthwhile program? As the situation currently stands, there are validity questions regarding the entire accreditation program. Is accreditation in Schools B and C, which did not meet their goals, the same as accreditation in School A, which did? Is the associated process more important than the product of the NSSAP?

This initial study shows that there are many issues left to be explored when considering the value of the NSSAP in Nova Scotia schools. Further studies using a much larger sample group should be conducted. This work has the potential to be used as a model for such a provincial level study, which may provide more insight into the questions arising from this study.

References

Anfara, V. A., Jr., Patterson, F., Buehler, A., & Gearity, B. (2006). School improvement planning in East Tennessee middle schools: A content analysis and perceptions study. *NASSP Bulletin, 90*, 277–300.

Beach, R. H., & Lindahl, R. (2004). Identifying the knowledge base for school improvement. *Planning and Changing, 35*, 2–32.

Carnoy, M., & Loeb, S. (2002). Does external accountability affect student outcomes? A cross-state analysis. *Educational Evaluation and Policy Analysis*, *24*, 305–331.

Clarke, M., Shore, A., Rhoades, K., Abrams, L., Miao, J., & Li, J. (2003). *Perceived effects of state-mandated testing programs on teaching and learning: Findings from interviews with educators in low-, medium-, and high-stakes states.* Chestnut Hill, MA: National Board on Educational Testing and Public Policy.

Coffey, K. R., & Millsaps, E. M. (2004). *A handbook to guide educational institutions through the accreditation process: The ABCs of accreditation.* Lewiston, UK: Edwin Mellen.

Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA: Sage.

Crum, K. S., & Sherman, W. H. (2008). Facilitating high achievement: High school principals' reflections on their successful leadership practices. *Journal of Educational Administration, 46*, 562–580.

Danielson, C. (2002). *Enhancing student achievement: A framework for school improvement.* Alexandria, VA: Association for Supervision and Curriculum Development.

Danielson, C. (2006). *Teacher leadership that strengthens professional practice.* Alexandria, VA: Association for Supervision and Curriculum Development.

DuFour, R., & Eaker, R. (1998). *Professional learning communities at work: Best practices for enhancing student achievement.* Bloomington, IN: Solution Tree.

Elmore, R. (1996). Getting to scale with good educational practice. *Harvard Educational Review, 66*, 287–309.

Ehren, M. C. M., & Visscher, A. J. (2006). Towards a theory on the impact of school inspections. *British Journal of Educational Studies*, *54*, 51–72.

Frost, D., Durrant, J., Head, M., & Holden, G. (2000). *Teacher-led school improvement.* Toronto: Routledge Falmer.

Fullan, M. (2001). *Leading in a culture of change.* San Francisco: Jossey-Bass.

Fullan, M., Hill, P., & Crévola, C. (2006). *Breakthrough.* Thousand Oaks, CA: Corwin.

Harris, A. (2001). *School improvement: What's in it for schools?* New York: Routledge Falmer.

Harris, A. (2003). Behind the classroom door: The challenge of organizational and pedagogical change. *Journal of Educational Change, 4*, 369–382.

Hofman, R. H., Dijkstra, N. J., & Hofman, W. H. A. (2009). School self-evaluation and student achievement. *School Effectiveness and School Improvement, 20*, 47–68.

Joyce, B. (2004). How are professional learning communities created? *Phi Delta Kappan, 86*, 76–83.

Kyriakides, L., & Campbell, R. J. (2004). School self-evaluation and school improvement: A critique of values and procedures. *Studies in Educational Evaluation, 30*(1), 23–36.

Lambert, L. (2003). *Leadership capacity for lasting school improvement.* Alexandria, VA: Association for Supervision and Curriculum Development.

Leithwood, K., Harris, A., & Strauss, T. (2010). *Leading school turnaround: How successful leaders transform low-performing schools.* San Francisco: Jossey-Bass.

Leithwood, K., Steinach, R., & Jantzi, D. (2002). School leadership and teachers' motivation to implement accountability practices. *Educational Administration Quarterly, 38*, 94–119.

Lezotte, L. W., & McKee, K. M. (2006). *Stepping up: Leading the charge to improve our schools.* Okemos, MI: Effective Schools Products.

Lindstorm, P. H., & Speck, M. (2004). *The principal as professional development leader*. Thousand Oaks, CA: Corwin.

Linn, R. L., & Haug, C. (2002). Stability of school-building accountability scores and gains. *Educational Evaluation and Policy Analysis, 24*, 29–36.

Marzano, R. J. (2003). *What works in schools: Translating research into action.* Alexandria, VA: Association for Supervision and Curriculum Development.

Nevo, D. (2001). School evaluation: Internal or external? *Studies in School Evaluation, 27,* 95–106.

Nova Scotia Department of Education. (2007). *Nova Scotia school accreditation: Information for participating schools*. Halifax: Author.

Nova Scotia Department of Education. (2009). *Nova Scotia school accreditation: A handbook for accreditation schools.* Halifax: Author.

O'Neill, J., & Conzemius, A. (2006). *The power of SMART goals: Using goals to improve student learning.* Bloomington, IN: Solution Tree.

Reeves, D. B. (2004). *Accountability for learning: How teachers and school leaders can take charge.* Alexandria, VA: Association for Supervision and Curriculum Development.

Schmoker, M. (1999). *Results: The key to continuous school improvement* (2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

Schmoker, M. (2006). *Results now: How we can achieve unprecedented improvements in teaching and learning.* Alexandria, VA: Association for Supervision and Curriculum Development.

Scriven, M. (1991). *Evaluation thesaurus* (4th ed.). Newbury Park, CA: Sage.

Tschannen-Moran, M., Parish, J., & DiPaola, M. F. (2006). School climate and state standards: How interpersonal relationships influence student achievement. *Journal of School Leadership, 16*, 386–415.

Appendix A

Table

Survey Results Summarized to Include the Mean (M), Standard Deviation (SD), and Standard

Error of the Mean (SEM) for all Schools Combined

Survey Item	*M*	*SD*	*SEM*
1	3.89	.800	.110
2	4.04	.733	.101
3	4.02	.693	.095
4	3.62	.796	.110
5	3.75	.682	.095
6	3.55	.845	.116
7	4.02	.820	.113
8	3.65	.814	.113
9	4.13	.810	.111
10	4.19	.687	.095
11	4.27	.630	.087
12	4.08	.763	.106
13	4.31	.643	.089
14	3.81	.687	.095
15	3.77	.800	.110

Appendix B

Table

The Academic Goal(s), Strategies Implemented to Achieve the Goal(s), and Performance

Relative to the Goal(s) as part of the NSSAP in Each Sample School

School	Academic goal(s)	Strategies implemented	Outcome
A	improve senior high mathematics achievement by 5%	• bi-weekly PLC meetings of all math teachers, which included discussion of student strengths and weaknesses, diverse teaching strategies, and assessment techniques	surpassed goal
B	improve student performance in mathematics by 5%	• targeted professional development activities (none specific to math) • common preparation time for math teachers • additional extra help time and homework lunch program for students • design of standardized math assessment tools for use in the school • K-12 Planet to communicate with parents	did not meet goal (performance increased, but not by 5%)
C	increase student performance by 15% and 10% in language arts and mathematics, respectively	• targeted professional development activities (focused on literacy across the curriculum) • ensured that students enrolled in appropriate math courses • homework lunch program for students • provided full year math courses • constructed lists of math resources in school • math night for parents to learn about expectations for students	did not meet goals (modest increases in performance, with language arts improving more than math)