

Teachers' and Students' Perceptions of the Nature and Impact of Large-Scale Reforms

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Abstract

The goal of this study was to examine how and to what extent Ontario secondary teachers have implemented educational reforms that had a direct impact on students, teachers, and the curriculum. The survey concluded that secondary school teachers at randomly selected Ontario secondary schools were overworked, lacked in-service professional development, resources, and support. This situation impacted curriculum planning, teaching, student evaluation, reporting, technology, and the delivery of special education programs. Yet, teachers were able to make changes that supported the reforms even though changes required more time, effort, and new knowledge in the areas of assessment and the integration of technology.

Introduction

Ontario rapidly introduced large-scale reforms in its secondary schools in 1997 following rushed legislation and the completion of the Royal Commission on Learning in 1994. The planned reforms were to be phased into schools beginning in 1997 with Grade 7 students in order to prepare them for the new Ontario Secondary School (OSS) program that they would encounter in 1999 when they began Grade 9. The introduction of the new OSS curriculum was to be phased in over a period of years with full implementation in place by 2003. The reforms had both negative and positive impact on almost every facet of the management and delivery of education. For instance, “in the fall of 1997, teachers made their concerns known by engaging in a two-week work stoppage. The 126,000 Ontario teachers and their Principals walked off the job in the largest teachers’ strike ever in North America” (Majhanovich, 2002, p. 163).

The actions of the educators and the government were not unique to North America, however. According to Hargreaves, Earl, Moore & Manning (2001), “Ontario’s reforms bear a striking similarity to initiatives in other Anglo-Saxon countries” (p. 8). Each country generally introduced policies that transferred power from local school districts to parents and schools, new standards were introduced, standardized testing was implemented, an enhanced focus on literacy and numeracy was delivered, central governments retained tight control through prescribed curricula and funding, and the use of rubrics and aligned indicators in the name of accountability were observed (Earl et al., 2002). Across these reform contexts, teachers in other countries such as New Zealand, the United States of America, England and Canada (Ontario & Alberta) initially reported feeling overwhelmed and under-supported (Helsby, 1999; Lasky & Sutherland, 1999; Soucek & Pannu, 1996; Taylor, 1997).

Teachers play key roles in education reforms as the agents of change that work directly with students. As Fullan (1996) explains, “We need to first focus on how teachers make sense of the mandates and policies because there will be no educational reform until after teachers interpret the policies and make decisions based on their beliefs about the new demands” (p. 12). Years 1 to 3 of this longitudinal study investigated teachers' perceptions of the reforms only. It is understandable that these same reforms had a major impact on students as well, some of them

direct, and some mediated by the reactions of teachers (Earl et al. 2002). Fullan & Stiegelbauer (1991) stated, "Educational change, above all, is a people-related phenomenon for each and every individual student, even little ones, are people too" (p. 28). They posed the question: "What would happen if we treated the student as someone whose opinion mattered in the introduction and implementation of reform in schools?" (p. 170). This study draws attention to reforms that had direct impact on teachers and in turn on students via curriculum content, structure, teaching strategies, and how student learning is measured, assessed, and reported.

Theoretical Framework

Canadian provincial governments are consulting more often and moving faster to change policy and satisfy public demands (Levin, 2001). In some cases, for instance, education in Ontario, policy, practice, and the very system has been changing quickly to make it more accountable via assessment-results motivated change and "mirrors what has already transpired in other areas of the world driven by governments allied to a neo-liberal economic agenda" (Majhanovich, 2002, p. 164). Although it has occupied the attention of all citizens, parents and educators have most often acutely recognized that large-scale educational reform has proven elusive, frustrating, and problematic. According to Earl (2003), "neither external pressure nor initiatives within schools have resulted in widespread or sustainable change" (p. 12). Government-mandated curricula and policies have made little change in practice, while promising innovations have rarely moved beyond a few schools or classrooms (Elmore, 1996). This study has attempted to address Elmore and Earl's concern of whether teacher practices change in large-scale reforms. Literature suggests that these variations can be explained broadly, in terms of their influence on educators' motivation, capacity, and situation (Leithwood, Steinbach & Jantzi, 2000):

Motivation: Teachers are more likely to be motivated to change their practices when reform goals are consistent with their own goals and beliefs and when they feel that they are equipped to make the changes.

Capacity: Major educational reforms require teachers to think and act in different ways. Teachers must have an understanding of the reforms, content and pedagogical knowledge and

skills for significant changes.

Situation: Schools are not isolated. They exist in districts and in provinces, states or nations that influence how they work. These form the situation within which schools are attempting to implement the changes.

This study investigated teachers' motivation, capacity and situation in bringing about change within pedagogy and educational practice. Curriculum design, teaching strategies and student assessment through the eyes of students and teachers in schools that are experiencing large-scale secondary school reform in Ontario are also highlighted. This context proved ideal for a study of school change that considered the chain of activity occurring between policy and practice, and provides increased understanding of what happens under conditions of mandated reform.

Goals of the Study

The goals of this study were to investigate how secondary school teachers were implementing the educational reforms that had direct impact on students, curriculum planning, teaching strategies, student evaluation, reporting, and the delivery of special education programs. This study focused on the extent and degree of implementation of new requirements that centered on teaching strategies, integration of technology, and student assessment.

Literature Review

Within this last century, schools have been places of constant and steady bureaucratization which has led many educators to question their role. In the United States, for example, "...the most recent school reform movement, which traces its beginnings to the publication of the provocative 1983 report, *A Nation at Risk*, [indicates that] some teachers, administrators, and teacher educators are attempting to meet the challenge" (Dodd & Konzal, 1999, p. 41), by getting involved in policy discussions, research and decision making. In some parts of Canada, much of the same situation has occurred; for instance, with the introduction of the Ontario Secondary School Reforms in 1997, following the Royal Commission on Learning in 1994, came

researchers such as Earl and Smaller (2000), Hargreaves (2000, 2001), and Earl (2000, 2002, 2003) who examined aspects of the breadth, width and depth of change within the educational systems in Ontario. Results of their inquiries that are of interest to this study include:

1. A 1999 survey funded by Ontario Secondary School Teachers Federation (Earl and Smaller et al., 2000) that was conducted to ascertain how secondary teachers were affected by the reforms. Results indicated that teachers overwhelmingly opposed the centralisation of government decision-making powers, elimination of five professional development days, and increasing classroom teaching hours. A further four mandates found opposition from slightly over half of all respondents were: student testing, new curriculum, changes in class size, and provincial control of local educational spending (Lasky, Moore & Sutherland, 2001).
2. Part II of the above OSSTF-funded study focused on administrators' and teachers' experiences of the reform in six secondary schools in one Ontario district. Teachers' responses to open-ended survey questions were consistent with the above study. A critical issue for large majorities of teachers was lack of time to prepare lessons, to learn the new curriculum, and to collaborate with colleagues. Inadequate resources were reported as the other primary obstacle to implementation of reform. (Lasky, Moore and Sutherland, 2001)
3. A follow-up qualitative study of the above study was conducted in 2001 with a focus group of staff and students in six secondary schools in five school districts. Respondents were asked open-ended survey questions. Teachers felt that the new curriculum was too demanding for students. Some of these students were not being served by the curriculum changes and were in danger of dropping out. New assessment requirements and the provincial report cards were seen to be time-consuming and didn't make sense to many teachers. Support for changes (resources and professional development) were inadequate. (Earl et al. 2002)
4. A Double Cohort Study funded by Ontario Ministry of Education was performed by King (2002). Phase 2 of study has two main purposes: (1) to estimate the magnitude of the double cohort, and (2) to examine the implementation of aspects of the education reform and its effect on students. The study involves a trace of students enrolled in Grade 9 in Ontario secondary

schools in 1998 through an analysis of their marks, credits obtained and responses to surveys administered. The survey was based on a sample of 49,796 students from 133 schools in 58 districts. Highlights of King's study include:

- i. Approximately three-quarters of the new cohort students taking academic courses (high-streamed) in Grade 10 are planning to attend university.
- ii. The mark distributions for students taking Grade 10 Academic courses in the new and old cohorts respectively were similar. However, OSS (new curriculum) students were obtaining lower marks than OSIS (old curriculum) students.
- iii. King's study predicts a substantial decline in graduation rates for OSS students, especially for students taking applied courses (low-streamed). Failure rates and low marks are quite prominent in applied courses in Grades 9 and 10, especially in Math. Ironically, one of the reasons for the current reform was the lack of success in terms of graduation rates for students taking General level courses under OSIS.
- iv. High failure rates (30%) on the Literacy Test (one requirement for graduation) will create an additional burden for 'at-risk' students already at risk of not graduating.

Each one of these investigations provided insight and new knowledge yet only one investigation considered student perceptions within a limited number of six secondary schools. Our current study was complementary to the efforts Earl et al. 2002, as we examined how and to what extent Ontario secondary teachers have implemented educational reforms that had direct impact on students, teachers, and the curriculum.

To investigate and actually read the responses of teachers and students to a new curriculum is a necessary and essential step in the evolution of any educational system. Student perceptions are a vital element within education as students and teachers experience the new curriculum each day. Together, teachers and students form a partnership at the secondary level and it is this dualism that needs attention. Past studies have surveyed teachers, one half of the partnership; however,

until student perceptions are included, a study may only capture one-side of the reality.

Ontario education overall has changed dramatically in the past decade, due to provincial government legislation, largely Bill 160, which has produced many critical responses. For instance:

The Ontario curriculum, unfortunately, is very much like those of many other jurisdictions. All students are expected to follow the same curriculum, one that urges coverage of a blizzard of specific ‘expectations’ – almost 4,000 for students . . . an average of 500 per year. This means students are learning a little about a lot of different subject areas – it is rote learning, emphasizing coverage rather than understanding the ‘mile wide, inch deep’ curriculum is coupled with an emphasis on testing This kind of curriculum is not the most efficient or most effective means for developing basic skills. (McAdie & Leithwood, 2005, p. 19)

Indeed, the results of many changes in Ontario are merely images of what has occurred in other provinces in Canada and this same event has been going on for two decades in the western world. (Majhanovich, 2002) The changes are many, and include new curricula (course outlines), literacy testing in grade 10 where 30% failed in 2000, centralized funding (delocalization) which meant fewer support staff and specialist teachers, class average-size limitations (audit revealed numbers had increased in classes), removal of administrators from teacher unions, reduced preparation time, increased teaching load, amalgamation of Boards to reduce administration, and an emphasis on results-based curriculum via externally developed testing in grades 3,6,9, with reduced funding and increased school fundraising by stakeholders.

All of these changes and many more were meant to increase the quality of education. As noted earlier, at one-point teachers went on strike, yet before going on strike these teachers withdrew from extra-curricular activities and some even cancelled graduation activities. Surely, with these turbulent changes and events there will be an on-going need to examine current perceptions, stances and understandings in Ontario secondary schools. The need to investigate is viewed as a contribution to what exists in order to inform and enhance knowledge. This work may appear

predictable and redundant however; it is a validation of what has occurred in some secondary schools in Ontario recently and aims to supply another precise view.

Research Methods and Sources of Data

This survey research involved the use of coded administration (school A1, B2, C3) of mailed questionnaire surveys for teachers and students within randomly selected and coded sample schools. Major sources of data for this study were obtained from our Questionnaire for Teachers on the New Curriculum and Student Surveys. This brief survey package including cover letters, permission letters and explanatory notes, which were constructed and field tested in several randomly selected secondary schools to ensure that respondents understood and could complete all items as expected. Our test-retest method meant that refinements were made to all elements within the package, especially the questionnaire items in order to facilitate reading, interpretation, comprehension, and completion each time feedback was received from field-test respondents over a period of several months leading up to this inquiry. Upon reaching a target 'accuracy' completion rate of 80% indicating understanding and ease of completion (length, depth), the surveys were mailed out to twenty-five randomly selected teachers, and eight representative classes (Grades 9 to 12) who were selected from twelve randomly selected secondary schools in six randomly selected school districts across Ontario.

Written questionnaires were administered to sample teachers and students in January 2003. Unfortunately, due to labour unrest and negotiation problems, most teachers were on "work-to-rule" and our plans were impacted. Nonetheless, teachers from nine sample schools and students from five sample schools in four districts completed the questionnaires. Return rates for teacher and student respondents were 63% and 86% respectively. Questionnaires were administered to respondents in the randomly selected sample schools at the end of first semester which is also mid-year in non-semester schools.

Once the completed coded surveys were in-hand, surveys were read and a tally was completed that allowed us to develop percentages for closed question responses for each of the coded schools. Our open-ended items were scaled on a continuum from strongly disagree to agree.

These were also counted and the frequencies of the responses were then converted to descriptive data such as percentages during May of 2003.

Results

Following the administration of questionnaires in May 2003, the data were analyzed. It was realized that the "work-to-rule" secondary teacher's stance had also impacted our investigation. The result: teachers from nine sample schools and students from five sample schools in four districts completed the questionnaires. Return rates for teacher and student respondents were 63% and 86%, respectively, in the randomly selected sample schools. Our results were obtained at the conclusion of first semester in January 2003. Key findings included the following realizations:

Curriculum Planning:

- More than half the respondent teachers (63%) claimed that they spent more than 40 hours designing curriculum materials and constructing daily plans during the school year.
- A majority (>50%) claimed that they did not receive adequate support materials (56%) and in-service training (69%) for their OSS (new curriculum) courses. Textbooks were either non-existent or too few in numbers for the larger class sizes.
- Of the areas that needed increased levels of in-service training two stood out as essential and they were both assessment strategies (73%) and technology (40%). However, with decreased funding many of the specialists had been reassigned (gone from the school).

Teaching Strategies:

- Most (92%) of the respondent teachers claimed that they used a variety of teaching practices.

When asked the percentages of course hours they use a specific strategy, the following results

emerged:

- whole-class instruction clearly dominates (44.6%)
- group work/co-operative learning (14.8%)
- individualized instruction (12.5%)

When students were asked the same question, two strategies emerged:

- individualized work (67%)
- teacher lecturing (55%)

When compared with OSIS (previous curriculum) courses,

- teachers claimed that they used more computers/Internet (41%) and,
- individual/group projects (30%)

When students were asked which methods helped them learn the most, the answers were quite even. This implies that teachers should use a variety of teaching strategies; however, senior students have a slight preference for lecturing (25.3%) and individualized work (24.9%), whereas academic students (high-streamed) also prefer these two instructional modes in addition to class discussion, whereas applied students (low-streamed) prefer hands-on exercises (30.5%).

Integration of Technology:

Integration of technology is an important focus of the new curriculum. A majority of the teacher respondents (81%) claimed that they integrate technology into their courses. However, 63% of the students claimed that technology was never used.

Reasons why teachers were unable to use technology include lack of time, lack of access to computers, limited resources, and a scarcity of in-service training.

Classroom Management:

When compared with OSIS courses, 33% of the teacher respondents claimed that they spent

more time on classroom management, whereas only 7% claimed that they spent less. When asked to explain why, some teachers blamed it on course difficulties and students were frustrated and thus acted out in class. When students were asked whether student behaviours in their classes make it easier or difficult to learn, 61.4% claimed that it is easier and 16.5% claimed otherwise.

Course Difficulty:

Almost two-thirds (63%) of the teacher respondents claimed that OSS courses in the same subject areas are more demanding or difficult than OSIS courses, especially students who would have been taking general and basic level courses under OSIS. Only 7% claimed that it's easier. Specific areas of difficulties include weak student backgrounds and heavy course content thus allowing little time for consolidations. Students, on the other hand, have different perspectives; only one-third of the students claimed that their courses are difficult whereas 39% claimed that they are easy. In addition, almost half of the applied students (lower streamed) claimed that their courses are easy whereas 21.5% claimed that they are difficult. Students in Grades 9 and 10 had similar perceptions (42.2% and 29.4% respectively). One possible interpretation for this discrepancy is that teachers may have lowered both expectations and curriculum content due to low student achievement expectations.

How students are coping with the New Curriculum:

29% of the teacher respondents claimed that OSS students are not achieving well or as well as the OSIS counterparts whereas 18% claimed that OSS students are doing better. Student respondents, on the other hand, were more positive, with 68.2% self-reporting that they have A or B and only 12.3% said they have D or F.

Students with Special Needs:

In general, students with “special needs” were integrated in the respondents’ classes. Most are Learning Disabled and/or behavioural students. Most teachers provided extra-help and extra time for the completion of tests and assignments for these students. According to respondent teachers,

special education support ranged from none, provision of teachers' assistants to withdrawals to resource rooms. In order to graduate in Ontario, OSS students must pass a Grade 10 Literacy Test. Some teachers claimed that this would be "difficult", "unreasonable" and "impossible" for students with special needs and ESL students.

Student Evaluation Policy:

The reform made drastic changes in how students should be assessed and how final marks should be calculated. A majority of the respondents occasionally or regularly used the following new practices: using achievement levels (1 to 4) instead of marks, rubrics, weightings by strands, providing multiple opportunities for students to improve their marks, and using the most consistent achievement in determining students' marks. Even though they were told to use most recent achievements, almost half (53%) of them did not. Teachers had great concerns with the last three policies due to inconsistency and difficulty in implementation. Therefore, three-quarters of the teachers still used traditional practices of just using the average mark and weightings. 47% of the students claimed that their teachers often used rubrics and only 36% claimed that they use levels instead of marks. A majority of the students claimed that they were never allowed to rewrite tests (76%) and redo work (56%) to improve their marks. Results indicated there is a lack of consistency and understanding of how to implement student evaluation policies. This finding supports Hargreaves et al. (2000)'s findings from five years ago.

Assessment Strategies:

In general, most respondent teachers used a variety of assessment tools in evaluating students. In determining the final mark, respondent teachers used the following weighting scheme:

tests (35%), classroom assignments (12%), homework (10%), projects (14%), essays/art/experiments/performance (10%), and group work (6%), and examinations/final assessment tasks (26%).

When compared with OSIS courses, these assessment strategies were used more: performance (by 27%) and projects (26%), and Exam/Final Assessment Tasks (21%). One-third of the respondents claimed that they used classroom assignments as a form of assessment less, while 17% claimed that they used more.

Negative Effects of New Evaluation Policy:

Firstly, the policy that students should be given opportunities for retests is problematic and impractical for teachers and unfair to students. Secondly, "borderline" students would fail and may even drop out due to lack of marks for learning skills. Thirdly, since teachers cannot "penalize" students for lack of efforts and participation, a lot more students are "skipping", coming to class late, not working in class and not doing their homework. The negative effects of this policy may lead to new levels of misbehaviour, truancy, decreased motivation, failure and higher withdrawal rates.

Curriculum Discussions between Students and Parents:

Students were asked if they discuss the curriculum with their parents. More than half of them (54%) do not whereas only 17.5% of students do so frequently. The same figures were obtained for intermediate, applied/college, and academic/university students, whereas senior students tend to discuss even less with their parents (50.5% do not vs. 16.9% do)

Teachers' Concluding Comments:

Two-thirds (down from three-quarters) of the teacher respondents claimed that their OSS courses were more difficult. As a result, 39% claimed that the "failure rates" of their OSS course is higher than the OSIS course and 24% claimed that their students are less prepared for university, college or the workplace. King (2002) had similar findings in the Double Cohort study. Students were more optimistic. One-third of the students claimed that their courses were difficult and 39% claimed that they were easy. Many teachers claimed that even though students learned more

concepts in their courses, the depth and skill levels such as problem solving, creative, analytical and higher level thinking required for success in future courses was minimized. However, 58% of the respondent teachers were satisfied with how they have implemented the new curriculum and 82% claimed that the new curriculum has changed their classroom and assessment practices.

Conclusions

In conclusion, this study clarified how and to what extent secondary teachers were implementing the many educational reforms that had direct impact on students, including curriculum planning, teaching strategies, student evaluation, reporting and the delivery of special education programs.

In the area of curriculum planning, sample teachers in general were investing more time planning new and more numerous courses, in contrast to time required before reforms were in place. Teachers indicated that there was inadequate support in terms of resources and in-service training, especially in the two key areas of the current reforms: assessment strategies and the integration of technology. Within teaching practices, most teachers were using a variety of teaching modes even though the lecture method still dominated. Students indicated that they do indeed favor a variety of teaching strategies and applied students further indicated they favor hands-on approaches.

Our survey further revealed that both students and teachers have different perceptions of course difficulty and achievement, and these group (teachers or students) perceptions were quite disparate among teachers and students. Assessment Policy was posing frequent problems for both students and teachers. For instance, the use of levels and rubrics seemed to be well received by teachers and students with the exception of having to translate levels into marks. Problem areas appear to be providing multiple opportunities for students to improve their marks and using the most consistent achievement in determining students' marks. This change has the potential to impact and possibly reduce the number of behavioural and attendance problems according to the teachers surveyed. As for assessment strategies, teachers were using a variety of strategies and this aspect of the current reform was well implemented since learning is a continuous process that requires constant assessment and evaluation.

Results point out that all of the reforms had direct impact on students, including curriculum planning, teaching strategies, student evaluation, reporting and the delivery of special education programs. However, the extent of this impact is buffered by the fact that more than half of the students do not discuss the new curriculum with their parents/guardians.

Discussion

This study has clarified several useful and timely realities however, the tensions and turbulence that teachers continue to endure is problematic. In fact, Majhanovich (2002) suggests, the government has been most disingenuous in the introduction of the new workload requirements for teachers. . . . By assigning an extra class to teachers for one of two semesters, obviously fewer teachers will be required to teach the school's course offerings. . . . Therefore, they will have less time for individual students overall. (p. 169)

Our study has concluded similar points, and Lasky, Moore, and Sutherland (2001) and Earl et al. (2002) had similar findings in their studies. Change in education requires stakeholder involvement, precise timing and large amounts of support (funding) in-service. In fact, Leithwood et al. (2002) claimed that in order to bring about changes in pedagogy, teacher motivation, capacity, and situation each aspect needed specific and sustained attention, enhancement, and improvement. For instance, without resources such as computer labs and in-service training in most areas of technology and assessment practices, teachers struggled to bring about a portion of the planned governmental changes in pedagogy and practices as outlined in the reforms. Some incremental change was possible, yet secondary teachers reported feeling overwhelmed and under-supported as the large-scale reforms took hold. As well, Majhanovich (2002) observed:

teachers are exhausted with having to cope with so much all at once. The new programs and assessment systems are very rigid and seem to reflect the notion of 'teacher-proof' education. Certainly there is little room for modification or innovation, and teachers feel

that their professionalism and expertise have been seriously diluted; in effect, that they have been subjected to ‘deskilling’ of the worst kind’. (p 166)

Taking the pulse, this past year, of the provincial educational system comes after many years of reforms, and results of this study indicate that teachers seem to have quite a good grasp of the curriculum design, teaching strategies, and student evaluation modes for the new curriculum courses, in spite of the rapid, uniformed and largely unexamined trail the government has forced educators to follow. Sample secondary teachers dedicated themselves to the education of students and have made the necessary changes in their curriculum design, teaching strategies, and required student evaluation methods to adopt most of the reforms and use these to some extent at the classroom level. This study, in attempting to address Elmore (1996) and Earl (2003)’s concern of whether teacher practices change in large-scale reforms, found that teacher practices do change in large-scale reforms however, the change is not often documented to the extent that it is herein nor acknowledged by certain stakeholders who have unique political agendas.

Looking ahead consider that King’s study (2002) predicted a substantial decline in graduation rates for OSS students, especially for students taking applied courses (low-streamed) as failure rates and low marks were quite prominent in applied courses in Grades 9 and 10. It was noted that students’ perceptions about course difficulty and achievement in this study were self-reporting and therefore tenuous. Nonetheless, Ministry officials need to revisit and re-examine the course content and requirements, especially in the applied or lower-streamed core courses at the Grade 9 and 10 levels. These are crucial years, in terms of student retention, as it is hoped that students can increase their number of credits. The same can be said for students with special needs. Also, the provincial Ministry of Education will need to re-examine or remove a required ‘Pass’ on the Literacy Test as requirement for secondary graduation. What is problematic is that educators now have to look for and provide multiple opportunities for students to improve their marks and teachers are required to use the most consistent achievement in determining students’ marks. Earl et al. (2002) had similar findings in their study. Ministry officials should revisit this policy as well as the policy that marks should be given for learning skills such as homework, class-community involvement, and effort. At-risk and lower-streamed students often need these

marks to enhance and ensure their success in some courses.

All stakeholders, including parents/guardians should be involved in the curriculum reforms process by having more discussions with their children about their academic work and educational progress (Levin, 2001). Teachers and administrators can facilitate this communicative process once they are given more supports, resources, and training. One way of achieving this is by enforcing the reporting policy of parents who must submit their comments and reflections concerning student report cards.

Recommendations

It is recommended that Ministry and District officials provide more funding for resources, specialty personnel, and in-service training. Secondly, it is recommended that all teachers adopt, or continue to use, a variety of teaching modes, and reduce the amount of time lecturing. Third, Provincial testing shall, in the future, include local school input of results, analyses, interpretation and communication.

In years to come, a critical component of conducting research will continue to include making decisions on what will be explored and what will be left out. In the case of large-scale reforms, the inclusion of teacher perceptions and student paradigms is crucial in the change process. Leaders who want to implement change will have to pay attention to both school and personal factors which intertwine with political and professional concerns. The school level factors that make a difference in successful implementation of school reforms are the creation and attainment of a shared vision, the provision of necessary resources and professional development, and establishment of a climate supportive of change. The significance of fostering a supportive climate permeates each school learning context as trust between teacher grounds any possibility for them to work together, to collaborate, and to implement new requirements. If this is not possible, then expect to encounter these views as noted and reported by the Ontario Secondary School Teachers Federation (2002):

Ontario's reforms have systematically undermined the principles and practices of professional learning and community on which successful student learning directly depends. Ontario is "colonizing the sinking sands of standardization that other nations are now abandoning."

The report notes that, in the one vocational school, the teachers declared unanimously that the new curriculum is inappropriate for their students. Less than 25 percent of teachers in all schools believed the applied curriculum was appropriate to the learning needs of students — this has recently been reinforced by King's research documenting a "disastrous" failure rate in the applied courses. (Lipman, p. 1)

It is hoped that the findings and recommendations from this study will bolster and amplify the signals sent from similar studies concerning secondary education in Ontario and assist stakeholders in designing curricula, adapting exemplary teaching strategies, and quality assessment strategies. This study sends a clear message that improvement is necessary and echoes the findings of earlier research.

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