Exploring Approaches for Improving Educational Outcomes for Urban Ethnic Minority Students in the United States: A Literature Review

Policy Lessons for Aboriginal Education in Canada

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On behalf of the Office of the Federal Interlocutor, Indian and Northern Affairs Canada

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The views expressed in this document are those of the author and should not be attributed to Indian and Northern Affairs Canada.

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Executive Summary

This research was undertaken at the request of the Federal Interlocutor’s Office in February and March 2007. It examines selected reforms in urban American schools from 1985 to 2005 for their impact on educational outcomes for urban ethnic minority students. Included in the review were comprehensive and systemic policy reforms of a national scope as well as other common interventions that manifested themselves uniquely in state or local settings.

The evidence that emerges is that there is no single magic bullet for reduction of the ethnic achievement gap, and that the effects of most reforms were highly variable depending upon their implementation and confounded by multiple competing interventions. A tentative analysis of the relative strength of these initiatives posits that assessment and reporting regimes, literacy programs, early intervention, reduction in primary class sizes and efforts to improve teacher quality had the greatest impact on achievement. The collective evidence suggests that constructive federal, state and local policies raised minority achievement during this period, with greater success at the elementary level than the secondary. Ironically, these reforms produced gains for the larger population as well, mitigating the gap narrowing effect overall.

The final section of the paper examines the relevance of these reforms to the Canadian context, noting strong differences that limit their applicability. Strategies that may be of greatest interest to the Government of Canada with respect to improving educational outcomes for urban aboriginal learners are highlighted.
Introduction

The 100 largest cities in the United States enrol 7.4 million students, of whom 38% are Afro-American, 33% are Hispanic. Over the past two decades, numerous systemic reforms have been introduced in efforts to reduce the substantial achievement gap between ethnic minority students and their peers in urban American schools.

The purpose of this review is to summarize what is known about the most significant of these initiatives and to consider their relevance for the Canadian context and their potential application to improving educational outcomes for the approximately 150,000 aboriginal students attending urban schools in Canada today.

It is recognized that the federal government’s role in this regard is severely constrained by the constitutional responsibility accorded to the various provinces and territories for the administration of K–12 education and off-reserve schools. However, this arrangement is similar to the United States where, despite such constitutional limitations, the federal Department of Education has strategically influenced state and local district reform policies and actions to reduce the minority achievement gap through a variety of levers.

This report identifies a set of strategies and program options which appear to hold the most promise collectively for improving the achievement of urban aboriginal learners in Canada, and undertakes a cursory policy analysis of the potential spheres of influence for Indian and Northern Affairs Canada with respect to their implementation.

Review of the Literature on Major Reforms and Effects

An environmental scan of the literature was undertaken in early 2007. The review focused on the most salient US school reforms since 1985 designed to improve the achievement of urban ethnic minority students, predominantly those attending schools in low socio-economic neighbourhoods. The initial scan identified 15 systemic reforms, each of which was manifested in a variety of forms with a separate body of literature on effects, yielding a potential field of about 38 interventions for review. This was subsequently narrowed to those most transferable to urban school districts in Canada. These 34 reforms clustered under 10 categories are illustrated in Table 1. The latter section of the paper examines their relevance to the Canadian education context and those holding some promise for improving outcomes for Aboriginal learners in urban schools.

In conducting the review, efforts were made to select representative research of high quality, with preference given to large-scale, longitudinal, and comparative studies which attempted to control for variables. Systematic reviews were utilized wherever possible for their meta-analysis of numerous studies of a given reform.

Three caveats with respect to the literature are stressed here. Firstly, there are significant differences between urban American and Canadian schools. The effects of adopting identical reforms could be anticipated to be smaller in Canada, where educational challenges and performance ranges are less extreme, in part due to the existence of province-wide curricula and more equitable funding formula and staffing policies. Secondly, although many of these urban school reforms have been well-studied, it is often not possible to isolate their effects. Urban schools districts have introduced sweeping packages of multiple coordinated reforms, often compounded by competing interventions at the state or federal level. The difficulty of isolating effects on achievement is particularly true of broad

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policy reforms such as school governance, choice and accountability which cannot be administered in controlled experimental design. A third caveat with respect to this review of the literature is that, due to the abundance of research available, much of it conflicting and variable in its methodology and generalizability, what is presented within the space and time constraints of this paper is necessarily very brief.

Table 1 Urban School Reform Initiatives, 1985-2006

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<tr>
<th>UNITED STATES</th>
<th>Relevant for Can. Schools</th>
<th>Relevant for Abor. Education</th>
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<td><strong>School Choice</strong></td>
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<td>Open Enrolment</td>
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What follows represents a synthesis of the evidence for each reform initiative as to its impact on student outcomes and ethnic minority outcomes in particular.
**SCHOOL CHOICE**

The underlying premise for school choice is that when funding follows the student, schools will be influenced to improve their performance as result of having to compete for market share. In recent years, the rationale for choice policies has shifted from inducing competition to the promoting equity through ensuring quality learning opportunities for students of less-advantaged families. School choice designs and their effects vary widely, depending on how they are implemented. The literature on charter schools and voucher systems was intentionally excluded from this review as having been sufficiently examined in a previous paper (Campbell, 2006) prepared for INAC.

**Magnet and Focus Schools**

Magnet schools have been an important element of education for 4 decades, offering specialized programs designed to draw students across attendance boundaries. While early magnet programs were often elite schools with selective admission policies, by 2001 some 32,000 magnet schools enrolling 1.2 million students were operating primarily for the purpose of desegregation. A federal Magnet Schools Assistance Program (MSAP) commencing in 1985 provided support to magnet school projects for the purposes of reducing or preventing segregation in schools with high minority populations, adding more rigorous academic instruction, developing innovative pedagogy, and piloting systemic reforms that local districts could scale up to enable all students to meet more challenging performance standards. Between 1985 and 1994, 138 districts received $955M in federal funds (Howell et al, 2002), with MSAP funded schools receiving an average $300,000 annually over three years.

The best evidence on magnet schools is mixed. An evaluation of MSAP schools (Christenson et al, 2003) found a wide variety of distinctive themes and innovative programs in use, but modest impact on desegregation (57% met their targets) and achievement (51% of schools met their literacy targets and 36% met mathematics targets). Compared to students from New York’s comprehensive high schools, students in the academic career-magnet programs (Crain, 1999) did not have higher or lower reading scores, did not take advanced graduations tests more or less often, and had slightly lower math scores. However, low-income students in magnet schools generally do better on measures of academic performance than their counterparts at non-magnet schools (Yu, 1997). Evidence in Cincinnati and St. Louis suggests this may be the case even when differences in socio-economic status are taken into account. Blank (1990) found comparatively higher achievement in magnet schools, but many of the studies reviewed failed to control for student background and prior attainment.

Focus or alternative schools deliver customized programs and school-wide pedagogical approaches to curricula (ie, sports or fine arts academies, a focus on technology, science, gender-based instruction, back to basics, ethno-cultural approaches, Waldorf, etc.) Focus schools may draw from intra- or inter-district attendance areas. They often target a specific sub-population (ie young athletes or musicians), but are not intended as vehicles of desegregation, but rather to provide alternative learning environments that may better engage particular students and families.

**Open Enrollment**

Open enrollment policies or legislation are intended to enable broader access to school choice, eliminating the rigid school boundaries which assign students to schools based on their postal codes. Within varying restrictions such as space available and transfer policies, parents may enroll their children at institutions beyond the neighbourhood school. Such policies may be intra-district or intra-
district. A legislative audit (2002) of the effects of open enrollment legislation in Wisconsin found that the state's largest school district, Milwaukee Public Schools (MPS), experienced a 14% enrollment shift to non-MPS schools, 31% to new MPS educational options, and 55% of students remained in regular MPS schools. Other large urban districts adopting open enrollment policies include New York, Cincinnati, Miami, Houston, Dallas, Chicago, Dayton, Minneapolis and Washington, DC.

Evidence overall regarding minority achievement in schools of choice is mixed but more positive than not. Cullen et al. (2005) analyzed the effects of open boundaries in the Chicago school system, reporting no evidence of impact on test scores or other academic indicators. In a national review, Belfield and Levin (2002) report modest achievement gains in schools of choice, with strongest effects for low-income students. Hoxby’s (1999) analysis of NELS data from 4,555 urban school districts provides evidence that choice increases student participation in AP courses and achievement scores. In East Harlem, New York (13,500 students) where schools were encouraged to specialize and all parents given a choice of schools, reading and mathematics scores increased dramatically over a 12-year period (Fleigel, 1993; Schneider & Teske, 2000). Under open enrollment, Minnesota’s minority test scores for reading and math improved between 1996 and 2003, but the racial attainment gap remains significant, and the black-white graduation gap of 44% is the second largest in the nation (Fan, 2004).

An additional effect of school choice is the response of mainstream schools and systems to competition with actions to improve the quality of educational services. Interviews with district officials in Milwaukee (83% minority) and Dayton (73% minority) revealed profound shifts in district behaviour as a result of declining enrolment from competition, characterized as strengthened oversight of performance, connecting with parents, creating focus schools, and intervening in low-performing schools (Campbell et al., 2006). Similar positive stimulatory effects were noted by Hess, 2002; Greene & Forster, 2002; Rofes, 1998; Bettinger, 2005; Belfield & Levin, 2002; Bohle, 2004; Booker et al., 2005; Buddin & Zimmer, 2005 and many others.

**DE-CENTRALIZATION**

School-based management emerged as an appealing reform in the 1980’s, as America’s 15,000 school boards faced rising criticism for the weak performance of US students on international comparisons and a failure to reduce the minority achievement gap exposed through new assessment systems. Strong pressure from states, city councils, business leaders and public urged the granting of new decision-making powers to teachers, parents and principals on the premise that greater engagement and authority at the site would improve achievement.

**Site-based Management**

Devolution of power to the individual school as the unit of improvement gave rise to local school councils. One of the most radical early experiments with local school governance was in Chicago. The Chicago School Reform Act of 1988 was designed to raise student achievement to match national norms, through creating a system of school-based decision-making that moved authority to local school councils (LSC) charged with adopting a school improvement plan. The LSC mandate included control of decisions on curriculum and pedagogy, budget and resources, and staffing including selection of the principal. Hess (1999) studied the effects of Chicago reforms on the achievement levels of 30,000 students in 14 schools whose populations were predominantly low-income black and Hispanic between 1990 and 1996. On multiple measures of proficiency in reading and math student achievement improved at five schools, remained constant in three and declined in
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six schools during this period, for a net neutral effect overall. Another study of Chicago’s decentralization found impressive gains in reading scores in half the schools between 1990 and 1997, with evidence that those schools which had exercised the greatest authority had the most improvement (Lawton, 1997). Bryck (1998) similarly reported a strong link between student achievement and self-management in Chicago schools.

Olson (1997) studied school council decision-making in Chicago, Denver, Seattle, Los Angeles, Cincinnati and Charlotte-Mecklenburg, concluding that no city had achieved noteworthy improvement in student achievement, most had failed to provide schools with meaningful authority, and all floundered in implementation. In Philadelphia where a high degree of decentralization was introduced in a package of sweeping reforms which also included a concerted literacy focus in the primary grades, there were significant test scores gains in elementary schools from 1996-2000 (Consortium for Policy Research in Education, 2003). Ouchi (2004) compared Houston and Los Angeles, two large school districts at opposite ends of the decentralization scale, each having 90% minority and 70% Title I students from low-income homes. On the same standardized test (the Stanford-9), Houston students consistently outscored those of Los Angeles by nearly 10 points in reading and math. Since decentralizing, Houston’s “race gap” has declined every year, while the gap continues to widen slightly in Los Angeles.

According to site-based management theory, high-performing schools were to be given greater autonomy by their districts. In response to competition from charter schools, Boston experimented with Pilot Schools under a program that began in 1995. Nineteen pilot schools enrolling about 10% of public school students were granted unusual levels of autonomy in staffing, budgeting, curriculum, governance and scheduling in efforts to tackle minority achievement issues. An evaluation (2006) by the Boston Centre for Collaborative Education reported students in pilot schools outperformed district averages on all indicators including state-wide tests (MCAS), attendance, and enrollment in post-secondary. At the Grade 4 level, comparisons with the district on student scoring at proficiency rates showed a 17% advantage (language arts) and 16% (math) for Pilot Schools, which increased at the Grade 10 level to 26% (English) and 21% (math). In 2007, Boston Public has expanded the principal of self-management to 108 designated Autonomous Management Performance Schools, based on their record of strong academic performance, attendance and fiscal management (Chicago Tribune).

Philadelphia, Milwaukee, and Baltimore also experimented with contract public schools established through an RFP process issued by the school board to meet the needs of under-served groups of students. Contract schools were given a wide degree of autonomy in exchange for a limited term performance-based contract. Through waiver applications, they are exempt from many union and district regulations. They may staff, for example, based on school vision and needs, rather than according to the regular posting and filling process in the district contract. The intent is to encourage innovation, flexibility and a focus on results to measurably improve student performance. Hill, however (1999), reports that in reality there were few rewards or penalties contingent on performance attached to these contracts and the schools had little effect overall on achievement.

School Leadership

Under site-based management and other systemic reforms, the role of the principal altered significantly and the quality of school leadership came under increasing scrutiny. Curriculum standards and accountability were centralized, operational responsibility was increasingly devolved to the school site, parental choice and involvement in governance were encouraged, and principals became accountable for student outcomes through ongoing monitoring of achievement linked to explicit performance targets (Marsh, 2000). Hill (2002) states the modern principal must serve as a
leader for heightened student learning which will require new capabilities in three distinct domains: leading and managing change; motivating and managing people; and designing and aligning systems, processes and resources to produce learning gains.

Mazzeo (2003) profiles the numerous steps that states have undertaken to improve the preparation, licensing, and support of principals. The Interstate School Leaders Licensure Consortium (ISLLC) standards developed in 1995 are now used in 34 states (Hoachlander, 2001) for redesigning principal preparation and professional development programs, accreditation, constructing professional certification systems, as rubrics for state licensure examinations (8 states) and for principal evaluation by individual districts (Murphy, 2001). Tucker and Codding (2002) note that the most successful programs address three principal development stages: acculturation and acquisition of management skills; instructional leadership and culture building; and leadership for organizational capacity building. Prevalent training strategies included principal academies, support networks, study groups, inter-visitation, video tape feedback, peer coaching, mentorship, self study, district short courses, and distance learning (Renihan, 2000, Daresh & Playko, 1993, Educational Research Service, 2000). Boston Public Schools, for example, trains and develops new district principals through its School Leadership Institute, offers a year-long residency program pairing trainees with veteran principals, and provides first year-appointees with targeted support (Broad Foundation, 2006). Some states have implemented graduated levels of accreditation upon demonstrating specified sets of competencies (Arkansas, Kentucky, Louisiana, Maryland, and Ohio). Fullan (1999) cites the deliberate investments in leadership training made by New York’s District #2 and San Diego as pivotal to improved student achievement.

Many researchers, such as Gonzalez (2002 have found that when in-school conditions and processes were held constant, leadership variables had a significant effect on changes in teachers, programs, instruction, and student outcomes. Teddlie & Reynolds’ (2000) compendium of international large-scale research on school effectiveness finds leadership “centrally synonymous with school effectiveness”. In North Carolina (2004) leadership was the single greatest predictor of Adequate Yearly Progress status at the middle school level, more so than school size and teacher retention. For every one point increase in leadership survey results, middle schools were 6.7 times more likely to achieve AYP and high schools were 48 times more likely to be included in one of the top three performance designations. Teachers indicate that working in a collegial atmosphere (34 percent) led by a principal with a strong instructional emphasis (27 percent) mattered most in teachers’ decisions about whether or not to stay in the school in which they work. Mendoza-Morse (1992) found the presence of a skilled principal who fosters shared responsibility for learning and delegates authority to teachers is a key factor in the success of effective urban schools.

Principal turnover across the US was 50% during the last decade, with a 40% turnover predicted for the present decade (Kurtz, 2000). This is a great challenge for districts with large concentrations of high-poverty and low performing schools where the annual turnover rate for principals is as high as 20%, with the result that such schools are much more likely to have inexperienced principals. North Carolina has proposed legislation to provide hard-to-staff schools with funds to implement reforms based on their working conditions data. This includes first-year principals’ participation in the state’s Principal Executive Program to complete the required components in a Masters in School Administration degree. Berry & Hirsch (2005) state that because strong school leadership is recognized as critical to a positive environment where teachers want to work and can be effective, states are beginning to develop stronger policies to ensure that all schools are led by effective principals. A number of performance management systems include the opportunity for principals to earn salary bonuses based upon attainment of targets reached (i.e., North Carolina, Texas).
Taken overall, the decentralization movement had little time to demonstrate effects on student achievement before a powerful new centralizing reform based on standards and assessment swept the US school system.

**CURRICULUM /STANDARDS REFORMS**

The standards-based movement of the late 1980’s sprang from the seminal *A Nation at Risk* report (1983) and was spearheaded by the US Business Roundtable and supported by visionary teacher union leaders such as Al Shanker of the American Federation of Teachers. Standards proponents urged state and local officials to establish clear and ambitious expectations for what students should know and be able to do, and build a system of curricula and tests aligned with those standards. In 1989, the nation’s governors announced ambitious goals to increase the graduation rate to 90% and ensure all students in Grades 4, 8, and 12 demonstrated competency in core subjects by 2000. The movement had huge implications for millions of under-achieving poor and minority students from whom little had previously been expected.

**More Rigorous Curriculum and Instruction**

In the face of mounting evidence that black and minority students in poor urban schools were receiving an inferior education associated with low expectations and low-quality instruction and curricula (Coleman, 1966; Rosenbaum, 1976; Darling-Hammond, 1985; Dreeben, 1986; Oakes, 1987; Comer, 1988; Hess, 1991; Kozol, 1991; Seymour, 1993; Wang & Reynolds, 1995; Wang & Kovach, 1996), concerted efforts to reform curriculum were launched in the 1980’s. During this decade most states approved policies for implementing statewide curriculum guidelines and content standards that were intended to guide local decisions on textbooks and resources and instruction. By 2000, 46 states had established content standards in science and 49 states had adopted standards for mathematics (CCSSO, 2000), the Educate America Act established a Commission to establish national standards for achievement, and Congress required all states to develop performance standards and create assessments aligned with those standards. As learning indicators began to be expressed in measurable terms and applied to all students, state standards in every subject were compared for clarity, specificity, measurability, and rigor (CCSSO, AFT and others).

In terms of quality instruction, schools where urban minority students were doing well were found to possess an “unfettered focus on intellectual matters” (Wang & Kovak, 1996; Haycock, 1998; Elmore, 2000) and concentrated their resources on providing challenging curriculum and high-quality instruction (US Department of Education, 1998). Some districts such as Boston Public increased the block of instructional time for core subjects. The goal of providing equal “opportunity to learn” (Elmore & Furhman, 1993) through exposing all students to demanding curriculum and quality instruction was not easily achieved, however. Newman & Bryk (1998) found assignments and work samples for most Chicago students in 3rd, 6th and 8th grades to be undemanding and oriented to lower-order thinking, and that poor ethnic minority students who received more demanding work scored higher on state standardized tests than those who received less challenging assignments. Marking standards were lower for high-poverty and minority students and they were exposed more often to inexperienced (21%) and out-of-field (30%) teachers (Haycock, 2007). Smith et al. (2001) reported strong empirical evidence in 384 Chicago elementary schools (110,775 students) that teachers’ instructional approaches influence achievement gains in reading and mathematics. Based on data from the Texas Schools Project and the Early Child Longitudinal Survey, Hanushek & Rivkin (2006) concluded that specific school and peer effects including distributions of inexperienced teachers exert significant influence on the black-white achievement gap.
Snipes et al. (2002) provide case studies of four large urban districts—New York, Houston, Sacramento, and Charlotte-Mecklenburg with significant percentages of at-risk students where low expectations and lack of demanding curriculum, inexperienced teaching staff and lack of instructional coherence were identified as common challenges. The strategies adopted in common were to identify achievement targets, align district and state assessment and accountability systems, and commit to data driven instruction. In focusing on coherent classroom instruction and curriculum in low-performing elementary schools, third grade reading achievement gains in all districts outpaced statewide gains in the 1998-2001 period and racial performance gaps were significantly reduced. The overall reduction in black and Hispanic third graders not meeting performance thresholds in this period ranged from 23-13%.

Because the delivery of more demanding curriculum and instruction ultimately depends upon the degree of implementation within individual classrooms, large scale effects of this reform are difficult to measure. One indicator might be the 150% increase since 1995 in the number of American students taking Advanced Placement courses, once the exclusive purview of elite students at select high schools.

De-tracking

Tracking practices within schools exacerbated the minority achievement gap when used as a sorting mechanism that set students on paths of success or failure. Based on presumptions about ability, schools with concentrations of poor and minority students assigned them to tracks for the express purpose of adjusting the rigour of the curriculum, offered fewer advanced courses and larger vocational programs (Oakes, 1990; and many others). As a result, inner city minority students took fewer challenging courses, were grouped with less able students and were often taught by under-qualified teachers. Students in lower tracks were found to significantly achieve less than those of similar aptitude in academic programs or untracked schools (Oakes, 1985, 1990; Gamoran, 1990; Hoffer, 1992; Kulik & Kulik, 1982; Slavin, 1990; Kober, 2001) and were more prone to delinquency, absenteeism, dropout and other social problems, which limited their access to higher education and better paying jobs. Loveless (1998) claims such charges to be unsubstantiated by research, finding the tracking literature inconclusive at best.

One large national database used to evaluate tracking is the National Education Longitudinal Study (NELS), which followed thousands of students through school, starting with eighth graders in 1988. NELS data indicate race and tracking are only weakly related, with African-American students enjoying a 10% advantage over white students in being assigned to the high track once test scores are taken into account. Achievement differences between African-American and white students are fully formed by the end of eighth grade and remain unchanged in high school, with the race gap reaching its widest point right after elementary and middle school (Lucas & Gamoran, 1993). The NELS data for mathematics suggest low-achieving students learned more in heterogeneous classes, but high and average achieving students lost ground. Eighth graders of all ability levels learn more in tracked classes rather than heterogeneous classes.

De-tracking experiments, placing all students in the same rigorous programs, became prevalent in the late 1980’s and 1990’s. Rockville Centre School District, a diverse New York suburban school district with a 38% success rate on the state Regent’s diploma exam, adopted a multi-year de-tracking reform in the 1990’s, with the goal of having 70% of its graduates earn the Regent’s diploma. All students were assigned the accelerated math curriculum formerly reserved for the district’s highest achievers and taught in heterogeneously grouped classes, and math workshops and after-school help offered to struggling learners four afternoons a week. The district’s success rate on the Regents exam for African American or Hispanic students increased from 23-75% between the years of 1995 and 1997.
During the same period New York's statewide achievement gap in the earning of Regents diplomas persisted, with only 19.3% of all African American or Hispanic 12th-graders graduating in 2000 with Regents diplomas. Haycock (1999) cites similar positive effects in New York City when all grade 9 students were required to take the rigorous Regents math and science exams. The number of African American students who passed the science exam doubled, while the number of Hispanics tripled.

Boston Public Schools (44% black, 33% Hispanic) has been recognized for consistent high performance in recent years while reducing minority achievement gaps. One of the district's improvement strategies is to encourage secondary students to take Advanced Placement (AP) courses. The number of AP mathematics and English exams taken by Hispanic and African-American students in Boston has increased 237% and 78%, respectively since 2002 (Broad Foundation).

The Achievement Via Individual Determination (AVID) program originating in San Diego in 1988 to provide untracked minority students with explicit instruction in the hidden curriculum, saw 94% minority enrolment in college compared to 56% at large from 1988-1992. AVID is now being implemented in urban school districts across the US.

**School Effectiveness and Improvement Movements**

Although sociologists such as Coleman and Jencks used correlative methods to determine that out-of-school factors more greatly impacted student achievement than did within-school factors, other researchers produced different conclusions. Two pioneers of the “effective schools” movement, Weber and Edmonds, examined inner-city American schools where the achievement of students from low socio-economic backgrounds equalled or surpassed the national average. Edmonds’ influential 1979 article, “Effective Schools for the Urban Poor,” launched two-decades of research to identify the correlates of hundreds of “outliers” to the Coleman theory - schools enrolling 90% poor and minority children that were producing higher than predicted achievement levels (Steller, A., 1988; Levine & Lazotte, 1990; Stringfield & Teddlie, 1990; Cotton, K., 1995; Barth et al., 1999; Wang, M. 1999; Corbett, D., 2002; and many others). School effectiveness was seen as the capacity to produce equitable learning outcomes across the school population. A synthesis of the “effective schools” research found the salient common features to be: a focus on student achievement, effective classroom instruction, staff teamwork and a unified staff vision, an orderly, secure, and caring climate, strong school leadership, effective monitoring and assessment linked to planning, high standards and expectations, and good home-school links.

A related wave of research focused on understanding the processes of school improvement and efforts to build school capacity to create gains for low SES students. A landmark national survey of 178 improving urban high schools and in-depth case studies in Boston, New York, New Jersey and Cleveland (Louis, Miles & Seashore, 1990) identified a number of essential conditions for success in such schools, including shared vision, autonomy to identify goals and strategies, high expectations, performance monitoring, deep leadership teams, reflective dialogue, and external support. Connell (1996) found the common denominator for schools removed from the New York’s list of 'poorly performing schools' was a focus on student achievement, the development of new instructional strategies to influence it, and consistency in teaching approaches from classroom to classroom. Barth’s examination of 366 high-performing, high-poverty schools revealed extended instructional time in math and English. Piontek (1998) reported improving inner-city high poverty schools decentralized their leadership structures to rely on grade-level or subject-oriented instructional teams. In Chicago’s high-functioning inner-city schools, teachers worked collaboratively in teams, assumed collective responsibility for learning, and improved instructional practices (Bryk et al., 1994).
Using a national database that combined school-level scores on state assessments and demographic information, Ali & Jerald (2001) identified 4,577 public schools whose students achieved in the top third in reading and/or mathematics assessment for their state and had at least 50 percent low-income and at least 50 percent African American and Latino students. A synthesis of the large body of research on these schools (Caliber, 2005) educating 1.3 million poor, 564,000 black, and 660,000 Latino students arrives at similar conclusions about factors that influence school-wide performance. These mirror the effective schools characteristics: a culture of high expectations and caring, safe and disciplined environment, a principal who is a strong instructional leader, committed and dedicated teachers, and a curriculum focused on academic achievement and essential skills in math and literacy. Common practices included increased instructional time, ongoing diagnostic assessment, parent partnerships, strong professional development, and teacher collaboration.

While there is robust evidence that adopting the effective schools characteristics yields positive effects in schools with challenging populations such as those with high ethnic minority concentrations, the model has not been widely implemented, limiting its overall impact as a reform strategy.

**ASSESSMENT AND ACCOUNTABILITY**

Reforms to district and state assessment systems were linked to the standards based movement and rising expectations that all students could master more challenging curriculum. Accountability systems emerged simultaneously with assessment regimes, as consequences became attached to student progress over time. According to the National Centre for Education Statistics (NCES, 2007), state reform efforts centred on three interrelated elements, although their implementation varied widely from state to state:

- Content and performance standards defining what students should know/be able to do;
- Statewide assessments measuring student progress towards the goals defined by state content and performance standards; and
- Accountability systems holding schools accountable for their students’ progress against the expectations defined by the performance standards.

**Student Assessment and Information Systems**

Newly developed statewide assessment systems in the 1990’s provided tools for benchmarking achievement and tracking student progress over time. The data collected could be disaggregated to identify achievement at various levels by race, gender and cohorts for schools and districts as well as the state as whole. By 2005/06, individual student identifiers were used in 41 states to enable longitudinal tracking at the student level as well, and seven state information systems included an explicit value-added analysis component to the reporting (NCES, 2007). Annual report cards were produced by every state, identifying school achievement data at varying levels of disaggregation: by race (41 states), low income (46), limited English proficiency (46) special education/disability (46) high school dropout/graduation rates disaggregated by race, income, LEP and Special Education (23).

The National Assessment of Educational Progress (NAEP) is the only nationally representative ongoing assessment of what America's students know and can do in various subject areas. Since 1969, NAEP has conducted periodic assessments in reading, mathematics, science, writing, and other subjects. While NAEP does not provide scores for individual students or schools, it offers information on subject-matter achievement, instructional experiences, and school environment for representative populations of students (e.g., fourth-graders) and sub-groups within those populations.
It is particularly useful for analysis of long-term performance trends. Since 1990, NAEP assessments have also been conducted to give results for participating states. Beginning with the 2002 assessments, a combined sample of public schools was selected for both state and national NAEP. The 2003 assessments in mathematics and reading had a state component at grades 4 and 8. Overall, 53 states and jurisdictions participated in the two assessments. In 2002, 51 states and jurisdictions participated in the writing assessment at grades 4 and 8. The most recent state assessments were held in 2005 in mathematics and in reading (NCES, 2007).

Value-added information systems permit sophisticated longitudinal performance analysis, providing data to help determine whether all students are gaining ground at a yearly rate that will allow them to reach proficiency. Value-added analysis is a developing tool with such technical complexities that only seven states use this technique statewide (NCES, 2007) although it is employed in a number of school districts to identify and close the achievement gap. Value-added information systems require individual student identifiers, annual collection of demographic data, linked data management, annual testing in each grade, vertically aligned assessments, and links to post-secondary data. Value-added measurement is also used as a tool to estimate teacher effects, initially pioneered in Tennessee by Sanders & Rivers (1966) and in Dallas by Jordan & Mendro (1997).

**Assessment Reporting for Accountability Purposes**

By the mid-1990’s most states were developing new accountability systems focused on student performance. Technically proficient experts at state and district levels were hired to desegregate and interpret data for a variety of audiences. More attention was paid to district and state roles in identifying failing schools, providing technical assistance and directing additional resources to prompt improvements. A key policy element in North Carolina and Texas, which produced the strongest achievement gains on the NAEP 1990-1998 (Grissmer, 1998), was the use of assessment data to direct resources to schools with more disadvantaged students.

The federal No Child Left Behind (NCLB) Act of 2001 mandated annual assessment of students in Grades 3-8 and senior high school and required states and districts to provide detailed report cards on the performance of schools and districts. States must track the progress of ten groups of students, including those with limited English proficiency, disabilities, and seven ethnic and socioeconomic groups as well as schools as a whole. An initial benchmark of 65-70% proficiency was set for each identified group. Failure of any one group to make “adequate yearly progress” two years in a row results in a school being designated as “low-performing” or in “need of improvement.” Parents in these schools must be offered alternative school options with transportation. Schools that fail to meet state standards for three years must offer free tutoring and academic support services to eligible low-income students and are given technical assistance to develop a school turnaround program.

Methods for holding schools accountable varied. In 1999, 38 states required schools to publish annual school progress report cards, a step made mandatory for all states in 2002 by the No Child Left Behind legislation. In some jurisdictions, such as Texas, internal school evaluations were combined with an external quality review by a government agency, such as the Texas Education Agency. Some states and districts had begun publishing lists of high and low-performing schools and taking active measures to intervene in the latter.

**Interventions in Low-performing Schools**

Increasing attention was paid to district and state roles in identifying failing schools and providing various added supports and/or sanctions to alter patterns of achievement. By 1998, 23 states had
‘academic bankruptcy’ provisions, allowing them to intervene directly in low-performing schools in various ways such as furnishing technical support, skilled personnel and applying sanctions.

**Technical Support/Capacity Building**

The National Center for Education Statistics (NCES, 2006) reports 37 states now provide some form of added assistance to schools identified as chronically low-performing. This often takes the shape of technical support, beginning with a needs assessment followed by data-driven strategic planning and additional training and resources. North Carolina offers one of the longest running school-level intervention programs in the US which focuses primarily on building instructional capacity through assistance teams hired for their specific expertise in core academic subject areas. The state supports the training and deployment of 80 assistance team members each year to work with low-performing schools on a full-time basis. (Rennie Centre, 2005). Boston assists schools placed on ‘watch lists’ through intervention teams and school improvement coaches and $50,000 for additional resources (Hill, 1999). In 2004, Miami Dade targeted 39 struggling schools for intensive support, with a subsequent rise from 35 to 55% in the reading proficiency rate.

**Recruiting Highly-Skilled Teachers**

States have experimented with numerous strategies for recruiting and retaining highly qualified teachers, especially for schools considered hard to staff—those with high concentrations of low-performing, low income students. Presently 26 states provide incentives for teaching hard-to-staff subjects, and 14 have policies and programs to recruit and retain teachers in high-poverty or low performing schools (Quality Counts, 2005).

The Teach Louisiana First program provides qualified teachers $4,000 to $6,000 per year for four years to work in low-performing and disadvantaged schools. South Carolina tried to recruit experienced “teacher specialists” to work in its lowest performing schools through offering a bonus equal to one-half of the average teacher salary in the Southeast, yet succeeded in attracting only 208 teachers after four years (Berry, 2003). California adopted a policy (2001) of awarding NBCT certified teachers who teach in low-performing schools a $20,000 bonus over a period of four years. NBCTs are more likely to teach in low-performing schools due to the large numbers of teachers in Los Angeles school district which offers a 15 percent salary boost, in addition to the state bonus. Yet distribution remains an issue, with the sub-district with the highest concentration of low-performing schools serving poor and minority children having fewest NBCT teachers (Koppich et al., 2004). Florida not only provides bonuses specifically for teachers in low-performing schools but also has created a Critical Teacher Shortage Student Loan Forgiveness Program and established housing and rental discount programs.

Among the high need urban school districts utilizing pay incentives to place skilled teachers in struggling schools are: New York; Los Angeles; Chattanooga, which offers a comprehensive menu of recruitment incentives for those teaching in the district’s nine lowest-performing schools; Miami-Dade, which reallocated funds for higher salaries in the "School Improvement Zone" for 39 chronically lower performing schools; and Mobile, which reconstituted five of its lowest-performing schools to offer those teachers a $4,000 annual bonus for five years and up to an additional $4,000 annually for meeting individual, group, and school performance objectives (Berry and Hirsch, 2005).

Few of these approaches have been evaluated. Berry and Hirsch (2005) cite little hard evidence of impact, although some practices appear promising. In recognition of this lack of research, the US National Center on Teacher Performance Incentives will conduct two large randomized field trials

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2 Teachers in the zone work an additional hour each day and ten more days throughout the year, complete 56 hours of professional development, and make 20 percent more than teachers in schools outside of the zone.
offering student achievement-related bonuses from $5,000 to $15,000 to teachers in Tennessee and Texas, using a value-added basis which accounts for socioeconomic status. The Center will also undertake studies of teacher recruitment and the cost-effectiveness of various pay-for-performance strategies.

**Sanctions**

Between 1993 and 2002, the number of states with consequential systems of accountability for school performance expanded from 4 to 29 (Hanushek & Raymond, 2006). By 2006, some 28 states had mechanisms to sanction low-performing schools (NCES). These interventions ranged from placing on a ‘watch’ list, replacing the principal, replacing school staff, to closing the school. Boston Public (Broad Foundation, 2007) identifies struggling schools for more frequent observations and interventions. New York City currently lists 35 schools in danger of being closed for academic failure. In practice, however, few states have been willing to use the severest sanctions.

Hill (1999) discusses the use of sanctions in five large high minority urban districts run by reform-minded superintendents in the 1990’s. Chicago placed over 100 schools on ‘academic probation’ in 1997, experiencing marked improvement in test results across the district. Memphis, a high poverty district with 85% black students, began holding principals accountable for their school’s performance in 1998. With 60% of their evaluation based on annual state assessment results, principals in low-performing schools were subject to dismissal. The district also provided intensive local training sessions in improvement planning processes and enrolled over 50 principals in Harvard summer leadership programs. New York City’s District #2 also relied heavily on the skills of its principals to deliver annual achievement gains and began coaching, monitoring, and ‘weeding’ out those who performed poorly. During this decade there was a 50% turnover of district principals and staff. In Seattle (59% minority enrolment), 52 of 97 schools were assigned new principals in a three-year period. High-performing principals were tasked with turning around failing schools and weak principals shuffled into retirement or other positions.

Reconstitution involves the closing of failing schools and requiring all staff to reapply for their positions. The process also ideally involves new leadership, improvement coaching teams and other technical support as well as replacing many teachers. San Francisco based its school reforms of the 1980’s on this practice. Although many district schools were targeted for reconstitution as result of low performance, 22 actually experienced it in some fashion. In the initial phase, six schools were completely rebuilt; the remainder subsequently received a weaker form of renewal and technical assistance. The results in reconstituted schools were highly correlated with the degree of planning and technical support allocated to the reconstruction process, with achievement scores for students in phase one schools surpassing those of their peers (Hill, 1999). In 1995 Seattle targeted 24 high minority schools with chronically low results for reconstitution if they failed to improve within three years, providing added training for their staff. Sixteen of these schools were on the district’s most improved results list in 1998 (Hill, 1999).

**Overall Impact of Assessment and Accountability Regimes on Minority Gap**

There is little consensus and much heated debate on the merits of the dramatic assessment and accountability reforms of the past two decades. Generalizing to the national level masks widely variable local effects. Nor can the results be isolated from other concurrent and disparate reforms at state or local level which also impacted student achievement and the educational environment. Not withstanding these serious caveats, long-term national trends with respect to the minority achievement gap are summarized here, up to and including the latest NAEP assessment results:
• The average reading and mathematics scores of Black and Hispanic 9-year-olds in 2004 were the highest of any assessment year. For Black 13-year-olds, the reading and mathematics scores were higher in 2004 than the scores in the early 1970’s, and the 2004 mathematics score was higher than in any previous assessment year. For Hispanic 13-year-olds, reading and mathematics scores were higher in 2004 than in any previous assessment year. (NCES, 2007)

• In contrast to the overall national results, the average scores of Black and Hispanic 17-year-olds were higher in 2004 than in the early 1970's. Black 17-year-olds improved 25 points in reading between 1971 and 2004, and 15 points in mathematics between 1973 and 2004 on a 0–500 point scale. Hispanic 17-year-olds improved 12 points in reading between 1975 and 2004, and 12 points in math between 1973 and 2004. (NCES, 2007)

• The Grade 12 reading gap increased slightly between 1992-2005 for Black (2 scale points) and Hispanic (1 scale point) students. (NCES)

• Only 52% of Black and 56% of Hispanic students graduate from high school on time, compared to 70%+ of white students. (Quality Counts, 2007)

• 56% of large urban districts narrowed the Black-White mathematics gap at 4th and 8th grade; 71% of large urban districts reduced the Hispanic-White math gap at grade 4 and 57% did so at grade 8. (Casserly, 2006)

• 85% of large urban districts narrowed the Black-White reading gap in grade 4 and 63% in grade 8; 76% of large urban districts reduced the Hispanic-White reading gap at grade 4 and 8 (Casserly, 2006)

In summarizing the cumulative effects of assessment and accountability systems specifically on minority students, Hanushek & Raymond (2006) conclude that there is consistent evidence that the introduction of consequential accountability regimes has had a positive impact. They also conclude (p 145) that accountability has raised the performance of all students and as a result does not reduce the gap between groups. Based on their analysis of 4th and 8th grade NAEP scores the Hispanic-white achievement gap narrowed under accountability systems, while the Black-white gap increased. According to the T. Fordham Foundation (2006), only eight states—California, Delaware, Florida, Massachusetts, New Jersey, New York, Texas and Washington—can claim modest success since 1992 in boosting the percentage of poor minority students scoring at or above proficient in reading, math or science.

For policy purposes it may be more instructive to examine those jurisdictions who made the most progress in reducing the urban minority achievement gap, for comparison with jurisdictions which have not been able to do so. The following examples hint at the complexity of this challenge. Disaggregated NAEP data for 4th grade math reveal Massachusetts, Texas, and Michigan exceeded the national increase for Black students by a substantial margin between 1992 and 1996. In grade 4 reading, however, between 1992 and 2005 a longer period, the Black-White differential for the same states was 0%, -14%, and 0% respectively (NCES, 2007). Between 1990-1998, Texas and North Carolina made larger mean minority gains in reading and math than other states (Grissmer, 1998). However, between 1998 and 2005, North Carolina recorded a 3% improvement in Black-White comparative reading proficiency scores and a 3% decline at grade 8, while Texas recorded a relative decline of 14% on this indicator at grade 4 and a 1% positive change at grade 8 (NCES, 2007).
RESTRUCTURING SCHOOLS

Common reforms introduced to conventional school structures to assist struggling learners include the community school, middle schools, secondary school reforms, school-wide instructional designs, and year–round schooling.

Community Schools

Schools in disadvantaged urban communities must overcome many social and economic barriers if children are to learn. Community schools are intended to meet this challenge by joining forces with a range of community agencies to integrate social support programs within the school. These collaborating agencies may include education, health care, transportation, job training, child care, housing, employment and social services (Dryfoos & Knauer, 2002). Florida passed legislation in 1991 that encouraged the creation of “full-service schools that integrate education, medical, social and/or human services that are beneficial to meeting the needs of children and youth and their families on school grounds, providing the types of prevention, treatment and support services children and families need to succeed, services that are high quality and built on interagency partnerships among state and local and public and private entities.”

Among the earliest full-service/community schools were the New Beginnings model in San Diego, and the New York City collaboration between the Children’s Aid Society and School District #6 to develop full-service schools accommodating health, mental health, social services, after-school and evening family activities, recreation and education. In 1992, the Council of Chief State School Officers (CCSSO) called for the mobilization of business and community resources to add such services as mentoring, internships and school adoptions to access to community resources from which students had largely been excluded. A third strand of services directed at strengthening parenting skills and family ties to the school was based on the notion that enabling parents enables students, and that harnessing family and cultural roots increases student motivation and identity with school aims. Programs offered in this vein include family support and parenting programs, arts and cultural classes, adult education classes, parent volunteer training and hiring parents as school staff and outreach workers (Cahill, 1996). In the present decade there has been an increasing emphasis on more comprehensive and coordinated approaches by contracting community agencies to provide a range of services.

Because full-service schools are designed to attack complex, inter-related problems in inner city schools and neighbourhoods, the effects of combined interventions are often difficult to isolate (Simpkins, 2003). The US Secretary of Education Riley (1997) reported “ample evidence that organized activities can help children resist unsafe behaviors, decrease incidents of vandalism and violence and help children become more cooperative, handle conflicts better, and do better academically”. Dryfoos & Knauer (2002) report academic gains in reading and math for 36 out of 49 community schools examined. Eleven schools reported reductions in substance abuse, teen pregnancy, and disruptive behaviour in the classroom, while six reported lower violence rates and safer streets in their communities. Twelve schools reported increases in parental involvement and improved family functioning. An evaluation of 20 community schools (Blank & Shah, 2004) found improved student achievement and family engagement. Programs are not uniformly effective and school autonomy and management structures are important variables (Miller, 2004). Evaluations of after-school programs, which form one component of community school operations, converge on the conclusion that there are positive effects on student motivation, attendance, attitudes towards school and may reduce risky behavior in all age groups (Simpkins, 2003; Reisner, Russell, Welsh, Birmingham, & White in Friedman, 2003; Grossman et al., 2002). Dynarski et al. (2003) found after school programs middle school and elementary level in poor urban neighbourhoods to have limited
influence on academic performance after one year, but resulted in improved parental involvement and teacher-student relationships which can be important pre-conditions for learning.

**School-wide Instructional Designs**

The movement for comprehensive school reform (CSR) followed widespread efforts to strengthen curriculum and create common standards. Prompted by research findings that the quality of delivery of new programs and materials varied widely, CSR was based on the hypothesis that low-performing schools could improve achievement levels by adopting “teacher proof” instructional designs and resources. In 1988, federal legislation made it possible for schools qualifying for Title 1 assistance to receive added funds if they offered a cohesive school-wide model of delivery. By 1996, 50% of all Title 1 eligible schools were doing so. The Comprehensive School Reform Demonstration Act of 1998 provided $145M in further federal incentives for the school-wide adoption of programs of instructional improvement, with applicants steered to 27 designs recommended as proven and replicable. These funds were strongly targeted to low-performing high-poverty schools with high minority populations. By 2004, some 5,160 schools were receiving funding under the CSR program and over 800 different designs had been implemented (Rowen et al., 2004).

The CSR program requires participating schools to involve parents and community in the planning and selection of the design, identify additional supporting resources, use educational methods proven to increase achievement, develop measurable goals and benchmarks, obtain an external partner to provide technical support and high-quality professional development, and evaluate their progress annually.

One example is the *Success for All* reading program (SFA) created by Robert Slavin, Nancy Madden, and a team of developers from Johns Hopkins University in 1986. SFA restructures elementary schools (usually high poverty Title I schools) to ensure that all students learn to read. The program uses a research-based reading curriculum, effective practices for beginning reading and cooperative learning strategies and prescribes specific curricular and instructional strategies for teaching reading including shared story reading, listening comprehension, vocabulary building, sound blending exercises, and writing. School personnel are provided with detailed materials for use in the classroom and receive intensive training prior to implementation that prepares all certified staff to teach a daily 90-minute reading class. Reduced class size is achieved by having all certified teachers - media specialists, music teachers, art teachers, special education teachers, etc. trained to teach reading. To increase program fidelity, lessons are highly scripted, and strict adherence to a structured curriculum is required, with supervision and coordination by a reading facilitator who oversees implementation (Greenlea and Bruner, 2001).

Independent studies of CSR suggest the results of these change efforts in high poverty schools are highly variable and modest overall. Meta-analysis of the evidence for 29 of the most widely implemented models (Borman, et al., 2002) found that collectively CSR students outperformed 55% of students in control schools. Schools implementing CSR models for 5 years or more showed larger

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3 In the early 1970’s, the federal government sponsored a set of ambitious experiments examining the effects of planned variations in the Head Start and Follow Through programs. Like the evaluative studies of curricular implementation, these massive studies came to the conclusion that planned educational programs were implemented variably in local settings, so that researchers began to doubt that faithful implementation of research-based practices could occur inside schools. Perhaps the most significant study reaching this conclusion, was the RAND study of Federal Policies Supporting Educational Change (Berman and McLaughlin, 1975) which looked at several different federal programs designed to spur educational innovation (including Title III of ESEA, the Right-to-Read program, Vocational Education, Part D, and Title VII, Bilingual Education) coming to the conclusion that none were being implemented faithfully in local schools (Rowan et. al., 2004).
effects, with Direct Instruction, High Schools that Work, and Success for All showing strongest evidence of effectiveness in improving student achievement. A systematic review conducted for the US Department of Education (American Institutes for Research, 2006) found five middle and high school models to have moderately positive effects on student achievement, 5 models with limited effect, and 8 models to have zero effect on achievement. At the elementary level, the same study reported only three CSR designs as having moderately positive effects on achievement with diverse populations.

Berends’ (2002) longitudinal study of the heavily invested and promoted New American Schools (NAS) model found weak implementation, program fidelity, and modest evidence of improvement in the 163 schools examined, with 51% showing gains in mathematics and (47%) showing gains in reading relative to the district. Weak or stagnant implementation was reported in schools having low levels of teacher buy-in and support; inconsistent and/or ineffective leadership; poor relationships among school, district, and union staff; and where teachers’ expectations of students were low. These hindering conditions seem to show that implementation of whole school designs are unlikely to succeed in schools with low capacity and cultures resistant to change. Berends concludes that the NAS hypothesis that a school could improve its performance by adopting a whole-school design was largely unproven, as was the scale-up hypothesis that a district that converted 30% of its schools using whole-school approaches would become high-performing and not revert to unproductive practices under changes in administration. The impact on student achievement in the San Antonio school district (95% Hispanic/black students) which adopted the NAS model for all schools in 1995 was reported as ‘moderate’ (Hill, 2000).


**Middle Schools**

The middle school “concept” introduced in the late 1980’s was intended to create an educational experience more developmentally responsive to the needs of young adolescents by introducing new organizational and instructional practices (e.g., interdisciplinary team teaching). Addressing some of the conditions for learning for this age group included adopting prevention models that focus on changing the social norms that foster antisocial behavior. Juvonen et al. (2004) in a comprehensive assessment of American middle schools report nine million students attend public “middle schools, typically consisting of grades 6-8. Middle schools have shifted focus several times between academic achievement and meeting the social, emotional, and psychological needs of early adolescents. Their research concluded that current middle schools do not yet fully serve the needs of young teens and can cause problems that negatively affect students’ developmental and academic progress.

About 70 percent of American 8th-grade public-school students fail to reach proficient levels of performance in reading, mathematics, and science on national achievement tests. This is particularly true for Latinos and African Americans, who continue to lag behind their white counterparts, even when their parents have had college education. Juvonen states that bridging such gaps might require greater (and wiser) investments to lessen the achievement gaps between advantaged and disadvantaged students although at the moment, it is not known which forms of support provide the largest payoff. To address the goal of decreasing the disparities among students entering middle grades, Juvonen recommends evaluation of various forms of supplemental services for the lowest-performing students, including summer school programs before 6th grade and additional reading and math courses after 6th grade.
The middle school vision has not been completely fulfilled as a result of inadequate implementation of the middle school concept in most districts and schools (Felner et al, 1997 and Williamson and Johnston, 1999). As well, many middle school teachers do not have a major, minor, or certification in the subjects they teach or training in the development of young adolescents. Juvonen (p. 115) says middle school students are more likely to have a qualified gym teacher than a trained math instructor. In addition, only 25 percent of middle school teachers report having specialized middle-level professional preparation (McEwin, Dickinson, and Swaim, 1996). The Rand report recommends evidence-based models of professional development for teachers should be adopted to improve the subject-area expertise and the pedagogical skills of teachers. Principals face similar training issues, in addition to the challenge of the amount of time disciplinary issues at this age level take from other activities that can foster a school climate that is conducive to teaching and learning.

Growing evidence of low middle school achievement, has caused many large school districts to abandon the concept. Following Cincinnati’s lead, Cleveland, Hartford, Harrisburg, New York City and others are converting middle schools to K–8 in the hopes of boosting achievement and improving school safety. Research from Philadelphia found K–8 students outperformed middle school students and 11% more went onto more rigorous college prep high schools. Maryland this year provided $7 million for extra academic services, such as after-school programs and summer school, for middle school students and is requiring middle schools to begin upgrading their academic programs. Georgia this year passed legislation that requires middle schools to spend a minimum of five hours a day on instruction in the core subject areas of English, science, mathematics, and social studies. Juvonen (2004) notes that existing research related to middle schools is limited and that considerable information gaps exist and further research is needed.

**High School Reform**

High school reforms have moved to the top of the policy agenda in recent years. The most troubled high schools are concentrated in 50 large cities and the majority of their students are Afro-American and Hispanic (Quint, 2006). Quint cites a 1999 analysis of the trajectories of all ninth-grade students (predominantly low-income African-American or Hispanic) in comprehensive high schools in four large urban districts. Of a representative group of 100 ninth-grade entrants, 44 students did not complete ninth grade on time. Within this group, only 12 students remained in school three years later. Among the 56 students who successfully completed ninth grade, 36 were promoted on time to twelfth grade. As a result of such statistics, a number of high-profile and large-scale high school reform initiatives are being intensively studied for their capacity to positively affect attendance, engagement, achievement, graduation rates and post-secondary education and training success.

Among the promising strategies reported in the literature are multiple methods of assessment, personalized learning, flexible timetables and structures, career academies involving employers, and new forms of professional development for secondary teachers (Nelson, 2007).

Evidence from a recent large-scale evaluation of three programs implemented in 2,500 urban high schools (Quint, 2006) using a comparison control design identified a number of lessons for redesigning the high school experience. The study examined Career Academies, First Things First, and Talent Development programs in schools with ethnic minority populations ranging from 86-98% across 17 cities during 1999-2005. Practices with positive effects on achievement, retention and engagement involve both structural and instructional reforms. These included small family groupings of student and teachers, special supports for freshmen, faculty advisory systems, double blocked periods, one-semester intensive catch-up courses, more time on task, providing teachers with well-designed curricula (instead of asking them to create it), coaching in pedagogical strategies, scheduled time for teacher teams to meet to examine student work and plan instruction, work experience and
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W. Stan Stenavall

apprenticeship opportunities for students. All changes required sustained investments and technical support from the school districts. Increases in ninth grade attendance (9%), academic credits earned (11%), retention and promotion rates (8%) in the Talent Development programs compared favourably with control populations, and showed marked improvements in Grade 11 math for this cohort. Career Academy programs improved attendance, especially for high-risk students, but did not register statistically significant impacts on reading and math scores.

In a smaller but informative study, Education Trust (2005) examined seven urban high schools enrolling 60% or more low-income and ethnic minority students to distinguish differences among high and average impact schools. Common practices in the four schools that were producing significant gains on state assessments of math and reading were: an academic culture, high expectations, use of assessment to guide instruction, encouragement to take high-level courses, increased instructional time and time on task, support for struggling students, recruitment of quality teachers, in-field teacher assignment, mentoring and support for novice teachers.

The small schools strategy (often implemented as ‘schools within schools’) is being adopted in urban districts from Dallas to Boston under $700M in federal government grants for “small learning communities”. Chicago Public Schools has opened 18 smaller high schools since 2001, with another 60 career-focused academies established in the same period. Examples of cities introducing the small schools model from K–12 include Cincinnati and Philadelphia (Supovitz and Christman, 2003), New York and Boston (Fine, 1994; Clinchy, 2000). The cumulative literature is contradictory. Many studies report that small schools have increased attendance and graduation rates and decreased suspension rates, and facilitated teacher collaboration around instruction, but have not yet improved academic achievement. A study of Chicago’s new smaller high schools from 2002-05 (Kahne et al., 2006) reinforces these conclusions. Other large-scale studies cite positive effects and gap reductions for the achievement of at-risk urban students in ‘small schools’ (Raywid, 1998; Lee& Smith, 1994; Lee et al., 1995; Bryk & Thum, 1989; Cotton; 1996 and others).

Extended Year

According to the National Association for Year-Round Education more than 2.3 million students in 3,181 public schools operate year round, a significant increase from 360,000 students in 408 schools in 1986-87. There are many types of year-round schooling but most often, it is a reorganization rather than an extension of the school year. When year-round schooling has been introduced for instructional reasons rather than plant/space efficiencies, restructuring the year to space student holidays more evenly with smaller gaps between school sessions, has shown in some studies to improve achievement levels for students who live in less affluent circumstances (Gandara & Fish, 1994; Cooper, et al., 2003) and those whose first language is not the language of instruction (Weaver, 1992). Some caution should be exercised with these results as the schools in the Gandara & Fish study added instructional days to the calendar and lowered class sizes.

The research that attempts to measure the influence of year-round education on student achievement is inconclusive and often contradictory. Palmer & Bemis (1999) and Kneese (1996) generally found that the achievement of children in year-round schools is as good as, or slightly better than, that of their peers in traditional schools. However Cooper, et al. (2003) reviewed 39 studies and found that modified school calendars have a very small, insignificant, effect on achievement even though the students, parents, and staff that participate in year-round schools are positive about the experience. Kneese (2000) found in a longitudinal matched school study of six elementary schools that in most cases, year-round students posted overall higher test-score increases than those of their peers on the regular calendar. McMillan (2001) examined data for more than 345,000 North Carolina public school students and found no achievement advantages in year-round schools. Stenavall & Stenavall
(2001) analyzed Advanced Placement Index scores for California schools and found gains for single-track schools only. Shields and Oberg (1999) compared results for 31,500 elementary school students in a metropolitan district over six years. They found 4% of YRS scores and 21% of traditional school scores below the predicted state ranges but suggest that changes in organizational arrangements, social climate and other factors helped explain better academic achievement in YRS.

Little research has been done on why year-round schools appear to be beneficial for some students, even though the common belief is that the summer break contributes to learning loss. According to Cooper (1996) all students experience learning losses when they do not engage in educational activities during the summer, (approximately 2.6 months of grade level equivalency in mathematical computation skills) and the greatest areas of summer loss regardless of socioeconomic status, are in factual or procedural knowledge. Low-income students experience greater summer learning losses than their higher income peers, as on average, middle-income students experience slight gains in reading performance over the summer months, whereas low-income students experience an average summer learning loss in reading achievement of over two months. Alexander & Entwisle (1996) found that while achievement for both middle and lower-income students improves at similar rates during the school year, low-income students experience cumulative summer learning losses over the elementary school grades which can be mediated by a summer literacy camp program such as the one Schacter (2003) studied in Los Angeles, CA. When reading instruction and tutoring were integrated into a summer camp context, disadvantaged first grade children from schools whose reading test scores were below the 25th percentile made significant gains compared to students who did not attend the summer intervention. Borman’s (2004) study of the Teach Baltimore Summer Academy program found that providing access to high-quality summer programs for multiple years can help close the achievement gap. Ballinger (1995) believes that year-round schooling boosts performance because more frequent but shorter breaks allow struggling students extra time for remedial help.

Joveneon (2004) states minority and low-income children start school less academically prepared than do white and higher-income youngsters (Lee and Burkam, 2002; Zill and West, 2001) and in elementary school nearly two-thirds of African-American and Latino children are two years below grade level in reading (Price, 2001) which means considerable socioeconomic status (SES) differences exist in reading and mathematics (Alexander and Entwisle, 1996). She suggests summer programs during the early grades when students are learning basic skills (and when the summer losses appear most substantial), might be particularly effective in helping to bridge the achievement gaps (Cook, 1996). Despite a lack of conclusive evidence showing that year-round schooling is able to dramatically raise student achievement, the approach is being adopted by more and more schools and districts though it is not known whether these changes are for educational or logistical reasons.

A related initiative to increase instructional time in low-performing schools is the extended day, being explored in Connecticut, Florida, New York, California, Tennessee, New Mexico and Massachusetts and elsewhere. One of the costliest school reforms, it has potential to increase a state’s per pupil budget by 30% (Mott Foundation, 2007). Fairfax Virginia County extended the school day in their 20 lowest-performing schools, hiking teacher salaries by 7% (Odden & Kelly, 2002). Teachers in the Massachusetts’ extended-day pilot receive a 30% bonus for their added time; early reports indicate pilot schools are experiencing improved attendance, engagement and achievement (New York Times, March 2007). Research (Education Sector, 2007) suggests adding time without improving the quality of instruction and student engagement is not cost-effective.
LITERACY

The early acquisition of literacy skills became a primary focus across American schools, as foundational to student success in mastering more rigorous curriculums. This was evidenced in large-scale interventions to improving reading instruction and approaches for English as second learners.

Mandated Instructional Approaches

The Education Department’s Reading First was the largest early-reading initiative undertaken in the history of the United States. Created in 2002 to address the belief that many schools practiced popular but misguided fads in reading instruction, it was designed to provide scientifically-based instruction and resources to K–3 students in high-need schools. An associated program, Early Reading First, was designed for preschool. The one billion a year Reading First program includes more than 1.7 million children in more than 5,600 participating schools in 1,600 districts who are required to use approved instructional programs, materials, and strategies, valid and reliable screening, diagnostic and ongoing classroom assessments. Statewide accountability and leadership structures are also funded and required. More than 101,000 K-3 teachers were trained to implement high-quality reading programs through professional development associated with Reading First. The program has led to significant increases in reading instruction time (almost 100 minutes more per week on average) compared to non-participating classrooms, according to the Reading First Implementation Evaluation: Interim Report, coaching for teachers and better use of assessment data to guide instruction. The CEP report, Keeping Watch on Reading First (2006), reports the program is having a significant impact for participating schools and districts as well as affecting some that do not participate directly but may benefit from related professional development activities provided by the state.

State-level data collected indicate that first, second, and third-grade students in Reading First in 2004-05 made strong gains in reading proficiency, and reading fluency scores for low-SES students rose from 33-39% and from 34-37% for Afro-American students. Some Latino and African-American students participating in Reading First in Ohio for at least two years closed the gap on white students across the state (Salzman, Newman, Clay, & Lenhart, 2006). While studies show promise, it may be too early for definitive conclusions until extensive studies such as the IES- National Center for Educational Evaluation and Regional Assistance 3-year study of 125 Reading First schools and 125 non-Reading First schools are available in 2007/08. Reading First case studies (Scott, 2006) illustrate the benefits and the challenges of highly structured reforms as they increase consistency across settings and populations but they prevent adaptations that might make reforms more effective in certain settings and for particular populations.

Recent reports have concluded the Education Department’s oversight of the Reading First grant-application process seemed biased toward a particular approach, Direct Instruction, and failed to screen consultants for potential conflicts of interest. An example of an approach until recently not supported by the National Reading Panel but highly rated by another federal education department is Reading Recovery. The U.S. Department of Education’s What Works Clearinghouse found that the program had “positive” effects—the highest evidence rating possible—on students’ alphabetic skills and general reading achievement and “potentially positive” effects, the next-highest rating, on students’ reading fluency and comprehension.

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4 After reviewing over 100,000 studies on reading, The National Reading Panel (NRP) found five components essential to a child's learning to read: phonemic awareness, phonics, vocabulary, fluency, and comprehension.
The findings of Slavin et al. (2006) imply that the minority achievement gap (about 50% of a standard deviation on the National Assessment of Educational Progress) would be reduced by half if African-American or Hispanic students experienced another reading program, *Success for All*. A 2001-2004 study of this program in seven impoverished middle schools in both urban and rural areas showed a gain of an average of 24.6 percentage points in the number of students passing their state reading assessments as compared to matched control schools which gained 2.2 percentage points, and schools in their respective states gained 4.2 points. A striking example is a K–12 school primarily serving Native American students in Washington State, where seventh graders gained 95.5 percentage points, with 100% of students meeting standards on the Washington Assessment of Student Learning (WASL) versus 18.4 percentage point gains for the comparison school and a state average of 20.7 percentage point gains.

Alabama’s Reading Initiative (ARI) launched in 2001, was an intensive literacy reform involving instructional changes across all classrooms. It combines structured curriculum and state approved resources/texts, extended reading instruction blocks, frequent diagnostic assessment, the training of over 20,000 teachers, and provision of side by side coaching in new instructional strategies. Among reported ARI results are increased proficiency rates of 9% over five years compared to 3.1% for non-participating schools, and high teacher satisfaction rates (Moscovitch, 2004).

**English as Second Language Learners**

Many immigrants to the US reside in urban centres, placing pressure on inner-city schools to develop English as a second language (ESL) programs that foster the language learning needs of non-English speaking students. In a study of English Language Learners, Kindler (2002) estimated there were 4,584,946 ELL students enrolled in US public schools in 2000/01, a 38% increase from two years previous. The largest percentage of ELL students was in California.

The *English Acquisition Act* enforced by the *No Child Left Behind* policy requires schools to administer rapid transition to English only instruction. As a result, many states, including California, have passed restrictions on types of programs and initiatives that can be used to instruct English language learners.

There are wide variations among bilingual programs, ranging from dual language to early exit to concurrent translation options. Consistent findings from meta-analyses challenge the notion that all-English approaches are superior. A meta-analysis conducted by Rolstad et al. (2005) found advantages in bilingual approaches that utilized the student’s first language for instruction, especially in content areas, when outcomes are measured in the student’s native language. Bilingual education programs which aim to develop children’s academic use of their first language as well as the second language were shown to be effective. There is a close relationship between students’ academic development in their first and second languages in situations where students are encouraged to develop both languages (Cummins, 1998). Banning or discouraging the use of the first language for instructional purposes was not seen as effective overall. However, cost implications for providing bilingual instruction especially in multi-linguistic inner-city regions are high because they require additional staff and resources.

According to Krashen & McField (2005), meta-analyses of bilingual literature overwhelmingly demonstrate the relative effectiveness of bilingual programs. They report that children in bilingual programs typically outperform their counterparts in all English programs on tests of academic achievement in English. Another meta-analysis attempting to ascertain whether bilingual or English-only programs are more effective, observed wide variability in program, grade, sample size, and outcome measures. Students in long-term bilingual programs did better than those in short term
transitional bilingual education programs which gradually moved students to English only instruction (Rolstad, Mahoney and Glass, 2005).

Carter and Chatfield, (1986) conclude that effective bilingual programs in elementary schools are a result of a complex interrelationship of curriculum, classroom conditions, organizational process, school social environment and there is not a simple cause effect relationship between the program and the outcomes due to differing local conditions.

**EARLY CHILDHOOD INTERVENTIONS**

Federal and state governments have recognized the importance of early interventions, investing heavily in pre-school programs such as Head Start and Even Start and full-day kindergarten programs.

**Pre-School Programs**

Research provides very strong support for early childhood programs in general and pre-K programs in particular. While poverty concentrated in large urban centres has been associated with multiple risk factors that have a negative impact on educational outcomes, early intervention can improve outcomes for vulnerable children in high-risk environments (Fantuzzo, et al., 2005; National Scientific Council on the Developing Child, 2004; Klein, 2004; Rose, 2002; OECD, 2004; Ross, 2004 and others). Participation in quality early learning experiences promotes stronger cognitive and social/behavioural outcomes, and children who experience greater risk early in life receive greater benefit from participation (Hubbs-Trait et al., 2002 in Fantuzzo, 2005). A meta-analysis of 35 studies published between 1990 and 2000 assessed short and long-term benefits of preschool programs and found positive effects on achievement last 5 to 10 years. The gains are significant and lasting only in programs of high-quality and content (Peisner-Feinberg, 1999). High quality programs that focus on preparation for school can reduce the gap ethnic minority sharply, with long-term benefits in school achievement and social skills (Barnett, 1995).

A federal government initiative called Head Start was launched in 1965, providing at-risk children from low-income families free access to early childhood programs. With an operating budget of $6 billion annually, it is the largest publicly funded pre-school educational program. Head Start has a specific focus on developing early reading and math skills and offers services in early childhood development and health through a network of community partnerships. Parents are engaged in their children's learning and in the administration of programs, which operate for full or half-days nine months a year. In 2002, Head Start was revamped as Follow Through to increase the focus on school readiness, staff training and accountability for program quality. Early evaluations of Head Start children (McKey, 1985) found impressive cognitive gains that washed out by the end of second grade. Caputo (2003) had negative findings for Head Start's effectiveness compared to more intensive pre-school programs such as Perry Preschool and Abecedarian Project. A subsequent Head Start impact study (Urban Institute, 2005) reported modest but statistically significant gains in pre-reading and writing skills, vocabulary, and parenting practices. Participation in Head Start narrowed by 50% the gaps experienced by students prior to and post kindergarten. Particularly positive effects were found for three-year old African and Hispanic children. Caution needs to be exercised when comparing Head Start to other programs that do not target at-risk children, as Head Start children generally enter at lower developmental levels.

Even Start is a family literacy program based on a school-community partnership model intended to break the cycle of poverty and illiteracy by integrating early childhood education, adult literacy and
basic education. A 2003 evaluation of Even Start by the US Department of Education found both children and parents made gains in literacy.

The research has documented a variety of benefits from preschool participation. More positive classroom behaviour, social engagement and cooperation with peers is reported by Brooke (2004) and Barnett (2003, 2004). Longitudinal studies have shown long-term benefits on academic and social success (Lee, 2003, Wylie, 2003). Significant gains in early reading and mathematics achievement were associated with the Perry Preschool Project and the North Carolina Abecedarian Project (Campbell & Ramey, 1994; Schweinhart & Weikart, 1997). Others have documented increases in general knowledge, verbal intelligence, vocabulary, and mathematics (Christian et al, 1998; Burchinal, 1995). The NICHD Study of Early Childhood Care evaluated the effects of a range of child-care experiences, reporting significantly better cognitive and language skills by kindergarten entry for children involved as compared to others (Fantuzzo et al., 2005, p. 584). Barnett and Hustedt (2003) identified long-term benefits such as increased high-school graduation rates, and decreased crime and delinquency rates. A study by Fantuzzo and his colleagues of approximately 4000 children (64% black and 15% Hispanic) in the Philadelphia School District, found significantly positive effects associated with attending early learning centres when children were tested at kindergarten entry and exit.

Some 38 states currently fund preschool programs (Olson, 2007). The No Child Left Behind legislation of 2001 drew greater attention to young children's transition to elementary school, but the debate has continued regarding universal programs or targeted programs. There is an identified need for coordination across pre-school-Grade 3 learning to align instruction to reinforce skills learned in preschool and improve the transition to primary school (Pianta, 2004).

**Full-Day Kindergarten**

As more children entered kindergarten with minimal literacy skills, a weak foundation in English, and other learning barriers, many urban districts implemented full-day kindergarten to address readiness to learn issues. The percentage of US children attending full-day kindergarten programs grew from 30% to 60% between 1979 and 2000 (Kaurez, 2005). There are two forms that that full-day kindergarten may take. One requires at-risk students to repeat the same session of kindergarten in the morning and the afternoon. The second involves 5-6 hours of instruction per day, with more time devoted to social enrichment activities (Martinez and Snider, 2001).

Drawing conclusions from the research on the benefits of full-day kindergarten (FDK) is difficult due to the mixed findings. Proponents emphasize that students who are delayed cognitively, physically socially or emotionally benefit from having more exposure to support. FDK has also been seen to level the playing field for those students who did not attend a quality pre-school programs or may receive minimal academic support in the home (Martinez, S., and Snider, L.N., 2001). Students attending full-day kindergarten demonstrate somewhat higher academic and social achievement than half-day kindergarten students especially during the kindergarten year. However, further studies have shown that that advantage diminishes over time.

A large longitudinal study by RAND examined how children’s skills and knowledge at kindergarten entry predict their achievement in later grades, finding both academic and nonacademic school readiness skills at entry to kindergarten were significantly related to eventual reading and mathematics achievement in fifth grade. For urban minority students, strong positive effects of FDK were seen in students who were non-English speaking or Hispanic, but there were no differential effects based on socioeconomic or other racial/ethnic factors (Le et al., 2006, p. 7). Children benefit from developmentally appropriate full-day kindergarten programs. Those exposed to more opportunities
for learning require less remediation in subsequent grades. Full-day programs providing more self-directed activities have resulted in higher scores, higher levels of first-grade readiness and better social skills (Le et al., 2006, p. 8).

All states permit extended kindergarten programs. They are found in number of large urban districts, including Philadelphia and Minneapolis. Many districts and states such as Arizona and New Mexico target schools with the largest proportions of disadvantaged learners (WestEd, 2005, p. 2).

Concerns regarding the implementation of FDK include fears the curriculum may be too demanding, backlash from excluded families in the case of targeted programs, and lack of family discretion in the case of mandated programs. Additionally, full-day kindergarten competes for funds with other initiatives such as preschool and daycare, and could result in drawing preschool staff into higher paid kindergarten positions (WestEd, 2005, p. 3).

Research that provided a better understanding of how full-day programs and nonacademic skills may influence outcomes and the associated costs of each type of intervention would guide policy decisions about programming (Le et al., 2006). Likewise, Cotton & Conklin (2001) emphasize the need for well-designed studies on the long- and short-term effects of early childhood education and to determine if various models (for example, didactic, teacher-directed programs or less-structured approaches) produce superior cognitive and behavioral outcomes.

**TEACHER QUALITY**

Research on teacher effects (Sanders & Rivers, 1996; Jordan et al., 1997; Ferguson, 1998; Sherens and Bosker, 1999; Hanushek, Kain, and Rivkin, 1999; Wenglinsky, 2000; Aaronson et al., 2003; Rockoff, 2004; Nye et al., 2004; Hanushek et al., 2003; Jacob & Lefgren, 2005; Rivkin, 2005; Haycock, 2006 and others) has found teacher quality to be a dominant factor in student achievement and school improvement and that those effects are cumulative. Whitehurst’s (2002) review of large multi-level and value-added studies of teacher effects controlling for student background and prior attainment finds the weight of evidence incontrovertible that teacher quality makes a difference. Others suggest research has failed to reach a consensus on the relationship between teacher attributes and student outcomes (Goldhaber & Anthony, 2004) and whether student achievement should be used as a basis for teacher evaluation (Berk, 1998; Schalock & Schalock, 1993).

Coleman (1990) reported that teacher quality has a larger impact on poor students than on higher income students. Two studies by Harvard economist, Ronald Ferguson, illustrate how teacher quality impacts the urban minority achievement gap. A longitudinal exploration (1998) of the effects of placing highly qualified teachers in low-performing (poor/minority) primary classrooms in four Texas school districts found these students outscored their peers assigned less-qualified teachers in primary grades by the time they reached grade 11. In a study of metropolitan Louisiana schools, Ferguson determined that a significant increase in the test scores of teachers of Afro-American students would produce a significant decline in the black-white score gap. Sanders and Rivers (1996) used value-added methods to examine the cumulative effects of teacher quality on academic achievement in two large metropolitan school districts in Tennessee. Students assigned to three effective teachers in a row scored at the 83rd percentile in math at the end of 5th grade, while those assigned to three ineffective teachers in a row scored at the 29th percentile. Similar results were reported by Jordan (1997) in the Dallas school system.

Despite robust and consistent evidence of the impact of teacher quality on student achievement, pervasive inequities in the distribution of skilled teachers remain. Only 50% of math and science
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Teachers in urban high schools with 90% minority or greater enrollment met state minimum requirements to teach those subjects in 2000 (Haycock, 2001). Peske & Haycock’s examination (2006) of Chicago, Cleveland and Milwaukee school systems found significant differences between the qualifications of teachers in the highest-poverty and highest-minority schools and teachers in schools with fewer minority/low income students. The former schools had more novice and out-of-field teachers and those who had failed state licensure exams, with qualifications decreasing in direct proportion to the percentage of minority enrollment in the school. A five-indicator Teacher Quality Index (TQI) scale applied by Presley (2005) to the database of 140,000 teachers in the state of Illinois revealed that 88% of high minority schools in 2002/03 were staffed with the bottom 10% of teachers on the TQI scale.

The landmark report of the National Commission on Teaching, *What Matters Most: Teaching for America’s Future* (1996), articulated the goal of a highly-qualified teacher in every classroom by 2006. The NCLB legislation of 2001 enacted this into law, requiring states to comply. A follow-up report *No Dream Denied* (2003) by the National Commission documenting the challenges to achieving the goal, promising practices and presented a national action plan with strategies focused upon improving teacher preparation and reversing high rates of teacher attrition by making teaching a professionally rewarding career. This was followed in 2004 by the national Teaching Commission task force report: *Teaching at Risk: A Call to Action*, whose recommendations included performance-based pay and incentives for teachers to work in the most challenging schools, alternative credentialing programs, teacher induction/mentoring programs, more rigorous teacher evaluations and school-embedded professional development.

Initiatives to improve the quality of the teaching force to provide equitable learning opportunities for students in the most challenging schools include improving initial preparation, supporting their entry into the classroom, and rewarding excellence.

**Redesigning Teacher Training**

Teacher preparation programs faced dual challenges of supply (200,000 teacher vacancies in 2004) and demand for more proficient graduates capable of producing higher levels of achievement for all students in an environment of heightened accountability for learning results. The recommended reforms converged on the following: more rigorous admission standards, aligning programs with dimensions of best practice, more effective practicum experiences and partnerships, incentives to prepare teachers in shortage areas, licensing exams, close programs unable to produce high quality teachers. A national survey of teacher education programs (Levine, 2006) concluded 75% had inadequate curricula, low admissions and graduation standards and were disconnected from the realities of contemporary classrooms.

Under the NCLB legislation (2001), every state must report annually on the quality of teacher preparation programs in relation to standards for teachers and their alignment with standards for students; requirements for an initial teaching certificate or license; pass rates on assessments used in certifying or licensing teachers; state standards for evaluating the performance of teacher preparation programs; teachers in the classroom without an initial regular certificate; and state efforts in the past year to improve the quality of teaching. Inconsistencies and omissions in data reported suggest the process has yet to be perfected (Huang, Yi, & Haycock, 2002).

Some states are strengthening their teacher preparation programs and developing systems to hold them accountable for the proficiency of their graduates (McCabe, 2004). Institutional warranties imply that teacher preparation institutions are responsible not just for ensuring their students do well on licensure examinations, but also for guaranteeing their effectiveness in the classroom - a new level
of institutional accountability. While no research has been conducted on the warranties offered by teacher preparation institutions, Louisiana is developing an accountability system based on value added measures for teacher training institutions following evaluations which found students tended to show greater improvements if taught by teachers who had attended one university as opposed to another.

A voluntary certification system for practicing teachers established by the National Board for Professional Teaching Standards (NBPTS) in 1987 has been widely adopted. Over 47,000 teachers have earned NBTC certification in a process which is substantially more involved than state systems. Three recent independent large-scale value added studies of NBPTS certified teachers have examined their impact on student achievement. Goldhaber (2004) found elementary students of NBCT teachers in North Carolina scored 7-15 percentage points higher in reading and math than other students, with the highest effects for minority students. Students of NBCTs surpassed students of non-NBCTs in almost three-quarters of the comparisons of mathematics performance over three years in Miami-Dade County School District, with the largest effect sizes for Black and Hispanic students (Cavalluzzo, 2004). In a larger sample (entire Florida State) comparing reading and math gains in grades 3-10, Harris & Sass (2007) also reported a larger NBCT effect for Black students, but concluded the efficacy of NBCT as a tool to improve student achievement is negligible.

One review of the literature found only three teacher preparation strategies likely to increase the efficacy of new teachers in high poverty/high minority schools. These were: field placement in an urban school, training in multicultural awareness, and effective screening and recruitment of candidates (Education Commission of the States, 2003).

**Induction and Mentoring**

Both teacher effectiveness and retention are improved by induction programs offering systematic mentoring for novice teachers (National Commission on Teaching and America's Future, 1996). As many as 30-50% of teachers leave the classroom in the first five years of their career, with teachers in high-poverty schools almost twice as likely to leave as those in low-poverty schools (Hirsch, Koppich & Knapp, 2001; Ingersoll, 2001, 2004). The cost of such attrition rates are sobering. The 15.5% annual teacher turnover rate (as high as 40% for new teachers within their first three years) cost Texas a minimum of $330 million, and perhaps as much $2.1 billion annually (Texas Center for Educational Research, 2000).

Teachers in hard-to-staff schools with high proportions of at-risk students must possess competency in a broad range of instructional skills and strategies (Berry and Hirsch, 2005). The University of California at Los Angeles teacher education program is embedded in urban schools to prepare candidates to meet the diverse racial, cultural, and linguistic needs present in these schools. Quartz and the TEP Research Group (2003) reported that only 10 percent of this program’s graduates had left teaching after three years, compared with over 50 percent in most urban schools. However Berry and Hirsch (2005) note that nationwide state policies provide few funding or incentives for universities to create such programs. A few states have “grow-your-own” teacher preparation programs that target paraprofessionals already working in hard-to-staff schools. Between 1995 and 2001 the retention rate for the more than 300 teachers that entered teaching through California’s paraprofessional teacher training program was 99 percent. California’s Beginning Teacher Support and Assessment Program (BTSA) has proved successful in retaining teachers, with an attrition rate of nine percent of beginning teachers in five years, versus a rate of 37 percent without BTSA or a similar induction program and has been expanded (Hirsch, Koppich & Knapp, 2001).
Connecticut’s Beginning Educator Support and Training (BEST) program is performance-based licensing system which includes support from highly trained mentors. Cincinnati has a well-developed teacher preparation and professional development continuum. Teacher training candidates engage in ongoing clinical experience in professional practice schools for four of their five years of study. By their fifth year, they complete a full-year internship which consists of half-time teaching with coordinated seminars. As new teachers, they are assigned a mentor and receive intensive help from a consulting teacher selected for his/her expertise and given release time to fulfill their role. At the end of the first year of teaching, the consulting teacher recommends continuation or dismissal. The Cincinnati program has resulted in lower attrition of beginning teachers, higher levels of competence and greater selectivity about who remains in the teaching profession.

Other jurisdictions also support or legislate formal induction programs, but often lack of funding or clear direction undermines their full potential. Villani (2002) reports few mentoring programs are found in the most challenging urban districts, with Baltimore being one noteworthy exception.

**Recognition, Incentives and Rewards**

A growing number of states and districts have experimented with individual and group performance incentive plans for improving student achievement. The second generation of “merit pay” (widely perceived as subject to administrator bias and unfairness), emerged as “performance-based pay” for individual teachers or cooperative performance incentive plans (CPI) for school teams, based upon clearly articulated and measurable criteria. Performance-based pay rewarded individual teachers for the development and demonstration of added professional skills and knowledge, often including evidence of student achievement. CPI plans rewarded entire staffs or teams of teachers within schools for improvements in student performance, on the premise that learning is cumulative although it may be tested only at certain grades and teachers must collaborate to collectively influence the overall achievement trajectory beyond predicted annual growth. Kentucky was the first state to pioneer rewards and incentives. By 2006, the number of states providing rewards to high-performing or improving schools had risen to 16 (NCES, 2006) and 16% of American schools had teacher performance pay programs in place (Figlio & Kenney, 2007). Florida adopted an ambitious statewide program in 2005, and Texas launched a performance pay initiative for teachers in high-performing, low-income schools in 2006/07. The largest plan is in Houston, where top-performing teachers recently received $14M in bonuses (Figlio & Kenney, 2007). The three-year old Denver model known as Pro-Comp was created jointly by the union and the district.

The design of these plans varies significantly. Many have been studied for their effectiveness by researchers such as Ballou & Podgursky, 1997; Odden,1999; Odden & Kelley, 2002, Landolfi, 2003; Poggio, 2000; Koppich et.al, 1997; Lawler, 2000; Odden & Busch, 1998; Darling-Hammond, 1996; and others. Researchers have found positive effects on teacher satisfaction, motivation, classroom practices (Jacobson, 1992, Heneman & Milanowski, 1999; Horan & Lambert, 1994; Grissmer, 1998). Students in Kentucky, Texas, North Carolina, and Douglas County Colorado have shown improvements in performance following the implementation of school-based awards programs (Odden & Kelley, 2002; Furhman, 1999; Palmaffey, 1998; Grissmer, 1998; and Ladd, 1996, 1999).

While these and other studies have found school-wide bonuses to have a positive impact on achievement, little was known until recently about the ability of individual pay for performance plans to influence student achievement. Figlio & Kenney (2006) studied the Florida model in 534 schools from 1998–2006, concluding that teacher pay incentives resulted in scores 1–2% higher than those for similar students at non-participating schools, and that pay incentives were most effective in high-poverty schools. In 9 of Chattanooga’s most troubled inner city schools, teacher turnover was reduced and quality improved through a variety of incentives, including free graduate school tuition.
and annual bonuses of $5,000 for instructors who boost student achievement (Benton, 2003). A pay for performance pilot which includes 3 low-performing high minority enrollment schools in Little Rock has found students made substantially higher gains in mathematics proficiency than their peers in control schools (Winters et al, 2007).

**New Forms of Professional Development**

In order to meet school-wide academic targets, professional development is becoming a collective activity rather than a teacher selected option. Best practice recommendations (National Development Council; Darling-Hammond, 1997) emphasize the importance of professional development being embedded in the school, related directly to school improvement goals, focused on collaborative examination of teaching strategies and their impact on student work, clinical supervision and coaching, and technical support in gathering and using assessment data to inform instructional decisions. Such activities enable educators to examine their practices together to make instructional decisions about the collective progress of their students.

Although schools are envisioned as professional learning communities, structures to support and sustain effective teacher growth programs are chronically under-funded. The National Staff Development Council reports the typical American school district allocates only 1% of its total budget for improving the abilities of its staff. Odden and Kelley (1995) suggest professional development funding should be no less than 2-3% of the operating budget. Survey data (Barth, 1999) from 366 high-performing, high-poverty schools found one third spent 10% of their budgets on professional development.

At the state level, 40 states have written professional development standards, 15 require schools to set aside time for professional development, 39 fund professional development; 50 states provide licensure incentives; and 37 states provide financial incentives to earn National Board Certification (NBC). In some states, Teacher-Led Professional Development Centres are being established with a mandate to help teachers link their practice to results and help define responsibility for results.

Reorganizing the school calendar and timetable may positively impact the quality of professional development programs for teachers, as time is a critical resource if teachers are to be able to meet to analyze student work and reflect on their craft. Purnell and Hill (1991) and Raywid (1993) suggest ways to create time for professional development include: time outside the classroom during the school day, refocus the purpose of existing time commitments (e.g., use faculty meetings; use of supplemental contracts and stipends for teachers to attend summer trainings, extend participation beyond the usual hours; lengthen the school day, using an early release on the fifth day to provide an extended period of time for professional development; one morning per week, engage students in alternative activities such as community service that are supervised by parents, community members, or non-instructional staff; and, provide a common planning periods for teachers working on joint projects. The United States Department of Education recommends teaching become a year round occupation and offers grants to school staffs who use the summer months for school planning and in-service training activities.

Specifically in urban schools, targeted professional development in under-performing schools is becoming common. Under a new program for 39 chronically lower performing schools in Miami-Dade, teachers are required to complete 56 hours of professional development. Lowest-performing schools in Mobile, Alabama receive a full-time teacher coach in their choice of reading, writing, or mathematics and additional professional development resources and support. North Carolina devotes funds specifically for professional development, with a working conditions focus, in 16 high-needs pilot districts and has proposed legislation that would provide hard-to-staff schools with funds
to implement reforms based on their working conditions data. Berry and Hirsch (2005) recommend states provide accountability and funding mechanisms to encourage teacher education programs to develop customized programs and support clinical internships in these hard-to-staff schools and all new teachers in hard-to-staff schools should have effective supports provided jointly by the district and university, such as continued access to college faculty, mentors in their content area, ongoing professional development, and access to a network of colleagues teaching in similar environments.

Despite the wealth of literature on professional development, there are few high quality studies associating professional development with student outcomes (Whitehurst, 2002). Cohen and Hill (2001) compared the effects of professional development specifically targeted to a mathematics reform in California compared to teacher participation in unrelated workshops. Teachers who participated in the focused training and whose classroom practice moved towards incorporating the framework of the new math initiative had students who scored higher on a test of the math concepts in the new curriculum than teachers who did not. This study as well as those by Wiley and Yoon (1995), Brown, Smith, and Stein (1996) and systematic reviews by Odjen, et al. (2002) and Kennedy (1999) suggest that when professional development is focused on academic content and curriculum that is aligned with standards-based reform, teaching practice, and student learning are likely to improve.

Survey results (Easley, 2004) for professional development were a significant predictor of Adequate Yearly Progress status for North Carolina schools. For every one point increase in satisfaction with professional development reported, schools were four times more likely to achieve AYP. Professional development was by far the greatest predictor of ABC status at the middle school level, more so than school size, teacher retention or AYP status. Middle schools were 12.4 times more likely to move up one growth category for every one point increase in the professional development domain average. For every one point increase on the Working Conditions Survey, schools were 10 times more likely to be rated in one of the top school designation categories, where least 80 percent of students perform at or above grade level and growth expectations were met or exceeded. Teachers agreeing strongly that they had adequate professional development time had much higher average ratings on the professional development domain.

Berry and Hirsch (2005) recommend states provide accountability and funding mechanisms to encourage teacher education programs to develop customized programs and support clinical internships in these hard-to-staff schools. New teachers in hard-to-staff schools should have effective supports provided jointly by the district and university, such as continued access to college faculty, mentors in their content area, ongoing professional development, and access to a network of colleagues teaching in similar environments. The North Carolina Research Council (2002) summarizes the research base on professional development to reduce the achievement gap for poor and minority students as follows: focus on the subject matter and a range of strategies to teach this to struggling learners, and provide sustained coherent opportunities for teachers to work together on developing instructional expertise and evaluating student work.

**STAY IN SCHOOL PROGRAMS**

Improving high school graduation rates has been a longstanding concern of the US education system. Only 71% of students who entered the 9th grade in the fall of 1998 graduated from high school in 2002. Ethnic minorities fared worse, with only 56% of African American and 52% of Latino students graduating. Many approaches have been tried to enhance the potential of at-risk students to complete high school with the necessary skills. The US Department of Education is in the process of reviewing interventions that use school restructuring methods to reduce dropout,
interventions designed to provide sustained intervention by increasing and maintaining student engagement in school, interventions that focus on populations who are disproportionately at-risk of dropping out, and career academies. These interventions can include services and activities such as incentives, counseling, monitoring, school restructuring, curriculum design, literacy support, or community-based services to mitigate factors impeding progress in school. They can operate in a public or private school setting, postsecondary institutions, or in a community facility such as a youth center or community-based organization.

Vocational, apprenticeship and trades training is a commonly employed strategy to increase retention. Schools with higher percentages of minority students are more likely to offer vocational programs as a graduation pathway. There are presently over 1600 high school Career Academies offering career-related curricula based on a career theme, academic coursework and work experience in partnerships with local employers. Kemple and Snipes (2000) studied the effect of Career Academies on 474 youth at high-risk for dropout from eight urban areas in six states. A positive and statistically significant effect on retention was found at the end of the students’ projected 12th-grade year for the Career Academy group. However, four years afterwards, there was no statistically significant difference between the percentage of high-risk Career Academy and comparison youth who earned a diploma or GED certificate.

Twelve Together and Middle College High School were also examined under the Clearinghouse Effectiveness of Approaches to Reduce Dropping Out of School review. Twelve Together is a one-year program for middle and early high school students that includes weekly after-school discussion groups led by trained adult facilitators to create a peer-support network. The Clearinghouse determined that Twelve Together had potentially positive effects on staying in school, and no discernible effects on progressing in school. Middle College High Schools are alternative high schools located on college campuses that aim to help at-risk students complete high school and encourage them to attend college. The Clearinghouse found Middle College High School to have no discernible effects on staying in school or completing school.

REDUCTION IN PRIMARY CLASS SIZE

While many studies show small achievement gains when class sizes are reduced by a few students, significant gains appear to only occur when class size is reduced dramatically. The most substantial evidence on class size comes from Tennessee’s statewide STAR experiment (1985-1990) and Wisconsin's SAGE project (1995-2001).

Tennessee’s Project STAR (Student/Teacher Achievement Ratio) was a random assignment isolated effects study of two treatments, normal and reduced class sizes, controlling for school-level effects through within school randomization for 1,525 classes. Beginning with kindergarten and continuing to grade three, students were assigned to classes of three configurations: small (13-17 students), regular (22-25) and regular (22-25) plus a teacher aide. Students in the smaller classes benefited, with the largest gains made by disadvantaged minority students (Nye et al, 1999; Hanushek, 1999; Finn & Achilles, 1999).

Wisconsin’s SAGE (Student Achievement Guarantee in Education) program required a selected group of schools to reduce K–3 class size to 15, offer extended services as ‘community schools’, implement a rigorous academic program, and establish professional development and accountability mechanisms. It was non-random in design, using matched control schools, and combined a number of other interventions. Students in the smaller classes under the SAGE approach were found to have significant gains, however there is evidence that the effects were closely related to the abilities and
Improving Educational Outcomes for Urban Ethnic Minorities

Qualifications of the teacher. Further analysis of the data suggested that the largest gains occurred in Grade 1, with that gain being maintained over the next two years (Molnar et al., 1999; Robinson, 1990). Molnar reported significant benefits for black students, with gains from small classes twice that of white students in reading and just slightly less than this in math.

California’s Class Size Reduction (CSR) affected K–3 classes across the state, by providing incentive grants to schools which reduced all primary classes to under 20 students. Outcomes measures from 432 schools did not find differences between students. Independent evaluation found negligible achievement gains and that teachers in smaller classes had not altered their instructional methods (CSR Research Consortium, 2002). Inner-city schools suffered a reduction overall in teacher qualifications due to the 38% expansion in the number of teachers required (NCREL, 2000).

Cotton (2000) summarizes the cumulative evidence on class size effects as follows: smaller class sizes (15-20) students significantly promote achievement in K–3 (+10%) and effects are greater for minority poor students; these effects are sustained into higher grades; children in smaller classes exhibit more positive attitudes toward learning; fewer children in smaller classes are retained; the achievement benefits of small class sizes are considerably less beyond third grade; professional development is required to ensure concomitant changes in teacher practice.

Summary of Findings on US Reforms

The foregoing provides a brief profile of prominent systemic educational reforms and their effects on minority achievement in the United States from 1985 to present. The evidence that emerges is that there is no single magic bullet in terms of strategies for gap reduction, and results are highly interdependent and variable, representing the combined effects of multiple policies and concurrent initiatives. Combined, multi-pronged efforts to close the ethnic minority gap since the late 1980’s have not universally succeeded in doing so, although incremental progress has been made, most especially at the elementary level.

Research on the American experience cannot identify a single a set of gap-closing strategies that will be most effective for all schools. For only a few reforms is there incontrovertible evidence of robust effects across many different types of settings. Differing local needs, capacity and approaches to implementation have a profound influence on the outcomes of any intervention. So too does the balance and mix of competing interventions at work in a given setting. The collective evidence, however, does identify constructive state policies to influence the work of school districts, and another set of actions for districts and schools to close the gap for ethnic minority students. The federal government played a pro-active role in providing legislation, incentives, capacity building, technical assistance and research support to influence state actions.

As illustrated in Figure 1, the reforms varied in magnitude, again making effect comparisons difficult. The broadest in scope but whose impact is less easy to isolate were the cross-cutting systemic federal policy directions. A second set of reforms were practiced almost universally although they were implemented in varying shapes and degrees. Other reforms were optional and generally more district or site specific, although in some instances may have been state-wide.
## Figure 1 Scale of Reforms

<table>
<thead>
<tr>
<th>Systemic Policy Influences</th>
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<td>Curriculum Reform</td>
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<tr>
<th>Large Scale Interventions</th>
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<tr>
<td>Early Childhood</td>
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<tr>
<th>Smaller Scale Interventions</th>
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<tr>
<td>School Effectiveness</td>
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<tr>
<td>Community Schools</td>
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A rough classification of these reforms for effects on reducing minority achievement gap is provided in Table 2 based upon the foregoing review of the literature. They are divided into strong, moderate, weak and inconclusive effects.

There are important caveats attached to this classification. Some reforms represent a category of various models/innovations (ie whole school designs, high school reforms), some of which were found to be effective and others not.) This table is not sufficiently fine-grained to show such distinctions. For this reason they appear in the mixed evidence category. Some reforms, (ie effective schools movement) were highly successful where used but not adopted on a wide scale and therefore impacted fewer students overall. The issue of scope has not been factored into this table. Fidelity of implementation and other confounding factors are not accounted for.
Table 2 Effects of Reforms on Closing Minority Achievement Gap

<table>
<thead>
<tr>
<th>Strong</th>
<th>Moderate</th>
<th>Mixed/Inconclusive Insufficient Research</th>
<th>Weak</th>
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<tbody>
<tr>
<td>Choice</td>
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<tr>
<td>Site-based Management</td>
<td>Principal Leadership</td>
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<tr>
<td>Effective Schools</td>
<td>Movement</td>
<td></td>
<td>De-Tracking</td>
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<tr>
<td>Assessment and Reporting</td>
<td>Curriculum Reform</td>
<td></td>
<td></td>
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<tr>
<td>Accountability: Interventions</td>
<td>Technical Support</td>
<td></td>
<td>Sanctions</td>
</tr>
<tr>
<td>Community Schools</td>
<td>Extended Learning Time</td>
<td></td>
<td>Whole School Designs</td>
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<tr>
<td>Literacy Programs</td>
<td></td>
<td></td>
<td>Middle Schools</td>
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<tr>
<td>Early Childhood Interventions</td>
<td></td>
<td></td>
<td>Bilingual Programs</td>
</tr>
<tr>
<td>Improving Teacher Quality</td>
<td>Better Initial Preparation</td>
<td></td>
<td>Mentoring Programs</td>
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<tr>
<td>Reduced Primary Class Size</td>
<td>Prof. Development Rewards /Incentives</td>
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<td></td>
<td></td>
<td></td>
<td>Stay in School Programs/Trades</td>
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<td></td>
<td></td>
<td></td>
<td>Vocational</td>
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</table>

A case study of a large urban district which has been recognized for success in reducing the minority achievement gap through an effective mix of strategies is provided in the Appendix.
Policy Analysis

What lessons are to be found in the foregoing systemic reforms salient to the education of aboriginal students in urban settings in Canada? We first examine the potential application of these initiatives to Canadian schools, referencing the presence of any similar approaches currently underway where they are known, keeping in mind a review of the Canadian literature was not in the scope of this paper. We then focus on three clusters of reforms with highest likelihood of impacting the success of aboriginal learners and consider potential areas of influence for the federal government in supporting such directions.

From the outset it will be evident that some reforms are less relevant to the Government of Canada than others for several reasons. These factors include:

1) Contextual Differences
Significant differences in the US and Canadian school systems make some reforms less applicable in Canada. In general, Canada experiences less extreme concentrations of urban minority poverty. Canada has far less variance in school funding, teacher qualifications, and curriculum standards, thus fewer extremes in school quality overall. For these reasons, reforms associated with de-tracking, rigorous content standards, and teacher qualifications are of less relevance to Canadian policymakers. With two limited exceptions, charter and voucher systems are not factors in the Canadian education system, and separate schools are already funded to some degree in many provinces, thus restricting the leverage of school choice as a powerful reform. In general, Canadian provinces have well-established assessment regimes, making this area of less interest, although the associated uses and reporting of assessment data and legislated accountability mechanisms such as incentives and sanctions for school performance are weak or lacking. The United States federal government through the Department of Education has taken an active interventionist role in the K–12 system, which is not the case in Canada. Another distinction in general context is the difference in population density which in Canada limits the economies of scale that may be achieved through some reforms. Further, Canadian business leadership and philanthropic foundations have not been major players in education reform, whereas their American counterparts exerted significant influence politically and financially in steering, underwriting and providing technical support to systemic school reforms.

2) Legislative and Constitutional Limitations
The Canadian constitution cedes responsibility for administering the K–12 system to the provinces and territories. While direct federal action may not be possible in K–12 reforms, there are indirect and potentially powerful ways to influence the work of provinces and schools which can be explored. While many of these would rely on the cooperation of the provinces/territories over an opt-in period, if sufficient incentives are offered this should not be an obstacle. The federal government is less fettered with respect to early childhood interventions.

3) Limited Evidence of Effectiveness
The third criteria for determining interest the Government of Canada may have in a particular US school reform is the evidence of its effectiveness. As noted earlier, the evidence is often mixed, depending on context, precise design and implementation. Further, it is frequently impossible to separate the effects of a particular intervention from others simultaneously in play. Additionally, it is worth noting that some reforms need not be universal to be effective (i.e., focus schools) and awareness of their existence increase the repertoire of available strategies. For these reasons, few of the reviewed reforms may be dismissed arbitrarily as unilaterally ineffective.
INTERPRETING REFORMS IN CANADA

As the scope of this literature review did not include analysis of the evidence regarding the presence or implementation of these reforms in Canada, the very brief comments in the following section serve only to outline to what degree they can be considered in the mix of strategies with potential for impacting the success of aboriginal students in urban settings.

School Choice

While not unimportant, the issue of school choice is less volatile in Canada. Within the public school system which serves approximately 92% of the population, the range of choice varies with provincial legislation and school district policy, and is also influenced by geography and demographic trends, with far fewer options available to families in rural and declining enrollment areas. While open enrollment legislation exists in a number of provinces, in practice it is restricted by the limited supply of alternative schools. Some urban school districts are creating more choices (focus schools) as mechanisms for specialization to meet emerging unmet learning needs, harness parent and student engagement, or combat declining enrollment. Edmonton Public is recognized as a leader in the provision of school choice. A few districts have created schools with an Aboriginal culture focus, such as Prince Charles Elementary in Edmonton Public and Mount Carmel in Kenora. While the effectiveness of schools of choice varies with their individual design and implementation, combined with decentralization they have potential to create a successful learning environment through a more focused mission and delivery, and offer tantalizing possibilities for working with aboriginal learners.

Decentralization

The degree of site-based management in Canadian schools depends upon provincial and local district policy and legislation frameworks. School councils are common to all jurisdictions but in most their authority is limited to an advisory capacity. School improvement planning councils (BC) have not been a successful experiment. Expectations of principals to be accountable for managing school growth plans are increasing. Some isolated exemplary programs for leadership training exist, but few if any districts have comprehensive performance management and professional development systems in place for principals. Schools with challenging populations including those serving aboriginal students need highly skilled principals. There is no credentialing to recognize principals with specialized qualifications and successful experience in high-aboriginal settings, nor incentive plans to attract them.

Standards/Curricular Reforms

With curriculum standards generally considered strong, Canada did not experience the intense pressures for increasing academic rigor seen in the US, although Ontario undertook a comprehensive overhaul of its curriculum in the 1990’s in response to public pressure due to poor results on national and international assessments. Curriculum scope and sequence and expected learning outcomes are set by individual provinces/territories, although these are converging across some provinces through curriculum protocol agreements. A common provincial curriculum suggests that all students will be exposed to similar standards including schools serving large numbers of aboriginal students. While tracking is not a common practice in Canada, assessment results indicate expectations may be lower in such schools.

Despite mandated core curricula, districts may offer a small number of locally developed courses. This flexibility enables schools with large numbers of aboriginal learners to offer appropriate cultural, first language, and other programs to better meet their learning needs.
Assessment and Accountability

Unlike the US, Canada has no information system at the national level to monitor and report on aboriginal student achievement levels in K–12. Annual assessment aligned with the mandated curriculum is practiced at key stages of the system (i.e., grades 3, 6, 10, and 12) in all but one province. In some jurisdictions the results are only reported at the aggregate level, but the majority also report results at the district and school level, often in terms of numbers of students not meeting, meeting, or exceeding expectations. The data is commonly reported over 5 years in order that performance trends may be more clearly seen. BC is the only province to disaggregate the data to report on aboriginal students as a cohort by school/district/province. This is made possible by a student information system which permits identification and longitudinal tracking of students through a PIN number. As this is a goal articulated by the CMEC, other provinces such as Manitoba and Alberta are working towards identifying the aboriginal cohort to better understand levels of achievement and the impact of additional supports being put in place.

The use of other forms of standardized assessments that can provide annual growth data for individual grades and timely diagnostic feedback to teachers to inform instruction varies. While best practice urges data-driven instructional decisions and collective examination of student work against common exemplars, many schools are unfamiliar with these processes or implement them unevenly. Value-added systems are not yet in use in Canadian schools, although Alberta practices a modified version where statistical calculations are performed to project each school’s annual achievement targets based on previous performance.

Accountability systems are generally weak in Canada. Although achievement results are reported in school report cards in a growing number of provinces and districts, there are few if any consequences for failure to improve student achievement. BC has established aboriginal enhancement agreements with each school district setting out agreed targets for improved achievement, and the resources and strategies for meeting these goals, but linkages between funding and results are weak. In no province are failing schools singled out for sanctions, but at least one exemplary program to build capacity in struggling schools through sustained instructional coaching and resources is found in Ontario’s Turnaround Teams Program. Such approaches have proven successful in schools working with high aboriginal populations.

School Restructuring

Community schools appear to be a somewhat promising vehicle for leveling the playing field for disadvantaged urban minorities. This model requires fundamental changes in school organization and program delivery in order to successfully integrate a wide range of agency services into the school to support learners and their families. BC, Quebec, Saskatchewan and Manitoba presently have Community School programs, but there is limited research on their effects on student achievement. Saskatoon’s Princess Alexandra Community School which serves a predominantly aboriginal population reports substantial academic and social gains (Bell, 2004) and community schools in BC were reported to make a difference in improving learning outcomes for disadvantaged students and promoting parent and community involvement in the school (Talbot, 2004).

Due to lack of incentive funding such as Title 1 and CSRD there has been little experimentation in Canada with comprehensive school-wide instructional designs. In the US, they had mixed and generally modest effects, with the most prescriptive designs achieving stronger results. Whole-school reforms require significant changes in teacher and administrator behaviors, with essential conditions for their success being teacher support and efficacy; strong and stable leadership; ongoing technical assistance from design developers; and district resources and support. Longitudinal analysis (Berends,
2002) concluded that these conditions were not common in the high-poverty urban schools targeted by the program, and as a result, whole-school designs will face continuing challenges in achieving their objectives of large scale improvements to academic outcomes for poor and minority students. Similar obstacles to those experienced in the US could be expected to present in the Canadian context. Research might help discover if there are particular models which produce strong results for aboriginal learners.

The number of middle schools has expanded in many school districts in Canada in recent years. The reverse trend is true in the United States, where the evidence suggests middle schools have failed to produce the hoped for benefits in student achievement.

Efforts to restructure high schools have not been a high profile issue in Canada, possibly because large “comprehensive” high schools are less common and tracking systems less blatant. Nonetheless, the alarming high school dropout rate for aboriginal youth, suggests secondary schools are not serving them well, and research on effective strategies and best practices or smaller programs is urgently needed. Where aboriginal students attend large high schools, for example, a ‘school within a school’ approach has been found beneficial to provide a nurturing and supportive ‘family’ environment.

While there are few true year-round schools in Canada, the idea of reducing summer academic loss for aboriginal learners offers promise worth exploring. A revised calendar can ensure shorter, more evenly distributed breaks which has been proven to benefit struggling students. Other approaches that extend teaching and learning time through double blocks of literacy and math (as done with good results in several Sharing Our Success case study schools), summer reading academies, or other mechanisms should be considered.

Literacy

All Canadian provinces have made K–3 literacy programs a priority. Unlike the US, however, reading programs and instructional approaches have not been mandated. The tendency for schools or districts to adopt programs without rigorous comparative research on their efficacy means that some children may be disadvantaged (Philip, 2004). There is a need for research on effective approaches to literacy instruction for aboriginal children in both mainstream settings and aboriginal schools. Bell (2004) and Fulford (2007) point out some promising practices in the schools studied. Attention to literacy development beyond grade three must also become a priority, as proficiency in reading and writing are foundational to success in other academic areas.

There is little research to guide Canadian educators concerning optimum native language instruction and the efficacy of various immersion programs. This too holds great promise for piloting and studying a range of models/strategies to learn more about best practice, to develop appropriate resources, assessment tools and a cadre of skilled native language teachers.

Early Childhood Interventions

Only a small number of public schools offer in-house intervention programs for at-risk preschoolers, although the evidence is incontrovertible that this is an effective strategy. US research suggests that there is a need for high quality coordinated instruction pre K-Primary to ensure the transition to school is successful. BC is currently exploring this approach through pilot Early Learning Centres established in 18 inner-city schools. The benefits of a more seamless approach to learning for aboriginal children were seen in the school case studies by Bell (2004) and Fulford (2007), who both noted that band schools appear to have more flexibility to develop programs to
meet the needs of learners at all levels, and that this was an important success factor. In light of the positive effects of early intervention and federal/provincial commitments to support early learning and development, investments in such arrangements in urban schools working with aboriginal families should be considered. Existing parenting/literacy programs and Urban Aboriginal Head Start program might be ready providers. A number of provinces such as BC and Saskatchewan fund Full Day Kindergarten for vulnerable children. This would be a logical intervention to study for impacts, best practices and possible expansion in other provinces.

Teacher Reforms

The United States faced serious problems related to the supply and distribution of qualified teachers, especially in schools with hard to teach students. With the exception of some specialty areas, including aboriginal instruction, Canada has not experienced a similar shortage of certified teachers. Credentialling programs in First Nations Language and Culture could be expanded to ensure an adequate supply of skilled teachers for aboriginal classrooms.

Induction and mentoring programs were introduced in the US to reduce high attrition rates and to provide on the job training for new teachers. They were found especially effective in low-performing schools. Canada also has high teacher attrition rates in the first 3-5 years, and there is an absence of comprehensive induction and mentoring programs to help novice teachers master their craft. District schools serving high concentrations of aboriginal students would be ideal laboratories for full-time mentors to work with new staff.

Unlike the US, there are no cooperative performance incentive (CPI) programs in Canada that reward schools for collective efforts to raise student achievement. A growing number of American teachers and their unions are participating in pay for skills and performance plans and there is evidence to suggest incentives can positively influence teacher behaviour and student achievement. Nonetheless, teacher federation policy in Canada is firmly opposed to innovative pay models. Other forms of recognition and support may be more palatable for schools which demonstrate excellence in aboriginal achievement.

Significant investments in professional development were found to be essential to increasing teacher skills, in particular in struggling schools where new achievement targets were required. Research on teacher effects suggest that schools most in need of highly skilled teachers would benefit from intensive forms of professional development support such as side-by-side coaching, opportunities for training in classroom strategies, meeting to jointly assess student work, and using assessment feedback to plan instruction.

Stay in School Initiatives

Reducing the dropout rate for aboriginal learners is a priority in Canada. While there are some lessons to be learned from some US efforts to increase graduation rates, new programs in Canada such as BC’s Youth Apprenticeship Programs, RAP in Alberta, and support systems such as AVID are worth documenting for their impacts and potential of scaling up. It important to learn the supports required to keep aboriginal youth engaged in school and planning for higher education and training.
POLICY OPTIONS

This review has identified a number of educational reforms with potential for application in Canada. Additional research is required to assess in more detail how the reforms of most interest are currently expressed in provincial/territorial school systems. A summary of each selected reform, identifying its present shape and scope in Canada, leading models, best practices, known effects, barriers to success, sustainability, and issues of scaling up would guide the federal government in selection of the most viable initiatives and inform the development of incentive programs tailored to field readiness and capacity. This gap-filling research should not take longer than three months to complete.

In moving forward with chosen reforms, constitutional constraints regarding the delivery of K-12 education provide the federal government with recourse to only two levers for improving outcomes for urban aboriginal students. The first is to legislate required policy directions as in the case of the No Child Left Behind legislation in the United States. Federal legislation would be unlikely to be welcomed by the provinces and territories and not without political consequences. Even in the United States where there was a greater sense of urgency and bipartisan support for far-reaching measures to level the playing field, federal legislation in education matters has been and continues to be a political minefield.

The second option is to function as a catalyst, working through willing provincial/district partners in sponsoring change initiatives that could be brought to scale over time. To be effective, the catalytic partner approach would need to be supported by five elements:

a) a research base to support the chosen initiatives
b) robust incentive programs to support clearly defined change objectives
c) accountability mechanisms for program outcomes
d) identified technical expertise for supporting and monitoring each program
e) committed resources to scale up those innovations that work

The foregoing literature review indicates that a range of optional federally-initiated education grant programs strongly influenced the actions of states, schools districts, and schools to act on behalf of minority students. Based on this experience, it is not unrealistic to envision made in Canada federal programs to accomplish the same goal, through potential initiatives such as: INAC Focus Schools Program, INAC Community Schools Program, INAC Teacher Mentoring Program, INAC Turnaround Schools Program, INAC Leadership Academy for Aboriginal Schools, etc.

PROMISING DIRECTIONS

Additionally, it was evident from the research that reforms are seldom introduced in isolation. One approach to examining the feasibility of the various interventions discussed and their relevance as strategies to reduce the aboriginal achievement gap is to cluster related reforms to assess how they might interact. This integrated approach is more complex but offers greater potential to inform policy in the messy world of education delivery.

Three clusters of synergous reforms are: schools, teachers, and system assessment/accountability.
SCHOOLS

Urban school districts are offering more educational choices and encouraging school specialization (focus schools) along with greater autonomy. Accompanying shifts to site-based management, school planning councils, annual improvement plans, entrepreneurial school leadership and heightened school accountability marry well with the concept of a focus school designed to meet the needs of aboriginal students. This could take many forms: Aboriginal-centred curriculum, a community school, FN language immersion school, year-round/extended year, or elder programs, restitution model, career and trades models, performing and visual arts, technology and science, environmental curriculum, or other innovative or specialized pedagogy. Early childhood interventions could also be integrated into the school. This cluster is represented in Figure 2.

Figure 2 School as the Unit of Improvement

To influence the scale of innovations at the school level to benefit aboriginal achievement, the federal government might consider such strategies as:

- Provide incentive grants to school districts to establish focus schools
- Technical support for new experimental aboriginal focus schools
- Commission research to document start-up issues, and best practices in these focus schools
- A training academy for principals of aboriginal schools
- An Urban Aboriginal Schools Network, offering professional development
- Identify Centres of Excellence in urban aboriginal schools as demonstration models - recognize/support/document/bring to scale in a 5-year timeline if data warrant
• Research Full-Day K effects
• Grants to support school improvement strategies and action research on site-specific learning challenges

Teachers

Ramping up achievement levels for aboriginal students will only be possible through the development of a highly skilled cadre of teachers for aboriginal classrooms and the ability to ensure their presence in the most challenging settings. The federal government could explore ways to:

• Encourage/support initial training programs with specialization in aboriginal instruction
• Recognize expertise in instructing aboriginal learners with special aboriginal degree/certification
• Evaluate various training programs and expand best models to increase supply of highly skilled aboriginal teachers
• In cooperation with school districts /teacher unions provide additional salary recognition/category for teachers with this credential
• Fund mentoring programs for new teachers in aboriginal classrooms- train and credential mentors
• In cooperation with school districts provide improvement grants to staff in ‘most challenging’ schools

System Assessment and Accountability

Research is clear that improving school systems gather performance information and report it regularly to assist in gap analysis, improvement planning, and resource allocation. Improving systems monitor progress on key indicators and attach consequences to results. Improving systems focus on building capacity at all levels of the organization and encourage innovation. To support these functions in the provincial/territorial systems to benefit aboriginal learners, the federal government could explore ways to:

• Develop a national aboriginal student information system in conjunction with CMEC and provinces
• Collect and report achievement annually on limited number of indicators at school, province and national level
• Develop aboriginal-specific indicators especially for first language performance
• Incent provinces with grants to set aboriginal performance targets; pilot voluntary performance agreements with provinces or districts
• Pilot projects in partnership with the provinces to help school districts address aboriginal achievement gaps. The project should help selected school districts do detailed analyses of the achievement gaps in their schools, audit their current practices and allocation of resources, identify relevant research based strategies to address specific gaps identified, reallocate resources to implement and monitor the strategies chosen, and make adjustments as needed. This requires an independent research component to document the work in progress and evaluate outcomes and most effective practices.
CONCLUSION

In light of the findings summarized in this paper on US reforms, three broad types of actions could be taken by the Government of Canada to reduce the achievement gap for off-reserve aboriginal students. Firstly, improve the quality of information on their progress on key indicators through developing a national information system which reports progress annually against the baseline data gathered and establishes collective improvement targets. Secondly, aided by a complementary scan of related reforms in Canada, the federal government could provide incentives to provincial/local systems to close the achievement gap through a combination of strategically selected federal initiatives. These programs (some of which have been suggested in the immediately preceding section) must be of sufficient scale to generate desired change and contain built-in accountability mechanisms for reporting outcomes and would benefit from regular federal-level reports documenting program impacts and best practices. Thirdly, the federal government could adopt a capacity building role to better enable provincial/territorial systems and local districts and schools to deliver excellence in aboriginal education. This could be accomplished by establishing centres of excellence and agencies capable of delivering required training, technical support to low-performing schools, development of high quality curriculum resources in areas of common need (ie first nations language materials), incubating innovation, and undertaking and communicating research on best practices at the national level.
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Tennessee State University - Center for Research and Policy on Basic Skills (RPC) Class Size Research http://chicaserver.tsuniv.edu/page4.htm


Overview of the District

Rank among U.S. School Districts (by size): 67
Number of Schools: 145
Number of Students: 57,900
Number of Teachers: 4,733
Annual Budget: $712.4 million

Superintendent: Dr. Thomas W. Payzant, appointed in 1995, served until 2006. His prior 30-year career in education included a 1993 appointment as assistant secretary for elementary and secondary education at the U.S. Department of Education and serving as superintendent of schools in Springfield, Pennsylvania; Eugene, Oregon; Oklahoma City, Oklahoma; and San Diego, California.

Interim Superintendent: Michael G. Contompasis was appointed by the Boston School Committee in June as interim superintendent of Boston Public Schools. Before taking on the role of interim superintendent, Contompasis served for eight years as chief operating officer of Boston Public Schools and 22 years as Headmaster of Boston Latin School, the first public school in the country.

Governance: Appointed board. Seven members appointed by the mayor for four-year terms. Replaced a 13-member elected committee in 1992.

Teachers Unions: Boston Teachers Union
Massachusetts Federation of Teachers

Student Characteristics

Percent of Students Eligible for Free/Reduced-Price School Lunch: 73 %
Percent of Students Designated as English Language Learners: 17 %

Student Demographics

- African American 44 %
- Asian American 9 %
- Hispanic 33 %
- White 14 %
STUDENT ACHIEVEMENT

Consistent High Performance while Reducing Achievement Gaps across Ethnic Groups

✓ Since 2002, student achievement has been on the rise in Boston, making Boston Public Schools a Broad Prize finalist for the fifth year in a row.

✓ Each school year from 2002 through 2005, using The Broad Prize methodology, Boston has consistently outperformed other Massachusetts districts with similar low-income populations in six out of six areas (elementary, middle and high school reading and math).

✓ Boston has demonstrated greater improvement by African-American students compared to similar districts in the state in five out of six areas (math at all levels, elementary, middle and high school, and reading at the middle and high school levels).

✓ Boston has reduced achievement gaps for Hispanic students when compared to their white counterparts in elementary, middle and high school math. Boston is closing the Hispanic achievement gap at a faster rate than the state in middle and high school math.

✓ On the National Assessment of Educational Progress (NAEP) Trial Urban District Assessment (TUDA), Boston’s fourth and eighth grade reading and math scores improved at a faster rate than other large American cities on average, as well as faster than the national average.

✓ Boston has seen a stark increase in the number of Advanced Placement mathematics and English exams taken by Hispanic and African-American students, up 237 percent and 78 percent, respectively, since 2002.
**RESEARCH-BASED BEST PRACTICES**

### Curriculum and Academic Goals

- All district activities center on the unifying goal of Focus on Children II, a five-year plan that was implemented in 2001 “to accelerate the continuous improvement of teaching and learning to enable all students to meet high standards.” The two main goals of the plan are to move students to proficiency and to close achievement gaps among ethnic and income groups.

- Teams of district and school staff expanded the rigorous state standards from grade-level expectations into specific performance standards by grade and subject. The district provides pacing guides, course descriptions, instructional activities and sample formative assessments.

- District specialists work with schools to build a curriculum calendar with benchmarks throughout the year. All teachers receive district-wide curriculum standards and pacing guides at the beginning of the year. The district expanded its assessment program this year to include more district-wide year-end, mid-year and end-of-chapter tests.

- The district conducts curriculum implementation reviews of the middle and high schools that are similar to “mini accreditation visits.” Deputy superintendents observe one academic department at a time to give feedback to every teacher on his or her classroom instruction. These visits also review how well campus administrators support and monitor instruction.

- The district sets four to six goals each year for the entire system and for individual schools, providing a template for the creation of each school’s Whole School Improvement Plan. The school plans reflect district and state goals for performance. This year, the schools and district were required to submit implementation benchmarks for the curriculum and outcome benchmarks tied to academic goals.

### Staff Selection, Leadership, and Capacity Building

- Boston has significantly improved its human resources practices. With streamlined electronic hiring processes (previously, all application and hiring processes were paper-based), an earlier teacher hiring timeline and regular customer service surveys, the district has been able to hire better principals and teachers and provide improved HR services to schools and employees.

- The deputy superintendent positions have been redefined and now directly support schools and principals, and this modification has helped connect schools and support positive change throughout the entire system.
The district is training and developing new principals through its School Leadership Institute. New principals receive targeted support and professional development during their first year as BPS school leaders. Aspiring principals train to become school leaders in the Boston Principal Fellows program, which involves a year-long residency where participants work as apprentices alongside veteran school leaders. Both programs are cited as an important source of support for new and prospective principals and have helped the district develop administrators who are instructional leaders.

The district increases the availability and preparation of teacher candidates in hard-to-staff subject areas through the Boston Teacher Residency Program. Candidates are hand-selected to participate in a one-year internship with one of the district’s best teachers, and at the end of the residency, participants are ready to teach in Boston schools. A district partnership with the state department of education and the University of Massachusetts allows the district to issue certification to Boston Teacher Residents.

The district’s new online application and hiring system has tripled the number of applications for teaching positions. To help principals more easily screen these candidates, the district requires new teacher candidates to take an online interview that assesses a candidate’s innate talent for teaching. This enables principals to determine which applicants to interview first. Principals and school-based teams make final hiring decisions through intensive interviews that often include performance-based tasks.

The district is working to retain new teachers by offering a number of new teacher support services. A New Teacher Support Team provides “red carpet treatment” to new teachers during their first two years and is available at any time to provide resources, advice and support. Boston also has provided novice teachers with full-time New Teacher Developers who work in their schools to provide “over the shoulder” mentoring and targeted professional development. The district has ensured common planning time for colleagues to collaborate and observe other teaching practices, and provided useful curriculum documents to aid instruction.

A change in the teacher’s contract now gives principals the opportunity to fill some teacher vacancies with teachers of their own choice. Previously, principals were required to take surplus teachers or teacher transfers, even if an individual was considered a poor fit for the school.

### Instructional Programs, Practices, and Arrangements

Instructional program selection is done through a district-wide process called the Collaborative Coaching and Learning (CCL) model, through which educators work with coaches and one another to frequently adjust their teaching methods to best suit students’ learning needs, develop rubrics describing those needs, conduct research on programs that match needs based on rubric scores and evaluate the suitability of various educational vendor programs.
For program implementation, the CCL model involves an eight-week teaching cycle where teachers work in study groups that meet weekly to set goals and expectations for the following week. Teachers who have trouble meeting a specific goal can have a coach observe their lessons, give feedback and offer support. Coaches meet with individual teachers and observe several classrooms per day.

The district’s current focus on instructional programs includes creating a more inclusive special education model, developing a more aligned English as a Second Language (ESL) program, creating more high school academies and creating 400 pre-K seats for three- and four-year-olds by 2010.

The district mandates the amount of time spent daily on instruction in two core academic subjects. Elementary schools have 120 minutes a day of language arts and 70 to 90 minutes a day of mathematics. Double blocks of math and reading in transition grades 6 and 9 exceed instructional time required by the state. Readers and Writers Workshop, an inquiry-based model, and Collaborative Coaching and Learning (CCL) are among the programs or models mandated across the district.

All high schools, except three high-performing “Exam” schools that are granted autonomy from typical district requirements, eventually will be converted to small learning communities, a process that is currently underway. The purpose of the smaller format is to create more personalization within the high schools.

### Monitoring: Compilation, Analysis, and Use of Data

- The district monitors the entire system through the Whole School Improvement Plan and the web-based MyBPS electronic data system. A new system to monitor dropouts, attendance and suspension is being implemented this year.

- While walk-throughs are conducted at every school by principals and teachers to share best practice instructional strategies and view model programs, the district identifies struggling schools for more frequent observations and targeted interventions by district administrators.

- The district requires quarterly assessments in all subjects and grade levels and provides mid- and end-of-year open response assessments. The district retains students in grades 3, 6 and 9 unless they have mastered the standards assessed in the district reading and mathematics benchmarks by the end of summer school. Teachers and administrators review benchmarks every four to eight weeks.

- The MyBPS data system is accessible to administrators and teachers. The system offers query-friendly state assessment results, report cards, pop-up boxes with tips on how to use and interpret the data, links to state standards and skills tied to questions and a PDF with each student’s writing composition and score. Interactive graphs linked to each assessment question are also available. High school formative assessments and student demographic and dropout information are available online, as are benchmark assessments.
Teachers use data in grade-level meetings to review results from both formative and summative assessments. Instructional coaches from the district help determine alternative instructional strategies.

**Recognition, Intervention, and Adjustments**

- Schools that the state identifies as under-performing are involved in an intensive performance improvement mapping process. Through this process, district and state officials carefully review data and build a detailed improvement plan, focusing on achievement gap issues and identifying interventions based on a “root cause analysis.”

- Teachers develop customized success plans for students who do not meet proficiency standards on the state norm-referenced test. The district mandates summer school for students in grades 3, 6, 7 and 8 who do not meet benchmarks in reading, writing and mathematics. School interventions include tutoring, support from instructional specialists and regrouping of students.

- The district offers numerous options for struggling students, including tutoring before or after school or even during school.

- The district offers an Advanced Work Class Program (AWC) for eligible students in grades 4 through 6 based on results of a standardized test given in the fall of grades 3, 4 and 5. The AWC provides an accelerated curriculum based on the state standards and district standards.

- Students who score high on the Independent School Entrance Examination (ISEE) in grades 6 and 8 are invited to attend one of district’s three Exam Schools, which administer particularly rigorous curricula that go more in-depth in each subject and offer additional courses.

**Influential Factors**

- The school district is a city department and has strong support from the mayor’s office. The district’s budget is a line item in the city budget, and the superintendent is a member of the mayor’s cabinet.

- The Boston School Committee (school board) is appointed by the mayor. In a November 1996 referendum, voters chose to retain the appointed committee rather than return to an elected governance structure.

- The Boston Plan for Excellence (BPE), a local education fund endowed by regional businesses and foundations, works in close partnership with the district to refine professional development for all teachers and principals and to improve literacy instruction in all classrooms. The Boston Plan plays two roles: to test new ideas that hold promise for accelerating improvements in schools and to press the district to look at its own policies and practices that slow reform.
The district created a deputy superintendent position in 2003 to lead a new family and community engagement initiative. Boston is expanding this initiative to install family and community outreach coordinators directly at the school sites to help build a bridge between parents and schools. Currently, the program supports 15 coordinators in 17 schools, and there are plans to bring on two additional coordinators in 2007.