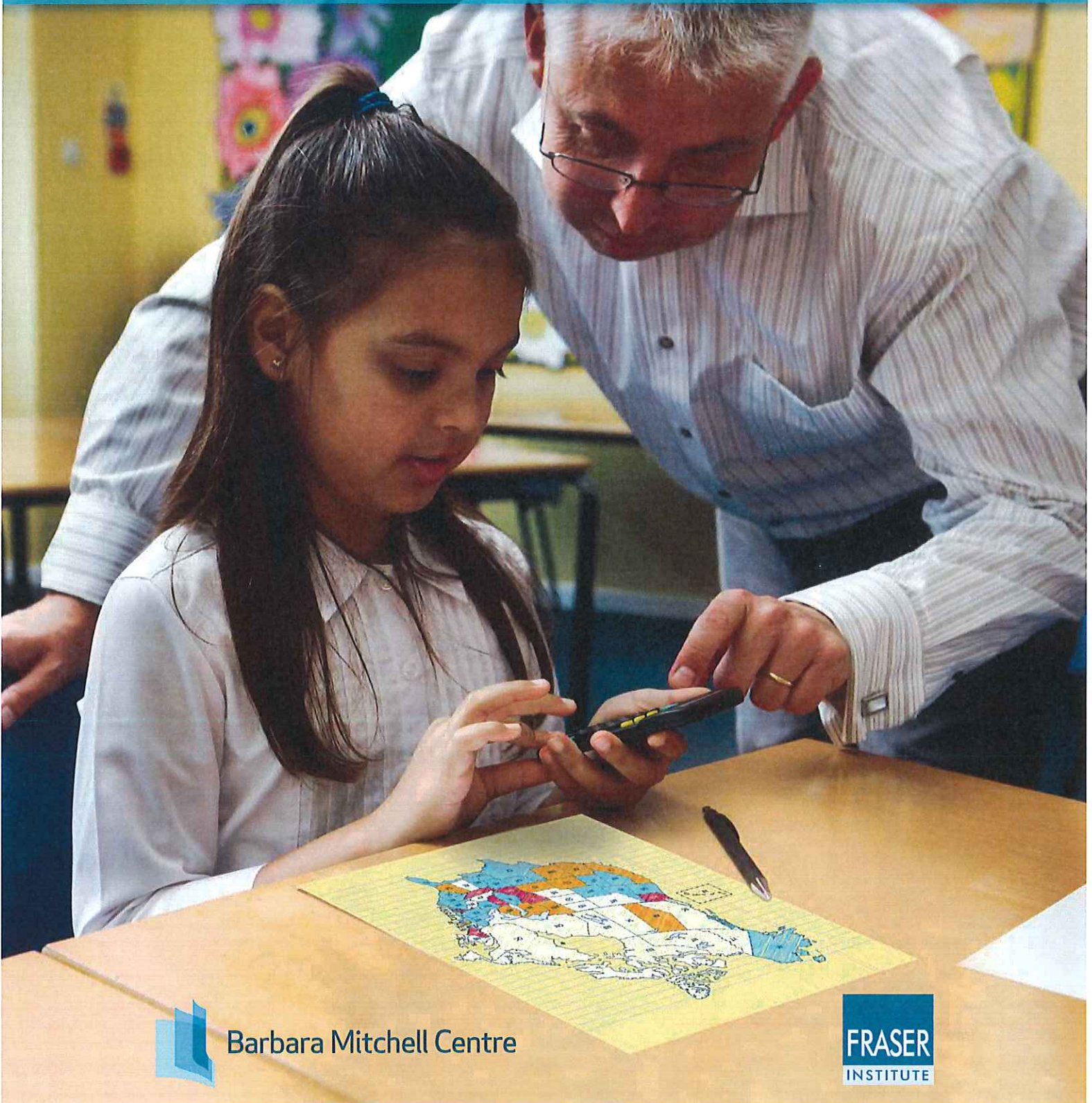


A Primer on Charter Schools

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Executive summary

Charter schools are autonomous public schools that provide innovative or enhanced education programs designed to improve student learning. Operating outside of local school boards and governed by their own board of trustees, they are accountable for pursuing and meeting their charter. They are typically exempt from many statutes and regulations that govern traditional public schools, are not required to hire unionized teachers, and may use non-traditional pedagogy or curriculum. They do not charge tuition and are typically fully funded for operational expenses.

The idea of schools by charter, although discussed in the 1970s, was robustly proposed in 1988, with the first American state (Minnesota) passing charter school law in 1991. Growth in the numbers of states allowing charter schools has been strong in the US, with the period from 1994 to 1999 showing particularly fast-paced growth. By 1994, 11 states had passed charter school legislation, and by 1999 fully 36 states (plus D.C.) allowed charter schools. By 2015, a total of 43 US educational jurisdictions allowed charter schools.

The number of students attending charter schools in the US has grown dramatically. From 1999/00 to 2012/13 the number of students enrolled in charter schools grew almost seven-fold, from about 340,000 students to nearly 2.27 million. Fully 4.4 percent of the student population (in states that allow charter schools) attends a charter school. Although in Washington, D.C., almost 46 percent of students attend charter schools, the state with the next highest percentage of students enrolled is Arizona, at 12.8 percent.

Growth in Canada has been much more stagnant. Only one province—Alberta—introduced charter school legislation, in 1994. Provision for 15 charters was created. To date, no other Canadian province has been added to the list of jurisdictions allowing charter schools, and the cap on the number of charters remains at 15 in Alberta.

Student enrolment in Alberta has quadrupled, and indicators exist that wait lists are common, even substantial in several instances. Nevertheless, the numbers of students attending charter schools in Alberta are modest, with 2,073 students enrolled in 1999/00 and 8,418 in 2012/13. Only 1.4 percent of Alberta students were enrolled in charter schools in 2012/13.

The research on charter schools in the US shows that they are particularly effective in improving student performance for those students who are underserved by traditional public schools. Leading studies show performance improvements for students disadvantaged by poverty, from an ethnic minority group, or with low baseline entering scores.

Charter schools also showed positive effects for students who gained access to an oversubscribed charter school by winning a lottery. That said, charter schools vary widely from one another and not all showed improved student performance effects. The charter school advantage was found for schools with certain characteristics: urban, an academic focus, a disciplined approach, longer school days or school years, and open for more years.

In Alberta, charter schools were originally intended, in 1994, to provide choice and competition in the education sector, and to inject more diversification into the education market. Today they are expected to serve as pilot sites and incubators of research and finely-tuned innovative practices. Currently, 13 charter schools are in operation, spread over 20 campuses, with mandates to focus on various areas or types of student, including “direct instruction,” gifted students, English language learners, arts, music, science, culture, personalized learning, single gender (girls), or at-risk youth.

A total of 44 studies on charter schools in Alberta were identified and reviewed for this paper. While the research shows that the schools are innovative in their delivery of education, it was surprising that investigations of charter school effects on improvements in student achievement were not more common. Still, taken together, the studies showed that charter schools in Alberta provide enhanced student learning outcomes. The research found enhanced scores, higher rankings, and more benchmark achievement for charter students than for their counterparts, usually after controlling for socio-economic differences. Furthermore, charter schools were found to provide more choice for parents and students, and evidence suggests that, particularly in some school districts, they exert positive competitive pressure on area schools.

Thus, although the expansion of charter schools has been tightly controlled in Alberta, they have earned a strong presence in the public education landscape. The vast majority of US states have now passed charter school legislation and enrolments have grown markedly in that country. Research from the US, and in a more limited way, from Canada, shows that charter schools offer enhanced student outcomes, particularly for some disadvantaged groups of students. As such, they are worthy of more attention from educators.

Introduction

Charter schools are “autonomous non-profit public schools designed to provide innovative or enhanced education programs that improve the acquisition of student skills, attitudes and knowledge in some measurable way” (Alberta, 2015a). They are “public educational institutions for which state [and provincial] and local laws and other requirements that govern traditional public schools have been waived ... In exchange for autonomy, they are expected to pursue themes and goals set out in their formal application for charter status, and their performance is reviewed every few years” (Belfield & Levin, 2005: 5). They usually have their own board of trustees, are typically exempt from hiring unionized teachers, and “can choose a non-traditional pedagogy and/or curriculum; they can also select the mode of delivery (classroom-based or through distance learning) and school facilities” (p. 27).

The concept of schools by charter was first discussed by Professor Ray Budde in the 1970s, a concept on which he elaborated in 1988.¹ Also in 1988, the President of the American Federation of Teachers, Albert Shanker, proposed charter schools as a way forward in public education. These teacher-led autonomous public schools were lauded for the role they could serve as laboratories for research and development to address pedagogical problems. The period that followed saw sweeping expansion of provision for charter schools across the US, but they were established in only one province in Canada, and this remains the case to this day. In 1994, charter schools were established by legislation in Alberta with the stated purpose of providing innovative or enhanced means of delivering education in order to improve student learning.

Although the charter school movement is still arguably in its infancy, charter schools have steadily grown in number and their effects have been extensively studied in the US. This paper reviews the literature on charter

1. Budde (1988) proposed that teams of teachers, working on the cutting edge of research and knowledge, would apply for charters to run schools within the district. They would be term-specific, with clear goals, and would be rigorously evaluated for renewal. The aim was to restructure school districts by enabling teachers to take charge of decisions about curriculum, management, and instruction, thereby flattening the bureaucratic organizational structure of schools (Ravitch, 2010: 122).

schools in the US, with an emphasis on the impact on student achievement. It then provides details regarding enrolment in charter schools in the US and Canada, as well as the dates charter schools were established by legislation in the various states and province. The third section provides an overview of the related research on charter schools in Alberta. The paper concludes with some general comments and suggestions for additional research. The appendices provide a comprehensive list of the research and publications on Alberta's charter schools, and an overview of the characteristics of the various charter schools in operation in the province.

Charter schools and student achievement in the United States

Since the first charter school legislation was passed in Minnesota in 1991, the charter school movement has spread to educate around 2.9 million students in 6,700 public charter schools as of 2014/15 (National Alliance for Public Charter Schools, 2015). Despite the breadth of the movement, there remains widespread misunderstanding about the effects of charter schools on public education in the United States. Proponents contend that charter schools are more efficient and responsive to the needs of the students, parents, and communities that they serve, while opponents fear that charter schools lead to inequitable outcomes by transferring students and associated funds to “selective” schools.

Fortunately for those who wish to empirically assess the impact of charter schools on educational outcomes, there is a large and diverse literature evaluating the successes and shortcomings of charter schools along various dimensions, including student and parental satisfaction (Teske and Schneider, 2001; Buckley and Schneider, 2006), student segregation (Zimmer et al., 2009; Zimmer and Guarino, 2013) and the competitive impact of charter schools on traditional public schools (Booker, Gilpatric, et al., 2008; Zimmer and Buddin, 2009; Jinnai, 2014).

Due to the extent and complexity of the literature, in this paper we focus on just one subsection of charter school effects: the impact of charter school education on academic achievement. This focus is justified for several reasons. Achievement effects are by far the largest subsection of the charter school literature, and are a critical element in considering the success of charter schools. While charter schools can rightfully be expected to influence a variety of dimensions, we agree with Hanushek (2007) and his colleagues that “producing basic academic skills remains a central matter for both individuals and society” (p. 825). Furthermore, this focus allows us to expose and interpret the wide range of reported outcomes and to better understand how the empirical evidence can be used to inform policy. In this section, we first address the average effects of charter schools on student achievement; here we find wide variation. The remainder of this section of the paper is focused on explaining

this variation, and looking at differences by methodology, by state, and for population subgroups, and finally at differences by individual charter schools.²

Average effects

A number of studies have found a positive charter school effect on student achievement. In Chicago, Hoxby and Rockoff (2005) found a clear positive effect of charter attendance on student achievement. Students in charter schools outperformed their counterparts in traditional public schools by five to six percentile points in math and by five percentile points in reading. In 2008, Hoxby and Murarka found similar positive results in New York City, where charter school students achieved gains of 0.09 (math) and 0.04 (reading) of a standard score each year, relative to traditional public schools.³ Positive effects were also found in Boston. Abdulkadiroglu et al. (2011) reported that students in charter middle schools scored 0.25 standard deviations (σ) higher in reading scores and 0.40 σ higher in math scores than comparable traditional public school students; the equivalent figures for charter high schools were 0.27 σ higher in reading scores and 0.40 σ higher in math.⁴ In New Orleans, following Hurricane Katrina, the state took over the “dysfunctional” traditional school district and moved all low-performing public schools under the umbrella of the state-run Recovery School District (RSD), which gradually transferred these schools to charter school management organizations. Researchers using

2. The most widely used indicator for student achievement is test scores on standardized tests, typically for math and reading. As the charter movement matures, it is likely that the research will also be able to track longer-term achievement outcomes, such as effects on high school graduation, post-secondary achievement, and earnings. At the time of this report, there were few robust studies that looked at these longer-term measures (notable exceptions include Booker, Sass, et al., 2008; Booker et al., 2011, 2014; Angrist et al., 2013). Consistent with this broader trend in the literature, this report restricts its scope of analysis to studies that use test scores.

3. To put these gains in context, Hoxby and Murarka (2008) note that a 10 percent reduction in class size raises students’ standard scores by 0.06, and is a one-time effect—in contrast to the gains of charter schools, which repeat for each year under study. Note that Hoxby and Murarka report in scores that have been standardized, rather than in percentages of standard deviations as preferred in the studies that follow.

4. This study also evaluates whether the charter school effect is simply because charter schools are schools of choice, or because the charter school model has a distinct advantage. To do this, they use a similar methodology to determine the average treatment effect of “pilot schools,” a form of choice school in Boston with less autonomy in their curricular approach than charter schools. Although they also find a small positive pilot school effect, it is much smaller than the charter school effect. This suggests that there is a specific benefit to attending charter schools that surpasses the benefit of merely attending a school of choice (within the public system).

a difference-in-differences technique compared publically funded schools in New Orleans with other school districts in Louisiana that were affected by Hurricane Katrina and found that, “[b]etween 2005 and 2012, the performance gap between New Orleans [public schools operated by charter organizations] and the comparison group [other school districts in Louisiana that were affected by the hurricane] closed and eventually reversed, indicating a positive effect of the reforms of about 0.4 standard deviations, enough to improve a typical student’s performance by 15 percentile points” (Harris, 2015).⁵

In contrast, several studies have found negative charter school effects or transition effects (negative results in early years and positive results thereafter). In North Carolina, Bifulco and Ladd (2006) found that students in charter schools made smaller annual gains than did observationally similar students in traditional public schools, by 0.10σ in math scores and by 0.16σ in reading scores. In Florida, Sass (2006) found a transition effect with respect to the length of time a school has been in operation. While he found strong negative effects for schools that were in their first year of operation, these declined over time; by a charter school’s fifth year, its students had math scores on par with those in TPS, and reading scores that surpassed their traditional public school peers. Finally, Booker et al. (2007) found a transition effect in Texas with respect to the length of time a student had attended a charter school; students in their first year at a charter school experienced declines in test scores, but after two or three years of attendance, the charter school effect turned positive, though small.

This small sample of studies is representative of the larger literature. Many studies have found strong positive effects of charter schools on student achievement; others have found negative effects.⁶ Recognizing that the most significant challenge for policy is “how to deal constructively with varying levels of performance today and into the future” (CREDO, 2009: 1), the remainder of this section of the paper will focus on explaining the wide variation in results.

5. Taking the difference between outcomes before and after the policy (moving public schools to RSD, and then to charter school operators) is insufficient, because it does not account for other factors that may have affected this group (the treatment group) during that period. The difference-in-differences technique therefore also makes before and after comparisons for a group that is identical except for the treatment: for example, studying only those students who returned to New Orleans after the hurricane, or studying the achievement growth of difference cohorts of students before and after the hurricane. Harris (2015) argues that “[t]aking the difference between the treatment and comparison groups ... yields a credible estimate of the policy effect.”

6. Booker, Sass et al. (2008), Booker et al. (2011, 2014), Dobbie and Fryer (2011), Greene et al. (2003), and Witte et al. (2007) find a positive overall charter school effect; CREDO (2009) and Chingos and West (2015) find a negative overall charter school effect; and Buckley and Schneider (2007), Clark et al. (2014), Gleason et al. (2010), Hanushek et al. (2007), Tuttle et al. (2012), Zimmer and Buddin (2009), and Zimmer et al. (2012) find no significant effects at the aggregate level.

Difference #1: Methodology

An initial dimension along which these studies differ is the methodology used to isolate charter school effects. Because charter schools tend to enrol different student populations than traditional public schools, a simple comparison between the outcomes in the different types of schools is likely to produce biased results.⁷ Research designs must control for both observable and non-observable student characteristics to ensure a valid comparison between treatment and control groups. The two most common ways of isolating the charter school effect are through lottery-based studies (experimental) and longitudinal models (non-experimental). Longitudinal models can incorporate student fixed effects (analyzing changes in students over time within two different school settings) or student-level matching (analyzing changes in matched students across school settings). Zimmer et al. (2012) conducted a thorough analysis of these two methodologies and argued that each method may lead to systematic bias in reported results.

Lottery-based studies exploit the fact that many charter schools are oversubscribed, and by law must hold random lotteries to select their students. While families must select into the lottery, their ultimate placement depends on their random lottery assignment. Lottery-based studies have a highly effective way of controlling for background differences between groups by isolating analysis to the population of students who applied for the lottery. They create a treatment group of applicants who were “lotteried in” and a control group of applicants who were “lotteried out” from a particular charter school, many of whom remain in traditional public schools. This method allows any post-treatment differences to be validly attributed to the charter school effect, giving lottery-based studies a high degree of internal validity. However, Zimmer et al. (2012) argued that the external validity of these studies might be compromised. By design, lottery-based studies are possible only in the context of schools that are oversubscribed, and results may not be generalizable to the entire population of charter schools, if oversubscribed schools are systematically different from non-oversubscribed charter schools.⁸

7. Charter schools typically vary in variables such as ethnic composition, proportion of students from disadvantaged backgrounds, and urban or rural location. To the degree that race, wealth, urbanity, and other social characteristics are associated with academic success, these underlying population differences can substantially bias results if unaccounted for. Moreover, since families must actively select into charter schools, it may be the case that families who “choose to choose” are *a priori* more motivated and invested in education.

8. In a national sample of 492 charter schools, Tuttle et al. (2012) find only 10–15 percent of charter schools to be sufficiently oversubscribed to qualify for most lottery-based studies. Although there is reason to believe that oversubscribed charter schools may not be representative of the overall population of charter schools, it is not clear from current

In contrast, studies using longitudinal data, particularly with student-matching, tend to have higher external validity as they are more representative of the entire population of charter schools. Their weakness is in internal validity. Zimmer et al. (2012) highlighted three concerns with using the longitudinal approach. First, statistical controls are able to minimize selection into charter schools only to the extent to which selection characteristics are observable.⁹ Second, fixed-effects models assume that relevant characteristics are indeed fixed over time. If a child's development is non-linear, student fixed effects may bias the impact of charter school enrolment. Finally, student fixed-effects models are only equipped to measure the effects of charter schools on "switchers," students who were enrolled in a traditional public school prior to charter school enrolment and who thus have an academic history to which future gains can be compared. This is, of course, only a distinct subgroup of all charter students, which thus generates questions about external validity, as switchers are probably different from non-switchers in relevant ways.

As Clark, Gleason, Tuttle, and Silverberg (2014) have noted, lottery-based studies tend to find larger and more positive charter school impacts, while non-experimental designs find more neutral or even negative results. This general trend can be seen in the sample of studies presented earlier: Hoxby and Rockoff (2005), Hoxby and Murarka (2008), and Abdulkadiroglu et al. (2011) all used lottery-based designs, while Bifulco and Ladd (2006), Sass (2006), and Booker et al. (2007) used student fixed-effects models.

We can conclude that positive charter school effects are found in studies with oversubscribed charter schools.

research what direction and size these differences may take. Zimmer et al. argue that "it is easy to imagine that oversubscribed schools have waitlists *because they are good schools*" (2012: 216; emphasis added). However, it could also be the case that charter schools locate where public schools are particularly underperforming, thus explaining the oversubscription to the lottery.

9. As Hanushek et al. (2007: 827) note, "controlling for family and community background and even initial achievement certainly mitigates the effect of student sorting, but research on private school, peer, class size, and other types of school effects raise doubts that typically available variables fully account for the non-random selection of students into neighbourhoods and schools."

Difference #2: State-by-state legislation

In examining the effect of charter schools on student achievement, it is necessary to understand that charter school legislation takes place in the decentralized context of public education in the United States. States have a high degree of autonomy over their education systems, leading to wide variation in charter school legislation passed by different states. In her 2009 book on the charter school movement, Powers identified several dimensions along which charter school legislation may vary, including:

- ◆ the types of organizations that can authorize charter schools;
- ◆ whether there are caps on the total number of charters that can be granted;
- ◆ the degree to which charters can partner with religious organizations;
- ◆ the duration of the charter, and conditions for its renewal;
- ◆ the process for revoking a charter;
- ◆ how charter schools are to be held accountable.

Due to the wide variation in charter school legislation, we expect there may also be variation in state-level effects. Several multi-state or national-level studies apply a consistent methodology across multiple legislative settings, allowing us to detect variation in the charter school effect at the state level. In one of the earliest multi-state studies, Greene, Forster, and Winters (2003) found that, although the effects of charter schools were positive across all states, the magnitude of effects range from large (in Texas and Florida) to statistically insignificant (in Arizona, California, and North Carolina).¹⁰

In their 2012 study, Zimmer et al. examined the variation in charter school effects across seven cities and states: Chicago, Denver, Milwaukee,

10. The authors do not specifically examine which state-level policies are associated with better or worse results, though they introduce several possible explanations. First, they highlight the fact that while some states cover capital costs for charter schools, others do not, contributing to variation in the funding level across states. Empirically, they do not find substantial proof for that hypothesis: “while the state with our weakest test score results, North Carolina, provides no capital funding at all for charter schools, the same is true for Texas, the state with our strongest results” (p. 10). As another possible explanation, they note that schools in different states are subject to different regulations. This hypothesis is not empirically tested, leaving uncertainty as to the cause of the state-by-state variation.

Philadelphia, San Diego, Ohio, and Texas.¹¹ They found that the charter school effect on math was positive and significant in Denver and Milwaukee and negative and significant in Ohio and Texas, relative to traditional public schools, and statistically insignificant in all other cases. For reading, the charter school effect was negative in Ohio, Texas, and Chicago, and statistically insignificant in all other cases.¹²

Finally, in one of the most extensive studies on charter schools to date, the Centre for Research on Educational Outcomes (CREDO, 2013) used a longitudinal model (with student matching, not student fixed effects) to study the impact of charter school attendance in 27 states, accounting for over 95 percent of the charter school population at the time of the report. The authors found that the effect of charter schools on student achievement varied widely by state. Relative to students in traditional public schools, charter students performed significantly better in reading in 16 of the 27 states, performed significantly worse in reading in eight states, and had similar performance levels in three states. For math scores, 12 states had stronger growth, 13 states had weaker growth, and two states had similar growth.¹³

Disaggregating national results into state-by-state trends provides a useful metric for capturing some of the variation in charter school effects. However, despite the strong theoretical argument that charter schools have diverse effects on student achievement depending on the specific legislation they fall under, and although significant differences were found, the size of these differences appears to be quite modest.

11. Zimmer et al. (2012) note several sources of variation in the enabling charter school legislation in each district, including types of chartering authorities, types of charter schools (i.e., public conversions, start-ups, virtual schools), transportation regulations, and enrolment requirements. However, similarly to Greene et al. (2003), this study does not include statistical analysis linking specific state-level policies with the variation in charter school effects. This inhibits us from drawing conclusions regarding the cause of state-level variation.

12. However, the authors caution against drawing conclusions from these results, as they find “switchers” to be systematically different from “stayers” in Chicago, Ohio, and Texas, the three states which showed significant and negative results.

13. The 2013 CREDO report does not correlate these state-level performance differences with state-level legislative differences. However, the 2013 report is an updated extension of CREDO (2009), which does look at the variation in state legislation towards charter schools. This report found that states with caps on the number of charter schools permitted to operate have 0.03σ lower growth in achievement scores than states without caps. Moreover, states with multiple types of charter school authorizers have 0.08σ lower growth in achievement than states with more stringent criteria over who can act as an operator. Finally, states that allow appeals on decisions not to renew the charter have 0.02σ higher achievement than states without this mechanism.

Difference #3: Student characteristics

Most studies include student-level controls for various demographic indicators that are expected to influence educational outcomes, including race/ethnicity, English language proficiency, poverty, parental education, and baseline achievement levels prior to entering a charter school. This allows researchers to consider whether charter schools have differential effects for different subgroups of students. This is a relevant consideration not only for disentangling the true charter school effect but also for concerns about equity. Indeed, one vital justification of the charter schools movement refers to their potential to alleviate the achievement gap between advantaged and disadvantaged student groups.

Chingos and West (2015) evaluated whether there are differential effects of charter schools for student achievement with respect to the baseline achievement scores of their students. Although they found an overall negative effect on middle school math scores in Arizona, they found this to be driven by the results of students who started with above-average scores in this subject. In contrast, for low-achievers, they found no overall difference between charters and traditional public schools.

Witte et al. (2007) found a similar differential effect with respect to baseline achievement in Milwaukee, although here the overall effect is positive. The authors coded schools according to the proportion of students in each of four performance levels: minimal, basic, proficient, and advanced. They found that “charter schools attain their advantage primarily by moving poorly performing students to proficiency rather than moving proficient students to advanced levels” (p. 558). In the context of NCLB legislation and other equity concerns, these results are critical: both studies found a more positive effect for low-performing students suggesting that charter schools served to reduce the achievement gap in these settings.

Focusing on another dimension to the achievement gap, Dobbie and Fryer (2011) examined poverty and race. The authors examined the Harlem Children’s Zone (HCZ), a program in Harlem, New York City including both academically focused charter schools and community services geared toward fostering a value for education at home.¹⁴ In this setting, Dobbie and Fryer measured the relative effect of charter schools in influencing student achievement.¹⁵ They found that charter school enrolment had a positive impact on

14. The wider context for this study was the debate over whether schools even matter at all in the context of severe socioeconomic disadvantages and disruptive family backgrounds.

15. In the HCZ, all students are exposed to the community supports. In contrast, charter schools are oversubscribed, and attendance is determined by a randomized lottery. The results of students who have been lotteried in can be compared to those who were lotteried out to isolate the impact of the charter schools.

student scores of 0.2σ per year in both math and reading—a large enough effect to close the racial achievement gap entirely by third grade for those who enter charter schools in elementary school, and by ninth grade for those who entered in middle school. Although isolated to a single program in New York City, this study along with several others demonstrates that charter schools have produced positive and meaningful results for at least some students, and moreover that the students who tend to experience the greatest benefits are the most disadvantaged subgroups.

In Massachusetts, Angrist et al. (2013) found that urban charter schools improved math and reading scores relative to urban TPS, with the largest gains for students who have low baseline scores, who are eligible for free or reduced-price lunch (a common proxy for poverty), or who are from an ethnic minority (black or Hispanic). Two related studies from the National Center for Education Evaluation and Regional Assistance (Gleason et al., 2010; Clark et al., 2014) also found differentiated effects of charter schools with respect to student disadvantage. Specifically, charter schools serving a high proportion of students eligible for free and reduced-price lunch tended to have a significant positive effect on achievement, while schools with a lower proportion of disadvantaged students tended to have overall negative effects.

Finally, the 2013 CREDO study disaggregated results by student population subtype along a wide variety of measures. They found that charter school gains are particularly large for disadvantaged groups: black and Hispanic students in poverty, and English Language Learners. Moreover, the report found that charter school enrolment has particularly expanded for these subgroups, “precisely the students that, on average, find better outcomes in charter schools” (p. 18). This is important in the broader context of charter school reform. Although the overall aim of charter schools is to raise educational outcomes of *all* students, many advocates are particularly concerned about their ability to target specific populations who are currently underserved by traditional public schools.¹⁶

16. As charter school legislation is passed by states, the appropriate level of analysis for the overall aim of the movement is the state-specific legislation. Jeanne Powers (2007) conducted a review of the legislative intent behind the charter school laws in the eight states with the highest proportions of charter school students. Seven of the eight (Minnesota, California, Colorado, Texas, Florida, Pennsylvania) included an aim either to “improve student achievement” or to “increase learning opportunities for all students” (p. 22).

Difference #4: Maturation effects

In recognition that there are significant start-up costs to setting up a charter school, as well as transition costs associated with student switching between traditional public schools and charters, several studies have considered whether charter schools may have differential results with respect to either the length of time the charter has been open and/or the length of time the students have attended the school. This section analyzes the Bifulco and Ladd (2006), Sass (2006), and Booker et al. (2007) studies introduced above, which combined both student-level and school-level variation in charter school effects.

Starting with school-level effects, Sass (2006) disaggregated the overall negative result of charter schools in Florida with respect to the age (maturation) of the charter school. While schools in their first year of operation were associated with net negative results, student achievement in both math and reading improved as charter schools mature.

The maturation effect can be explained by at least two possible hypotheses. First, there may be a selection effect as low-performing charter schools have their charter revoked or close for other reasons. Alternatively, the maturation effect may capture organizational learning. As Sass notes, “it is clear that there are significant obstacles associated with establishing a new charter” (p. 120), but it is likely that outcomes will improve as those initial obstacles are overcome.

Notably, the fact that schools respond differentially with respect to experience provides some evidence that the accountability mechanisms of choice and competition are alive and well. Booker et al. addressed this fundamental point:

The charter school sector is still in its infancy and many of the observations of charter school performance come from new operators. It is likely that startup costs for charters could be significant and first-year charter supplier quality could differ markedly from mature charter quality. The vintage effect on quality across charter schools is likely to be greater than across traditional public schools to the extent that choice and competition are successful in weeding out lower-quality suppliers. (Booker et al., 2007: 850)

Further, there is evidence that charter schools not only have differential effects with respect to the length of time a *charter* has been in operation but also with respect to the length of time a *student* has been at the charter. In North Carolina, Bifulco and Ladd (2006) found that students in charter schools made smaller gains on average than similar students in traditional public schools. After testing various common explanations for this

result (including peer effects, resource constraints, and relative efficiency), they found the largest contributor was higher rates of student turnover (the annual rate of transfer between charter and non-charter schools) in charter schools. Higher turnover was associated with lower outcomes because of both the additional administrative burden on schools as they integrate new students and the transition costs for students as they confront discontinuity in their schooling. Booker et al. (2007) corroborated that charter schools affect students differently based on the length of time the student has spent in the school. While there was a negative charter effect for students in their initial year in the charter, this effect diminished with time, and turned positive after two or three years. The authors noted how this non-linear effect could “yield misleadingly poor estimates of charter performance when great weight is placed on the transition year” (p. 872).¹⁷

Difference #5: School characteristics

The school maturation and student adjustment explanations provide critical insight into some of the variance in charter school outcomes. However, even once these are controlled for there remains a considerable amount of variation among charter schools. For example, a single study covering a single geographic region (New York City) deconstructed the average charter school effect by school, and found that 19 percent of charter schools improved math scores by over 0.3 of a standard score, 56 percent had an effect between 0.1 and 0.3, 18 percent had an effect between 0.01 and 0.1, and 6 percent had a small negative effect (Hoxby and Murarka, 2008).

This variation distils down to the heterogeneity of charter schools. As Buddin and Zimmer (2005: 352) explained, “there is no single charter school approach. By design, charter schools vary in their education programs, curricula, instruction, and school settings.” As this heterogeneity has become increasingly recognized, several studies have gone beyond a focus on average effects to evaluate which school characteristics tend to be associated with achievement gains, and which do not.

Chingos and West (2015) focused on several school-level characteristics to explain the variation in charter school quality in Arizona. They categorized each charter according to the goals identified in the charter’s mission statement and evaluated each of the six mission-based subgroups. They found that charters with an academically focused mission tend to lead to significant academic

17. Charter schools tend to have a higher number of students in their first year of study, relative to traditional public schools, because of the greater rate of student turnover in these schools, and the higher percentage of charter schools who themselves are in their first year of operation.

improvement, while charters with other focuses (such as an arts focus, virtual technology, and targeted at-risk programs) are associated with negative effects. This result is not particularly surprising; as the authors note, their analysis provides “suggestive evidence that the performance of Arizona charter schools varies in ways consistent with their stated mission, with schools emphasizing academic rigor producing positive results in math” (p. 128).

Chingos and West also examined whether there were differential effects for urban and non-urban charter schools. They found that charter schools had a slight negative effect in non-urban areas but were not significantly different from traditional public schools in urban locales. This finding of an urban charter advantage is consistent with studies in Massachusetts (Angrist et al., 2013) and nationwide (Gleason et al., 2010; Clark et al., 2014). Angrist et al. (2013) explained the urban charter advantage by testing two sets of explanatory variables relating to student-level and school-level characteristics. Student-level characteristics provide a partial explanation: urban charter schools gave a particular advantage to poor and minority students, groups that are more present in urban charters than non-urban charters. However, “differences in student populations do not fully account for the urban charter advantage” (p. 16). Instead, school-level characteristics are a stronger explanation for the apparent urban school advantage. Angrist et al. found that urban charters were more likely to use the “No Excuses” pedagogy, a particularly effective educational model for improving student achievement.¹⁸ Cheng, Hitt, Kisida, and Mills (2015) in their meta-analysis of No Excuses charter schools, found that “the effect size of ‘No Excuses’ charter schools on math and literacy is large and meaningful” (p. 24). These schools focused on discipline, college preparation, and traditional skills, and are associated with uniforms, longer instruction, and hiring of Teach for America alumni.

Interestingly, some of the school-level characteristics identified by Angrist et al. in Boston are quite similar to those identified by Hoxby and Murarka (2008) in New York City. Looking at the relationship between school policies and differences in achievement, Hoxby and Murarka found a clear association between length of instruction—longer school years, longer school days, and Saturday school—and test scores. These characteristics were also found in other well-known charter school success programs, including the Knowledge Is Power Program (KIPP) charter school network that enrolled over 39,000 students across the United States (Stetson, 2013).

In all, our review of the literature reaches conclusions similar to those of the rigorous, formal meta-analysis by Julian Betts and Emily Tang (2011). They also found heterogeneity of effects, but overall the effect of charter schools was positive.

18. Specifically, charters following the No Excuses pedagogy are associated with gains in math and English that are significantly larger (0.21σ in math and 0.15σ in English) than the effects of charters that do not follow this pedagogy (Angrist et al., 2013).

Literature review conclusion

The charter school movement has made enormous strides in the past 25 years, yet the empirical literature on this topic remains inconclusive. This section has extensively examined the variation in the literature to parse out lessons for the future of the charter school movement.

There are several lessons to be learned. First, systematic differences were found between the most common methodologies used to isolate charter school effects—lottery-based studies, student-matching studies, and student fixed-effects models. Studies based on those who were lotteried in find positive charter school effects even after controlling for background differences of students, fixed-effects studies have a certain negative bias, and student-matching studies might be right in between, generally reporting very small positive effects.

Second, as states are ultimately responsible for charter school legislation, there is considerable variation in the regulations imposed on charter schools across different states. These differences call attention to the fact that the “charter school effect” is not a homogenous treatment but “is dependent on the opportunities and constraints available to teachers, parents, and community members in local [state and district] settings” (Powers, 2009: 205). Even so, variation in charter schools effects were noted both across states and within states, thus making broad conclusions about state-level effects difficult. In other words, the variation in findings of charter school effects could not be fully explained by the particulars of the host state regulation for charter schools.

Third, we considered whether there are systematic differences in charter school effects for specified groups of populations. Several leading studies found that charter schools are particularly well equipped to serve the needs of certain disadvantaged populations, including students with low entering baseline achievement, ethnic minorities, and students in poverty. Charter schools showed a particular advantage in moving poor performers to proficiency rather than moving proficient students to advanced levels. Furthermore, urban charter schools offered the greatest benefit to the most disadvantaged subgroups. These findings are important in the context of concerns over equity, as they indicate that charter schools are of greatest benefit to students who are underserved by traditional public schools.

Fourth, evidence suggests that the differential charter school effects can be partially explained by maturation effects. As the length of time the school has been in operation and the length of time a student has attended the school increase, positive effects on reading and math scores are found.

Finally, we found that much of the variation in charter school effects is at the school level. Given the decentralized nature of the charter school movement and the flexibility given to these schools to design alternative education

models, it is not surprising that we see variation at this level. Although the literature on school-level results remains sparse, it seems that some policies are systematically associated with improvements in academic achievement, while other policies tend to reduce achievement. For example, charter schools with an academically focused mission tend to lead to significant academic improvement. Urban charter schools showed an advantage. Charter schools with a “No Excuse” pedagogy (more traditional schools emphasizing discipline), those with longer school years, school days, and with Saturday school, and those in the Knowledge is Power Program (KIPP) are associated with positive effects. This leads to a critical point in the policy discussion surrounding charter schools:

As is the case with regular public schools, charter schools display considerable heterogeneity in terms of performance ... In many respects, it is this heterogeneity that should be the focus of policy attention rather than the small difference in means of the two distributions. Finding ways to retain and expand the proportion of high performing schools and to eliminate or transform the bottom performers—whether charter schools or regular public schools—would yield an upward shift in average student performance and is likely to have a larger payoff than policies that follow from considerations of just mean differences in the two distributions. (Hanushek et al., 2007: 846)

Importantly, the diverse accountability mechanisms built into the charter school model may prompt charter schools to be particularly responsive to poor performance, due to the threat of closure.¹⁹ Indeed, as Chingos and West asserted, “part of what makes the charter idea compelling is that it provides opportunities for schools to innovate, while not tolerating persistent failure” (2015: 132).

Going forward, the focus of the research and policy making communities should be two-fold. First, further research should be aimed at determining which pedagogical models are most likely to improve achievement, such that new charter school operators are able to learn from the experience of previous charter school models. Second, efforts should be made to ensure that the accountability mechanisms inherent in a school’s charter are alive and well, such that charters can benefit from their flexibility but not allow persistent failure. For example, the California Charter School Accountability Framework guides CCSA’s efforts to raise accountability standards in a way

19. Chingos and West (2015) indeed find that ineffective charter schools are more likely to shut down relative to successful charter schools; in contrast, academic success is not a variable associated with school closure in the TPS sector, where closure decisions are more affected by bureaucratic constraints.

that values academic rigor while also giving schools credit for growth and for taking on the challenge of serving traditionally disadvantaged students well. Mechanisms include comparing how schools perform to “schools serving similar student populations across the state, as a way to assess the value-added by schools regardless of the gifts and challenges their students bring to the door” (CCSA, 2015). Among the mixed results in the charter school literature is a clear story that *some* charter schools are able to achieve *some* benefits for at least *some* groups of students. By continuing to evaluate and learn from the charter school movement, the research and policy community can determine how to increase these benefits for even more students.

Charter school enrolment in Canada and the United States

This section examines the state of charter school enrolments in Canada and the United States. **Table 1** lists the years in which charter school legislation was introduced at the provincial and state level for all jurisdictions in Canada and the United States with charter school laws. **Figure 1** illustrates the provision of charter school legislation at the state and provincial levels for 1994 (when legislation was first introduced in Alberta), 1999, and 2015.²⁰

Table 1
Year of charter school legislation by province/state

Minnesota	1991	Florida	1996
California	1992	Illinois	1996
Colorado	1993	New Jersey	1996
Georgia	1993	North Carolina	1996
Massachusetts	1993	South Carolina	1996
Michigan	1993	Nevada	1997
New Mexico	1993	Ohio	1997
Wisconsin	1993	Pennsylvania	1997
Arizona	1994	Idaho	1998
Hawaii	1994	Missouri	1998
Kansas	1994	New York	1998
Alberta	1994	Utah	1998
Alaska	1995	Virginia	1998
Arkansas	1995	Oklahoma	1999
Delaware	1995	Oregon	1999
Louisiana	1995	Indiana	2001
New Hampshire	1995	Iowa	2002
Rhode Island	1995	Tennessee	2002
Texas	1995	Maryland	2003
Wyoming	1995	Mississippi	2010
Connecticut	1996	Maine	2011
District of Columbia	1996	Washington	2012

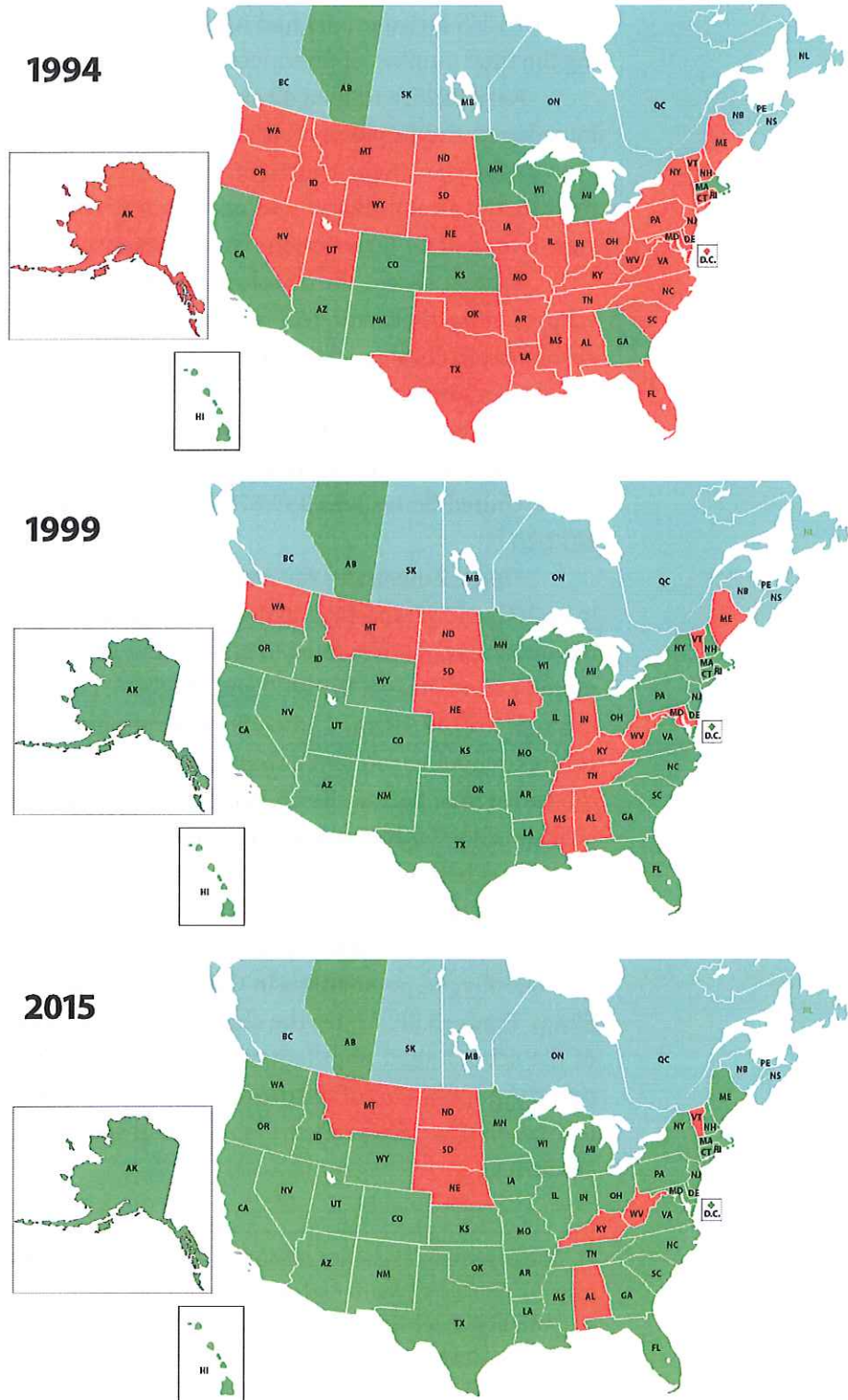
Note: Provinces and states not listed have no charter school legislation.

Sources: Alberta, 2011d; Center for Education Reform, 2014.

20. 1999 was selected as an interim period between 1994 and 2015 because the years from 1994 to 1999 were marked by a large increase in charter school provision, with more than 50 percent of US states having passed charter school legislation by 1999/00. 1999 also marks the end of nine consecutive years in which additional states implemented charter school legislation. Post-1999, the introduction of charter school laws is intermittent.

Figure 1
Expansion of charter school jurisdictions
in Canada and the US

- Jurisdiction with charter school provision
- US state without charter school provision
- Canadian province without charter school provision



Minnesota was the first US state to introduce charter school legislation, in 1991. As of 1994, the first key date of analysis, a total of eleven US states had passed charter school legislation. Alberta introduced its charter school legislation in 1994, bringing the total number of jurisdictions with charter school laws to twelve. By 1999, the second key year used for analysis, an additional 25 US jurisdictions had introduced charter school legislation, bringing the total number of provinces and states (plus D.C.) with such laws to 37.

As of 2015, a total of 42 states as well as the District of Columbia have introduced and implemented charter school legislation. In contrast to the growth observed in the United States, Alberta remains the only province that permits the establishment and operation of charter schools in Canada.²¹ In sum, a total of 44 jurisdictions have charter school laws.

Table 2 shows the absolute number of students enrolled in charter schools in both Canada (Alberta) and the United States. In 1999/00, total enrolment in charter schools in Alberta was 2,073. This figure grew steadily every year, except for a small decline in 2011/12, reaching 8,418 in 2012/13. According to data from the US Department of Education and the National Center for Education Statistics, in 1999/00, total enrolment in charter schools in the United States was 339,678. Enrolment steadily grew to 2,267,814 in 2012/13.²²

Figure 2 illustrates the comparable growth in charter school enrolment in both Canada (Alberta) and the United States between 1999/00 and 2012/13 based on the data presented in table 2. The growth for the two countries was quite similar between 1999/00 and 2005/06. However, beginning in 2006/07 through to 2012/13, the United States experienced markedly faster growth in charter school enrolment compared to Canada (Alberta). Specifically, over the entire time period the United States experienced 568 percent growth in charter school enrolment, compared to 306 percent growth in Alberta.

It is helpful to examine the charter school enrolment data adjusting for the vast differences in the size of the populations between Canada and the United States. **Table 3** presents charter school enrolment as a share of the school-aged populations in Canada, specifically Alberta, and the United States. **Figure 3** illustrates the change in charter school enrolment as a share of the school-aged populations between 1999/00 and 2012/13. Note that only the populations of the province (Alberta) and states with charter school legislation were used, rather than the total school-age populations of the two countries.

21. The expansion of charter schools in Alberta has been limited by the legislation that caps the number of charter school authorities at 15.

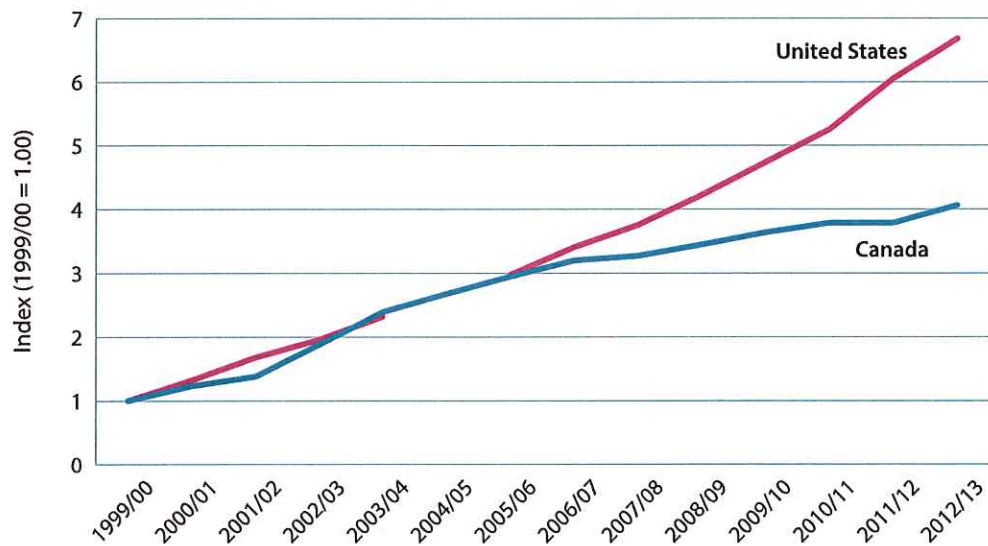
22. Although later in this paper we report the current 2014/15 enrolment in charter schools in Alberta, we use 2012/13 data in this section because it is the most recent year for which comparable data from all subnational jurisdictions were available.

Table 2
Total enrollment in charter schools in Canada and the US, 1999/00 to 2012/13

	Canada	United States
1999/00	2,073	339,678
2000/01	2,558	448,343
2001/02	2,868	571,000
2002/03	3,889	666,038
2003/04	4,955	789,000
2004/05	5,547	Data unavailable
2005/06	6,122	1,012,906
2006/07	6,632	1,157,359
2007/08	6,782	1,276,731
2008/09	7,160	1,433,116
2009/10	7,554	1,610,285
2010/11	7,852	1,787,091
2011/12	7,847	2,057,599
2012/13	8,418	2,267,814

Sources: Alberta, 2015b; US Department of Education, National Center for Education Statistics, 2015a, 2015b, 2015c.

Figure 2
Comparative growth in charter school enrolment, Canada and the US, 1999/00 to 2012/13



Sources: Alberta, 2015b; US Department of Education, National Center for Education Statistics, 2015a, 2015b, 2015c; calculations by authors.

Table 3

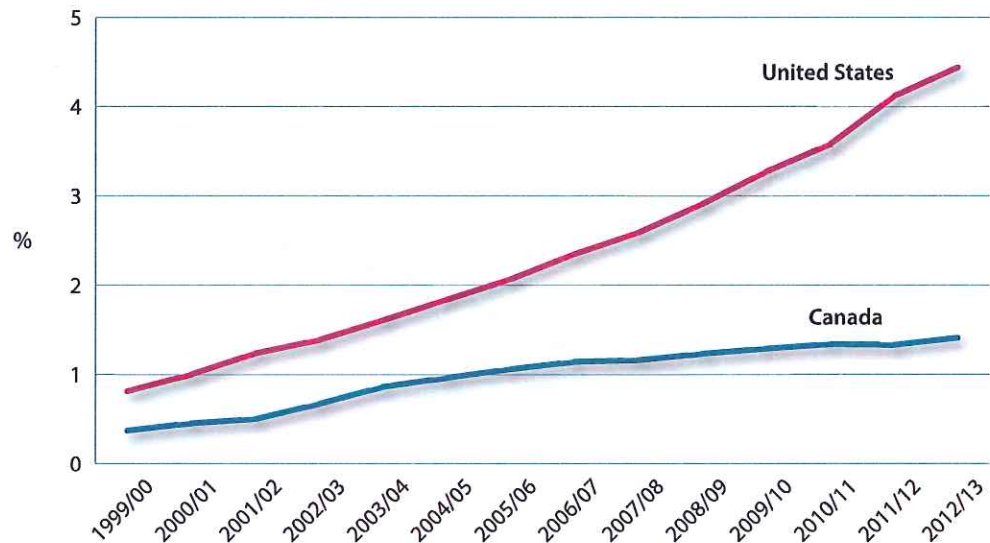
Enrollment in charter schools as a percentage of school age population in jurisdictions with charter school law, Canada and the US, 1999/00 to 2012/13

	Canada	United States
1999/00	0.37	0.81
2000/01	0.45	1.00
2001/02	0.50	1.24
2002/03	0.67	1.39
2003/04	0.86	1.61
2004/05	0.96	Data unavailable
2005/06	1.06	2.07
2006/07	1.14	2.35
2007/08	1.16	2.59
2008/09	1.23	2.91
2009/10	1.29	3.27
2010/11	1.34	3.58
2011/12	1.33	4.12
2012/13	1.41	4.44

Sources: Alberta, 2015b; Statistics Canada, 2015; US Census Bureau, 2015; authors' calculations.

Figure 3

Enrolment in charter schools as a percentage of school-age population in jurisdictions with charter school laws, Canada and the US, 1999/00 to 2012/13



Note: Data for 2005-06 was not available; an average of the figures for the preceding and following years was used to calculate an estimate.

Sources: Alberta, 2015b; Statistics Canada 2015; US Census Bureau, 2015; authors' calculations.

In 1999/00, 0.4 percent of Alberta's school-aged population attended charter schools compared to 0.8 percent of U.S. students that resided in states with charter school legislation. In other words, in 1999/00, the United States maintained a roughly 2.2 times larger share of the school-aged population enrolled in charter schools compared to Canada.

Both countries experienced growth in charter school enrolment between 1999/00 and 2012/13, as discussed previously. The share of the school-aged population attending charter schools in Alberta increased from 0.4 percent in 1999/00 to 1.4 percent in 2012/13, an increase of 284.3 percent. The share of the school-aged population in the United States attending charter schools increased much faster than in Canada, from 0.8 percent in 1999/00 to 4.4 percent in 2012/13, an increase of 447.8 percent. Put differently, the United States' share of the school-aged population attending charter schools in 2012/13 was 3.2 times greater than the comparable share in Canada (Alberta).

It's worth noting two explanations for the divergence in charter school enrolment in the two countries. First, the United States experienced pronounced growth in the number of states allowing charter schools, while Alberta remains the only province to allow such school choice in the public system in Canada. Second, many US states with charter school legislation experienced marked growth in enrolment while Alberta has maintained a cap on the number of charter schools and thus the number of charter school students permitted.

Table 4 contains the 2012/13 share of the school-aged population attending charter schools for each province and state with charter school legislation; the jurisdictions are presented in the order in which they introduced charter school legislation (see table 1). More telling, however, is **figure 4**, which ranks the data from table 4 according to the share of the school-aged population attending charter schools.

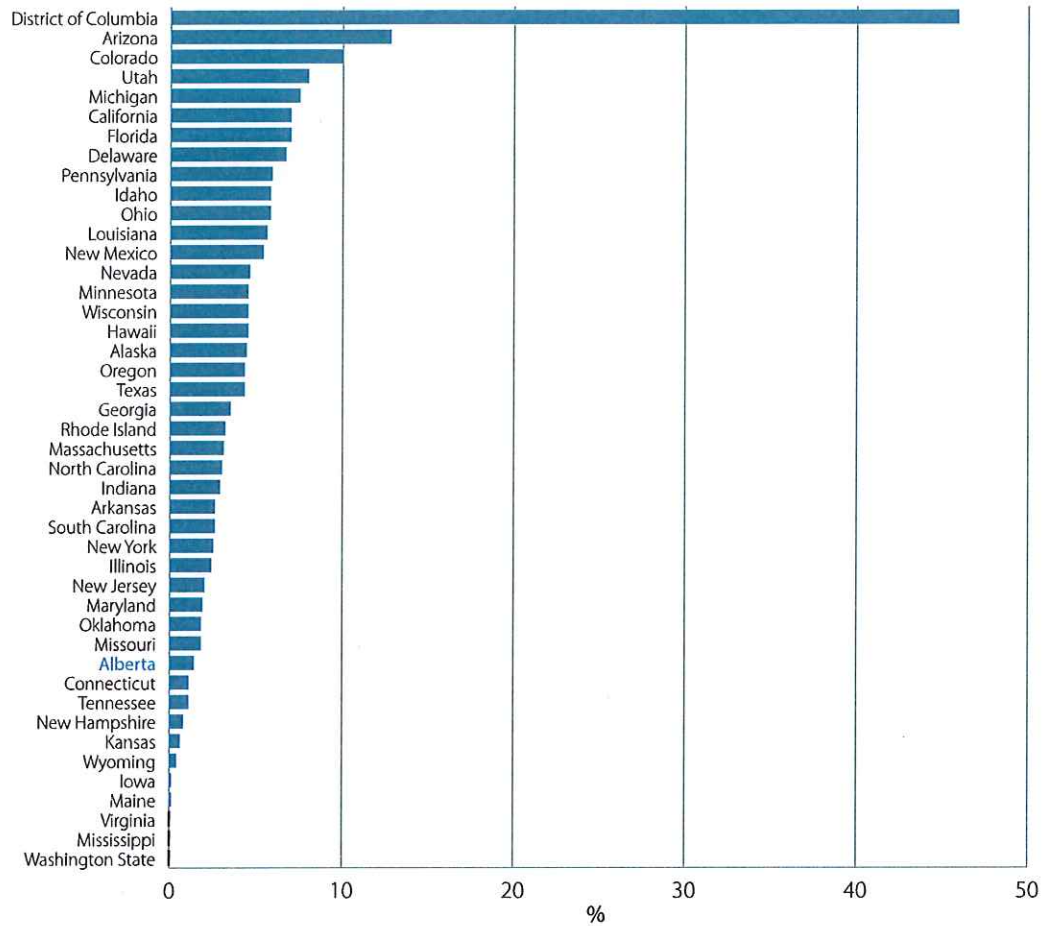
The District of Columbia maintains by far the highest enrolment rate for charter schools as a share of the school-aged population, at 45.9 percent. Arizona, which ranks second to D.C., has 12.8 percent of its school-aged population enrolled in charter schools. Thirteen jurisdictions, all U.S. states, have charter school enrolment above 5.0 percent of the school-aged population, indicating some level of significance in terms of the overall delivery of education in that jurisdiction. Fourteen jurisdictions, including Alberta, have less than 2.0 percent of their school-aged populations enrolled in charter schools, indicating a somewhat limited use of charter schools in the overall delivery of education in those jurisdictions. Indeed, eight jurisdictions have less than 1 percent of their school-aged population enrolled in charter schools.²³

23. It's worth noting the somewhat unique cases of Washington and Mississippi. Washington State passed its charter school law in the 2012/13 school year, so there is no data available for that year in terms of attendance or enrolment. Mississippi has introduced several different laws regarding charter schools, each of which used different definitions. The expectation is that data for charter school enrolment in that state will be available for the 2014/15 school year.

Table 4
Enrollment in charter schools as a percentage of school age population, 2012/13

Minnesota	4.5	Florida	7.0
California	7.0	Illinois	2.4
Colorado	10.0	New Jersey	2.0
Georgia	3.5	North Carolina	3.0
Massachusetts	3.1	South Carolina	2.6
Michigan	7.5	Nevada	4.6
New Mexico	5.4	Ohio	5.8
Wisconsin	4.5	Pennsylvania	5.9
Arizona	12.8	Idaho	5.8
Hawaii	4.5	Missouri	1.8
Kansas	0.6	New York	2.5
Alberta	1.4	Utah	8.0
Alaska	4.4	Virginia	0.0
Arkansas	2.6	Oklahoma	1.8
Delaware	6.7	Oregon	4.3
Louisiana	5.6	Indiana	2.9
New Hampshire	0.8	Iowa	0.1
Rhode Island	3.2	Tennessee	1.1
Texas	4.3	Maryland	1.9
Wyoming	0.4	Mississippi	0.0
Connecticut	1.1	Maine	0.1
District of Columbia	45.9	Washington State	0.0

Note: Jurisdictions are ordered according to the year they introduced charter school legislation.
 Sources: Alberta, 2015b; Statistics Canada, 2015; US Census Bureau, 2015; authors' calculations.

Figure 4**Share of the school-age population attending charter schools, 2012/13**

Note: Data for 2005/06 was not available; an average of the figures for the preceding and following years was used to calculate an estimate.

Sources: Alberta, 2015b; Statistics Canada 2015; US Census Bureau, 2015; authors' calculations.

In 2012/13, Alberta recorded 1.4 percent of its school-aged population in charter schools. This ranks Alberta 34th out of the 44 jurisdictions with charter school legislation as of 2012/13. Critically, one of the central explanations for the lack of growth in charter schools in Alberta is the artificial restriction placed on the number of charter schools permitted in the province.

Alberta's public charter schools after 20 years

History and context

It has been over 20 years since the Alberta Government introduced charter school legislation. “The proclamation into law of Bill 19 on May 25, 1994, made Alberta the first and only province in Canada to take such a bold initiative” (Alberta, 2011a: 1). Charter schools have remained a tightly controlled experiment in Alberta, with a maximum of 15 charter authorities permitted by provincial regulations.

Recent changes to charter school legislation in Alberta permit established charter schools to apply for a 15-year renewal. Currently seven charter schools have been granted a 15-year term. In the province's new education reform agenda, *Inspiring Education*, the role and purpose of charter schools has shifted from infusing competition towards creating diversification of the education market, to serve as pilot sites and incubators of research and finely-tuned innovative practices (Alberta, 2009, 2011c).

In this section we review the available research on charter schools in Alberta since their inception in 1994. The aim is to give an overview of the scope of the research in general, and in particular to examine whether any studies of impacts, specifically of student performance effects, were found. Directions for future research are also proposed.

This overview considers evidence of the effectiveness and impact of Alberta Charter schools along the lines for which they were ostensibly instituted. Three impacts are considered: first, fostering innovative practices in teaching, learning, organization, and governance; second, improving student outcomes in learning; and third, creating a more diversified public education system. Appendix A includes a comprehensive list of available research on Alberta charter schools; Appendix B provides a picture of the mandate, location, student enrolment, and date of origin of each charter school; and Appendix C highlights innovative practices in selected charter schools.

In total, 44 documents addressing Alberta charter school effectiveness in terms of student achievement, innovative practices, and other results

were identified. As well, the website of each charter school was reviewed to construct an overview of their characteristics, mandate, and enrolment data. The data from the websites were used to develop a snapshot of innovation in eight charter schools.

Alberta's educational reform agenda: Role of charter schools

In 1993, the government of Alberta, concerned with the state of education in the province, commissioned a study of education reform. The report that followed, *Charter Schools: Provisions for Choice in Public Schools*, identified the absence of competition as the primary reason for the “failure of public schools to provide the level of excellence in education necessary for success in an increasingly competitive society” (cited in Ritchie, 2010: 3).

The government responded with a reform package that included choice, competition, and standards-based accountability as well as fiscal reforms. Along with the introduction of charter school legislation, the government increased funding to private schools, reduced overall funding to education by 12 percent, introduced provincial standardized testing and diploma examination, consolidated school boards from 141 to 68, and required schools to establish parent-based school councils (Bruce and Schwartz, 1997).

In May 1994, the government of Alberta passed legislation permitting the establishment of charter schools as “autonomous public schools that would provide innovative or enhanced means of delivering education in order to improve student learning” (Alberta, 2011a: 1). Charter schools were established as part of the Ministry of Education's reform agenda to achieve five aims: 1) stimulate the development of enhanced and innovative programs within the public education system; 2) provide increased opportunities for student learning within the public education system; 3) provide parents and students with greater opportunities for choice within the public education system; 4) provide teachers with a vehicle for establishing schools with enhanced and creative methods of educational instruction, school structure, and management; and 5), encourage the establishment of outcome-based education programs (Alberta, 2011a: 5).

Charter schools were positioned as an “addition to the public education system” and as sites of innovation that would “complement the educational services provided by the local public system” and provide the “opportunity for successful educational practices to be recognized and adopted by other public schools for the benefit of more students” (p. 1). The Ministry of Education expected that the educational services offered by charter schools would be different from what is locally available (Alberta, 2011c).

Currently, charter schools are required to provide a basic education as defined by the provincially mandated Program of Study; students are required to write the Provincial Achievement Tests and Diploma Examinations; schools cannot have religious affiliation, charge tuition, or discriminate in

student admission in the sense that they cannot turn students away as long as there is space and sufficient resources to support their learning needs (Alberta, 2011b).

Charter schools operate on an initial five-year performance contract. At the end of the term an external, government appointed evaluation team reviews the school and determines if it has complied with the legal and financial requirements, demonstrated consistently strong or improving student achievement, fulfilled their stated charter objectives, and demonstrated parental and community support (Bosetti, 2001). The evaluation team makes a recommendation to the Minister of Education, who may renew the term or repeal the charter. Established charter schools with a demonstrated record of success may apply to the Minister for a 15-year term for their charter.

Important to this long-term renewal is evidence that the charter school has addressed the following:

- a) provided professional development opportunities related to its innovative approach to the rest of Alberta's education community;
- b) met or exceeded appropriate targets as set out in a student outcomes accountability framework;
- c) achieved student achievement results as good as or better than provincial results as whole, measured in a value-added manner;
- d) earned parental satisfaction results better than those of the province as whole, and at least as good as results for schools within public and/or separate boards offering alternative programs and/or catering to the same defined populations; and
- e) shared their research with the educational community, which evaluates the success of the innovation and identifies reasons for that success with government and educators.

(Alberta, 2009: 3)

Like other public schools, charter schools are required to hire certified teachers, but unlike their public school counterparts they are not members of the Alberta Teachers' Association (ATA), the union responsible for collective bargaining and professional regulation of public school teachers in the province. While charter school teachers can be associate members of the ATA, the association does not regulate them. Some charter school teachers have contracted the ATA for the purpose of collective bargaining with their charter school authority (Alberta Teachers' Association, 2011a). Charter schools operate as a not-for-profit organization governed by a Board of Directors.

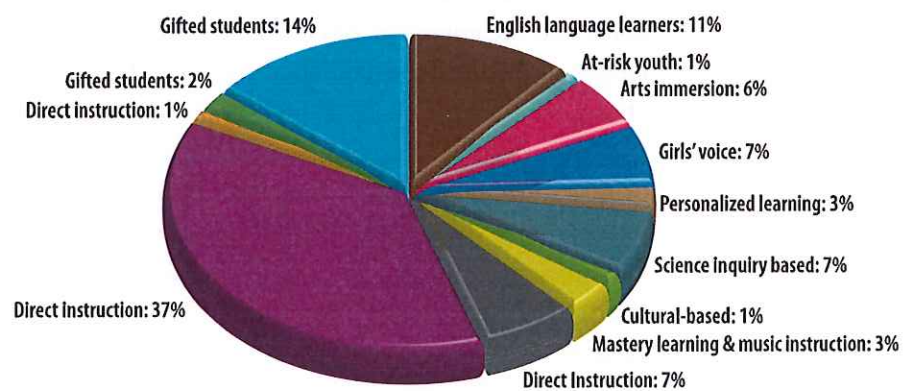
Charter schools are eligible for the same per-student grants as other public schools. However, they are not eligible for start-up funding and until recently were not able to access capital funding programs. Charter schools are required to negotiate with school boards for access to surplus facilities, and

can lease from the private sector or raise funds independently to purchase property. After 20 years, leasing adequate school facilities remains a serious issue facing charter school leadership—a factor in the expansion of charter schools and their capacity to accommodate students on long waiting lists (Bosetti et al., 2000; Ritchie, 2010; Gereluk, Kowch, and Thompson, 2014).

Currently (2014/15), there are 9,123 students enrolled in charter schools in Alberta. A total of 8,418 students were enrolled in Alberta charter schools in 2012/13, with an increase to 8,732 in 2013/14. **Figure 5** provides a description of the distribution of students in charter schools with particular areas of focus as defined by their charter for 2013/14. The highest percentage of students enrolled in a charter school is registered in schools with traditional approaches to teaching (that is, direct instruction and character education; n=3977), followed by schools focused on gifted education (n=1403) and English language learners (n=989). There is a more even distribution of students in programs for girls' focused education (n=565) and science focused inquiry learning (n=599) followed by arts immersion (n=502). Music and mastery learning (n=295) and personalized learning (n=260) comprise another area of student enrolment, with niche programs for Aboriginal (n=101) and at risk youth (n=86) having lower enrolment (Alberta, 2015b). These enrolment data reflect programs catering to a wide range of student learning needs and pedagogical orientation.

Figure 5

Enrolment share of each Alberta charter school by charter mandate, 2013/14



Source: Alberta, 2015b.

Canadian research on Alberta charter schools

A total of 44 studies of Alberta charter schools were identified, with the majority of the more in-depth studies published by research institutes, think tanks, or government (Bosetti, 1998a; Bosetti, Foulkes, O'Reilly, and Sande, 2000; Da Costa and Peters, 2002; Gereluk, Kowch, and Thompson, 2014; Johnson, 2013; Morrison, 2002; Morrison and King 2001). Research published in academic books and journals tended to focus more on the theoretical debates regarding the role and potential impact of charter schools on the public education system, particularly related to equity, social cohesion, and the commodification of education (Bosetti, 1998b, 2000; Kachur, 1999; McConaghy, 1996). Masters theses and dissertations provide case studies of innovative practices of charter schools in addressing the learning needs of marginalized learners (Angus, 2000; Averill, 2008), instructional leadership and student success (Butterfield, 2013), and the impact of charter school policy on educational reform (Mindzak, 2011; Sawa 2003). Research conducted by charter schools is often in the form of self-published reports that are difficult to locate, some posted on their websites, in blogs, and in professional magazines, and may have a bias toward positive portrayal of the schools.

The first wave of research was about defining the place of charter schools within the public education landscape. Most of this research was descriptive, defining the characteristics and functions of charter schools, the uniqueness of each school, and some baseline data regarding parent, teacher, and student satisfaction (Bosetti et al., 2000). Several studies investigated the achievement of charter school students (Da Costa and Peters, 2002; Morrison, 2002). Others describe the policy context and regulations that shape and constrain the evolution of charter schools, as well as the problems and challenges in becoming established (Bosetti et al., 2000; Gereluk, Kowch, and Thompson, 2014; Raham, 1998; Ritchie, 2010).

The following sections report the themes that emerged from our review of research on Alberta charter schools, organized around the key aims of policy makers with the introduction of charter school legislation: first, to foster research and innovation; second, to improve student achievement; and third, to provide choice and program diversification in the public education system.

1. Research and innovation

Charter schools in Alberta were and are promoted as sites of innovation, with the potential to serve as laboratories to document and research how these innovations have an impact on the improvement of student learning. Drawing upon the Organisation for Economic Co-operation and Development, the Ministry of Education considers four types of innovation: product, process, organizational, and marketing. In the context of the education sector:

A product innovation can be a new or significantly improved curriculum or a new educational software or resources; a process innovation can be a new or significantly improved way of teaching; an organization innovation may be a new way of collaboration between teachers, or organizational changes in the administrative arena; and a marketing innovation can be a new way of promoting the innovation or a new strategy to recruit/maintain students. (Alberta, 2011b: 2)

For charter schools, the regulations define these innovations as creative approaches to educational instruction, school structure, and management (Alberta, 2011b).

Policy requires charter schools both to be innovative (provide something new) and to provide a diversification of program options (provide something different); however, the interpretation of what constitutes new or different is context specific. The Alberta charter school regulation accommodates this distinction in the policy goals, where the expectation is that the educational services offered by charter schools “will be different from what is locally available, provide enhanced or innovative delivery of public education to students, broaden the range of educational opportunities and enhance student learning” (Alberta, 2011a: 1). Enhanced student learning means improved acquisition, in some measurable way, of knowledge, skills and attitudes. These regulations lean toward diversification of program offerings by offering something new or different as defined by the local context.

In terms of research and innovation, some charter schools have undergone a subtle metamorphosis over time, from being a school of choice to increasing their focus on research-informed pedagogy and innovative teaching and learning practices (Baydala, Rasmussen, Bisanz, et al., 2009; Baydala, Rasmussen, Birch, et al., 2009; Pearce et al., 2005; Roessingh, 2012) and engaging with university-based researchers to investigate, improve, and share their practice. The nature of the innovation or change that a charter school provides (structural, operational, or pedagogical) and whether it can be scaled up is a consideration in its adoption in the traditional public school context.

To date, charter schools in Alberta demonstrate innovation in the delivery of education, through their school structure, decision making and site-based management practices, such as the structure of the school year,

organization of the school, hiring of professionals (e.g., performing artists) to complement teaching, and involvement of parents and students in the evaluation of teachers (Gereluk, Kowch, and Thompson, 2014).

In terms of teaching and learning, charter schools are innovative in terms of offering a variety of existing pedagogical approaches in novel combinations, such as differentiated instruction, inquiry-based learning, mastery learning, and personalized programming; through specialist theme-focused curriculum (arts-based, science-focused, music-based, culturally compatible); and through particular methodologies to address the learning needs of minority communities, such as aboriginal, at-risk, and second language learners, as well as students underserved by the local public education system, such as gifted learners. Charter schools offering traditional approaches to teaching and learning through direct instruction and character development attract the largest number of students, requiring up to seven campuses to accommodate them. The Association of Alberta Public Charter Schools (2014) summarized the research being conducted in charter schools, the majority in partnership with university researchers. Appendix C offers a snapshot of this research. For example, in partnership with researchers at University of Alberta, New Horizons Charter School is examining the cognitive processing of gifted learners, and the Suzuki Charter School (an arts-focused school with musical skills as a foundation for a mastery approach to education) is examining the impact of the Suzuki approach on student learning. The school is in partnership with the Learning Disabilities Association of Alberta regarding reading readiness and assessment.

Several charter schools in Calgary (Calgary Girls' School, Connect Charter School, and Westmount Charter School) have signed the Calgary Research Partners Agreement with the University of Calgary, examining such topics as girls learning math, parenting stress and anxiety of gifted learners, and victimization and kindness.

Aurora Charter School, Boyle Street Education Centre, Calgary Girls' School, Foundations for the Future Charter Academy, and Westmount Charter Schools all report active relationships with various Faculties of Education, with a focus on effective teaching practices in the classroom. In addition, Connect Charter School, in partnership with the University of Lethbridge, examines the role of charter schools in partnering and sharing best practices with traditional public schools.

Boyle Street Education Centre (BSEC) is a research site for the development, implementation, and evaluation of teaching practices for at-risk youth, including youth with Fetal Alcohol Spectrum Disorder (FASD). Averill (2008) detailed effective practices for teaching inner city youth that have become the backbone of the programs of study offered at the charter school. BSEC is currently participating with researchers from the University of Alberta to

examine the effectiveness of BSEC in supporting the educational outcomes of youth with FASD.

The Centre for Academic and Personal Excellence (CAPE) is beginning a research project in partnership with the University of Lethbridge on parental engagement. This school-wide action research project focuses on the use of technology to connect and inform parents and increase their engagement in the learning of their student (TAAPCS, 2014).

Butterfield (2013) examined the perspectives of principals in ten charter schools regarding approaches to instructional leadership. He found that principals' support and facilitation of the professional development of teachers had significant positive effects on teaching practice and fostering student success. Six of the ten schools in the study had modified their instructional approach since inception and the remaining four have maintained their original charter focus.

Roessingh (2011, 2012) of the University of Calgary worked with Almadina Charter School to develop and evaluate instructional approaches to teaching English Language Learners (ELL). The charter school served as a laboratory for Roessingh and colleagues to examine the effective use of dual language books for negotiating language, literacy, culture, and identity with immigrant children for whom English is an additional language. While their research does not compare Almadina student achievement with other public schools, the interventions studied point to approaches to instructional design that can be replicated in teaching ELL in other contexts. This is a clear example of a charter school serving as research site to incubate and test innovative practices.

2. Student achievement

Given the extent of the research in the US on charter school effects, it was unexpected to find relatively few studies examining the effects of Alberta charter schools on student achievement. Still the studies do point somewhat consistently to similar findings of enhanced student achievement.

Bosetti et al. (2000) reviewed student achievement on Provincial Achievement Tests and concluded that "charter school students were achieving at least as well as students in other jurisdictions, and/or in accordance with what would be expected based on their described learning needs" (p. 2).

In 2009, the Ministry of Education reported on a study of the impact of charter schools on student outcomes. A government concept paper drew upon the findings to discuss the government's vision for the second generation of charter schools. With regard to student learning, they stated that "overall, charter schools appear to have provided enhanced student learning outcomes as compared to similar schools and similar students enrolled in other jurisdiction types" (Alberta, 2009: 1).

In a study commissioned by the Canada West Foundation, Ritchie (2010) discusses the findings of the government charter school impact study and the challenges of comparing the achievement of students in public charter schools, which cater to certain kinds of students, with students in the traditional public school system. The government study used charter school student achievement on the grade 3, 6, and 9 Provincial Achievement Tests (PATs) and compared them with control schools in the regular public and separate (Catholic) schools in the district in which the charter school was located. The findings indicated that, statistically, charter school students perform to an equivalent level as or better than students in other schools; “however, there was considerable diversity in student achievement among charter schools” (p. 15). For example, charter schools catering to at-risk youth and to English as an additional language learners scored lower than students in charter schools for the academically gifted. In the grade 6 PATs, in language arts, charter school students scored significantly better than students in control schools, but no significant difference in performance in mathematics was found. For grade 9 PATs, charter school students were found to score significantly better in mathematics and language arts than their control group. The charter school impact study concluded that “over a six-year period, these charter schools added significantly more value to their entering Grade 3 students than did the schools into which the control students enrolled” (cited in Ritchie, 2010: 16).

Johnson (2013) identified Alberta’s best schools using student results on PATs in math, reading, science, and social studies in grades 3, 6 and 9. He compared students from public, private, and charter schools controlling for observed student background (socioeconomic status), and categorized “good” schools as those where principals, teachers, and staff were making a noticeably positive difference to student performance. This study of 800 schools revealed a disproportionate number of private and charter schools ranking in the upper echelons, and the gap between charter schools and all other schools was large and consistent across all three grades.

The Canadian Charter Schools Centre (Morrison, 2002) compared former Alberta charter school students and their parents to non-charter school students on a number of success indicators. Five of ten charter schools participated in a structured survey comparing satisfaction, academic accolades and aspirations, parental involvement, and the community orientation of students. There was a 22 percent response rate; however, the report does not indicate if the response rate was consistent between schools. The study found that significantly more charter school students were achieving a 70 percent grade average, felt better prepared for the next level of study, and were satisfied with the educational aspects of the school.

Da Costa and Peters (2002) conducted a longitudinal study of student achievement in Alberta’s charter schools from 1997 to 2001. The aim was to

compare the achievement of students on the PATs in 10 charter schools to the results obtained by students in schools in the local district. Specifically, they compared the percentage of students in each charter school who reached the Standard of Excellence and Acceptable Standard in specific grades (3, 6, and 9) and subject areas (Mathematics, Language Arts, Science, and Social Studies) with the local district averages and the provincial averages. Due to the highly contextualized nature of each charter school, the researchers report on other measurable outcomes related to achievement not measured by the PAT. Their findings revealed the challenges in conducting such studies. Charter schools tend to have more homogeneous student populations compared with the local public schools, and have other factors that affect student achievement results, including variation in level of parent involvement, unstable enrolment in newly established charter schools, wide variance in class size, and some schools that do not have an academic focus. All charter schools have developed ways of measuring progress or achievement other than provincial achievement tests; however, in some cases data were not collected consistently over time to facilitate systematic review and decision making. The study found that overall, “the majority of charter schools scored about the provincial average in all tested subjects and grade level” and “more of them surpassed the provincially set benchmarks than their counterparts in the adjoining systems” (p. 145). They concluded that “[c]harter schools serve a critical role in ensuring that alternatives are available to families who wish to have their children educated, using approaches that are not mainstream. As such they serve as particular niches in the educational community” (p. 147).

University of Alberta researchers (Baydala, Rasmussen, Bisanz, et al., 2009) collaborated with Mother Earth’s Children Charter School to examine the effect of culturally compatible education on academic achievement and other dimensions of well-being. They found that the school environment provided opportunities for culturally appropriate social skills, friendships, leadership, and study skills that supported academic achievement.

Taken together, studies of student achievement in Alberta charter schools indicate, in the words of Alberta Education, that they “provide enhanced student learning outcomes” (Alberta Education, 2009: 1)

3. Choice and competition

Charter schools may well have created sufficient pressure for public school boards to expand school choice options for families. This is reflected in the number of specialized programs that have emerged within larger public education systems following demonstrated success in charter school settings. Traditional learning centers, single gender programs, and inquiry-focused teaching and learning have become embedded within some metropolitan public school districts over the past decades.

Traditional public school boards have responded by increasing the permeability of their school boundaries and intensifying the delivery of alternative programming, including a further accommodation to cultural diversity. The new engagement by public boards in more aggressive marketing of their already diverse programming allows them to compete directly with charter schools, private schools and each other. ... the importance of the charter school effect is not so much about the modest number of students who attend charter schools as about how public-school boards have responded to the new competition. (Kachur, 1999: 115)

It is noteworthy that these “mirror” alternative programs offered by local school boards are based on principles similar to the charter school programs, but are located in existing neighbourhood schools that have sufficient space to accommodate more students. The alternative program draws upon the teaching expertise, learning supports, and school leadership of the public school in which is situated. To date there has been no research comparing outcomes of students enrolled in these similar programs located in distinctly different institutional and governance structures.

It would be instructive to investigate whether conclusions about the competitive effects of charter schools in US studies would be replicated in Canada. A study of Milwaukee schools found that “a competitive school market with high autonomy and high quality charter schools is beneficial to all students, even those who remain in traditional public schools” (Nisar, 2011: 1). Cremata and Raymond (2014) also found that “competition from charter schools with higher than average quality is associated with increased growth in both math and reading at traditional public schools” (p. 2).

Furthermore, it is important to ask if charter schools, as they are regulated in Alberta, are indeed exerting their full competitive potential. Currently, the regulatory structure constrains charter school expansion. The cap of 15 charter schools in the province limits their growth and momentum, and it limits the full competitive market pressure to improve performance of a school district, in terms of efficiency, effectiveness, and student achievement (Bosetti et al., 2000; Gereluk, Kowch, and Thomspson, 2014; Ritchie, 2010).

For example, in 1974 Edmonton Public School Board advocated school choice in their mission to ensure that all students achieve success in their individual programs of study, and adopted an open boundary attendance policy. In 2006, they reported “49% of elementary students, 54% of junior high students and 56% of senior high students attending schools other than their designated neighbourhood school” (Maguire, 2006: 20). In all, only three charter schools have been established in the Edmonton area and they enroll 11 percent of the province’s charter school students. In contrast, Calgary has six charter schools that enroll 83 percent of all charter school students; the

remaining four charter schools account for 7 percent of enrolment and are in rural or semi-rural communities (Ritchie, 2010). Arguably, charter schools in the Calgary region, as explained below, have had more impact on traditional public education in terms of creating an incentive through competition for the local school boards to provide more choice for parents.

In addition to the cap on the number of charters that may be granted in the province, charter school expansion is further constrained through the charter approval process. Those seeking to establish charter schools are required to first approach their local school board to have their application considered as an alternative program of choice in accordance with Section 21 of the School Act (Alberta, 2015c). The local school board is charged with the responsibility of reviewing the proposal to determine if such a program already exists in their board, or if the concept proposed should be considered as an alternative program in their school system. If the board rejects the proposal, the charter school applicants can appeal to the Minister of Education for authorization. Charter school applicants in effect do the work on behalf of local school boards in identifying a need, designing a program in response to that need, and demonstrating sufficient parental support for the proposal. While the local board may reject the proposal as submitted, it may replicate a version of the proposal as an alternative or mirror program that would be in direct competition with the charter school.

Charter school applicants seldom desire to have their proposal authorized as an alternative program within the constraints of the bureaucratic structure and regulations of the local school board and the teachers' union. Applicants are motivated to include in their proposals innovations in school organization, structure, or administration that contravenes public school regulations, thereby limiting the possibility for the local board to approve the proposal as an alternative program. For example, some charter schools have adopted forms of merit pay, parent and student voice in teacher evaluation, employment of professionals to compliment teaching specialized programs, school uniforms, and partnerships with organizations for school facilities. These are forms of innovations that change established practices in how schools are managed and organized and how they use their resources.

School board leaders are more likely to respond to potential competitive pressure generated by charter school proposals they perceive as high quality and which demonstrate sufficient demand from parents. In the case of Alberta charter schools, school boards have a number of options in how they respond. They can work together with the charter applicants to accommodate the proposal as an alternative program in their board, as has been the case with Edmonton Public School Board. Calgary Board of Education has taken a different approach, rejecting most applications and establishing their own alternative program in direct competition with charter schools in the region.

Still, charter schools provide school choice for parents and community members that desire a specific form of instruction or an affiliation with a particular social or cultural identity in the education of their children. Parents identify with charter schools in a way they have not done with traditional public schools. They derive a feeling of specialness, meaning, and tradition, along with nostalgia for a small, safe school community (O'Reilly and Bosetti, 2000). The majority of charter schools in Alberta cater to middle income families who claim their children are not well served in the public education system (Ritchie, 2010). In some cases, parents believed this was because their children were marginalized because they were gifted, had a learning challenge, or were immigrants with poor language capability. In other cases, they chose charter schools because their child was not meeting with success in their designated neighbourhood school, or they needed a more challenging program, individualized instruction, or a more structured learning environment (Bosetti, 1998). In all cases, parents choosing charter schools report high levels of satisfaction with their school of choice (Alberta Education, 2011b, 2011c; Bosetti et al., 2000; Ritchie, 2010).

A comprehensive study of Alberta charter schools (Bosetti, 1998; Bosetti et al., 2000) included a survey and focus group interviews with parents in nine charter schools to determine their reason for choosing a particular charter school, their expectations, and their level of satisfaction with the charter school. Parents reported that charter schools offered them the opportunity to have a direct voice in their children's education through choice, the creation of the school charter, and membership on the governing board. In their reasons for choosing a particular charter school, factors related to the educational program offered were predominant. They included organizational aspects of the charter school such as small class sizes, teaching methods that provided individualized learning for their child, specific curricular offerings, and academic challenge (Bosetti et al., 2000). Parents from a charter school that caters to immigrant families whose children are second language learners reported the charter school was a safe place for their children who struggled to become part of the mainstream in their neighbourhood school and were reluctant to reveal their cultural identity. For these families, the charter school was a safe place, the school calendar accommodated their religious celebrations, and the discipline policies reflected their family values (Bosetti, 2001). Parents in other charter schools also reported that their school offered a strong sense of community, support for children, and improved social connections (Bosetti, 1998, 2000).

Critics of charter schools caution against the creation of these "value communities" because they reflect "little fiefdoms catering to the interests of their own social, ethnic, or cultural group, without concern for the larger social good" (Fuller, Elmore, and Orfield, 1996: 1). They argue that parents and families who do not "fit the mold" or adhere to the values and codes of

behaviour are excluded or pushed out of these charter schools. This, however, is also the strength of charter schools—they are explicit in their mission, and their aim is to provide education for families who value a particular approach to education. Thus, evidence suggests that not only do charter schools exert competitive pressure on surrounding school districts to improve, they also provide choice in education for parents whose educational preferences are not met elsewhere.

Conclusions from research on Alberta charter schools

Charter schools have been a slowly growing fixture on the public education landscape in Alberta since they were established in 1994, and it is surprising that after more than 20 years of existence this experiment in controlled choice has not resulted in more study of their impact on student learning and on public schooling. Still, our review of the literature finds evidence that, in general, charter schools are living up to their stated purposes of providing innovation, enhancing student learning, and offering choice and competition in education. Educational innovation in program offerings exists—diverse charter schools serving niche markets in distinct ways. The studies investigating their impact on student achievement point to enhanced scores, higher rankings, and more benchmark achievement than their counterparts, usually after controlling for socio-economic status and other such factors. Charter schools provide choice, and evidence suggests that they exert competitive pressure on area schools, particularly in some school districts.

Paradoxically, the greatest strength and weakness of charter schools in Alberta is in the restrictive legislation that has prevented the expansion of charter school authorities to create a robust, competitive market place. The cap on the number of charter schools demonstrated caution in the government's commitment and perhaps lack of confidence in education markets. Instead, charter schools have been levers for structural change in the public education system and, as a part of a larger reform agenda that included provincial achievement testing and expanded funding to private schools, have pushed the public education system toward a more efficient, outcomes based system, placing the performance of students in the Alberta public education system among the top in global rankings. Ritchie (2010) concludes that much of the strength of charter school derives from their small size, which provides flexibility and responsiveness to be innovative in their approach to education and to secure a defined niche in the education market. Fiske (2001) notes that “for charters to fulfill their function as a spur to innovation, it is thus probably best that they not become the norm. When charter schools are limited in number, they can be given the flexibility to be innovative, to offer alternative educational environments, and to take risks” (cited in Ritchie, 2010: 23).

Charter schools were introduced in 1994 in a particular social, political, and economic context, where governments globally were adopting strategies involving market mechanisms and accountability measures to create more efficient public institutions. However, the government of Alberta signaled a significant shift in their education reform agenda—as expressed in *Inspiring Education* (Alberta, 2010)—away from competitive education markets. In this vision, charter schools are positioned to become centres of research and innovation. Ironically, this brings the charter school concept full circle. The original vision for charter schools, as conceived by American professor of educational administration Ray Budde (1988), and proposed by Albert Shanker (1988), president of the American Federation of Teachers, was for teacher-led autonomous public schools that could serve as laboratories for cutting-edge research and development to solve important problems of pedagogy and curriculum, discover strategies to address the needs of the hard to educate, and produce findings that would help, rather than competing with other public schools (Ravitch, 2010).

Conclusions and recommendations

Charter schools have a growing presence on the public education landscape in North America. These autonomous public schools were designed to provide innovative, flexible, or enhanced education programs in response to local needs. In exchange for adherence to the school's charter, the schools operate within a framework of reduced state/provincial regulatory requirements.

Growth

With the first charter school law enacted in 1991 in the US (in Minnesota) and in 1994 in Canada (in Alberta), the period of 1991 to 1999 was one of rapid expansion in the number of states that instituted charter school laws. Fully 37 subnational jurisdictions (in the US and Canada) allowed charter schools by 1999.

From 1999/2000 to 2012/13, enrolment rose from 2,073 to 8,418 in Canada and from 339,678 to 2,267,814 in the US. Enrolment in Canada, in jurisdictions that allowed charter schools, grew by 306 percent and in the US it grew by 568 percent. In 1999/2000, 0.4 percent of the Alberta school-age population attended charter schools, while 0.8 percent of students did so in US jurisdictions with charter school legislation. Fourteen years later, 1.4 percent of Alberta's school-age population was enrolled in charter schools, while in the relevant US jurisdictions fully 4.4 percent was. In 2014/15, a total of 44 subnational jurisdictions allow charter schools (42 US states, Washington D.C., and Alberta). Alberta ranks 34th of 44 jurisdictions in terms of proportion of school-age population enrolled in charter schools.

Thus, growth in charter school attendance has been much more modest in Canada than in the US. Certainly, from a national perspective, charter school growth may even be viewed as stagnant in this country, as no additional provinces have been involved in their uptake.

Effects

In general, the literature shows mixed results for the average effects of charter schools. Our review of the research indicates, however, that a number of features are consistently found to be connected with enhanced charter school effects, particularly with respect to improvements in student achievement.

First, students that gain entry to charter schools by lottery tend to show the positive effects of charter schools. Whether this is because oversubscribed charter schools are better or the neighbouring traditional public schools are poorer is not entirely known, but what is important is that gaining entry to an oversubscribed school is related to enhanced achievement.

Second, the largest charter school benefits accrue to students with certain characteristics. Students from disadvantaged groups experience larger gains than their counterparts. Charter schools close the gap for those disadvantaged by poverty, ethnic background, English language learning, and entry with a low baseline score.

Third, the charter school advantage is related to the age of the school and the length of time a student attends it. This vintage effect finds that charter school effects improve the longer the school has been open, and that negative outcomes become positive ones within two to three years of student attendance at a charter school. These maturation effects may be because poor charter schools are closed while the better ones remain open, and because issues for students in transition dissipate the longer a student stays in a school.

Fourth, certain school characteristics are associated with enhanced student performance. Charter schools with an academically focused mission tend to lead to significant academic advantage. Urban charter schools offer an advantage over rural ones. Charter schools with a “no excuses” pedagogy of more discipline and rigor produce an advantage for students, as do charter schools with longer days, a longer school year, and even a school week that includes Saturday school.

Finally, it is important to note that regulation at subnational jurisdiction (state or province) level does not seem to be connected with enhanced achievement. Even though charter school regulation varies across states, the variation of charter school effects within states suggests that state/province level regulation does not explain differences in student achievement outcomes.

Thus evidence from the study of charter schools in the US suggests that some charter schools, particularly the older ones, and those with an academic focus and/or more school hours and more rigor, have positive effects for some groups of students, particularly those who entered by lottery, those who have been there for several or more years, and/or those representing disadvantaged populations. Stated another way, charter schools, particularly the more mature ones, offer the strongest benefits to students who are underserved by their local traditional public schools.

Alberta

Charter schools in the United States and Canada share similar characteristics in terms of being autonomous public schools. In Alberta, charter schools were positioned as an “addition to the public education system” and as sites of innovation that would “complement the educational services provided by the local public system” and be different from what is locally available (Alberta, 2011c: 1). The key aims of policy makers in Alberta with the introduction of charter school legislation were, first, to foster research and innovation, second, to improve student achievement, and third, to provide choice and program diversification in the public education system.

The literature on charter schools in Alberta includes 44 papers and reports. Charter schools were generally founded by like-minded parents and educators committed to seeking a vision of schooling they could not realize in the traditional public education system. Few can be viewed as truly innovative in terms of offering original programs or strategies, but many offer novel combinations of existing pedagogical approaches and application across the whole school. About half of the charter schools in Alberta serve particular student populations, while others employ a particular methodology, curricular focus or philosophy. Currently four charter schools cater to marginalized, harder-to-educate students such as capable underachievers, street-oriented youth, Aboriginal youth, and English as an additional language learners. Most charter schools partnered with university researchers who studied interventions and pedagogical strategies to improve student learning.

A number of studies conclude that Alberta charter schools are associated with enhanced levels of student achievement. The Ministry of Education reported in 2009 that “overall, charter schools appear to have provided enhanced student learning outcomes as compared to similar schools and similar students enrolled in other jurisdiction types.” Morrison (2002) found that more charter school students were achieving a 70 percent grade average than their counterparts in other schools. Da Costa and Peters (2002), using provincial test data, found the majority of charter schools scored about the provincial average in all subjects and grades, but “more of them surpassed the provincially set benchmarks than their counterparts in adjoining systems.” Ritchie (2010) found charter school students performed at an equivalent level as or better than students in other schools, and also found that the Alberta charter schools studied added significantly more value to their students entering Grade 3 than did schools into which the control students entered. Performance on provincial achievement tests indicates that charter school students are achieving as well as, and in some cases better than, students in other schools. In one comparative study of 800 public, private, and charter schools in Alberta, Johnson (2013) revealed a disproportionate number of charter schools ranking in the upper echelons and found a large

gap between charter and all other schools, consistent across all three grades that engage in the PAT.

Charter schools provide more choice for parents and a competitive pressure on surrounding schools. The unique and niche charter schools that have emerged in Alberta suggest that parent and student preferences for particular approaches to education can be met through charter schools, and the expansions in alternative programs in traditional public school suggest that the competitive pressure of charter schools is being felt.

Charter school expansion is limited by legislation (which caps the number of charters granted) and by access to suitable facilities. Currently, many charter schools have extensive waiting lists, multiple campuses, and high levels of parental and teacher satisfaction.

Although the expansion of charter schools is tightly controlled in Alberta, they have earned a strong presence in the public education landscape, particularly in the Calgary region. With established and lengthening histories as successful alternative forms of public education and a demonstrated and continued increase in student enrolment, charter schools are satisfying particular parental preferences in education and exerting a competitive pressure on district schools. They continue to be positioned as rich sites for research into various aspects of schooling.

Conclusion

Our review of the literature finds evidence that charter schools designed in particular ways offer the strongest benefits to particular groups of disadvantaged students who are typically underserved by traditional public schools. In Alberta, they show evidence of living up to their stated purposes of providing innovation, enhancing student learning, and offering choice and competition in education. Specifically, educational innovation in program offerings was noted. Diverse charter schools are serving niche educational sectors in distinct ways. Studies investigating impacts on student achievement found enhanced scores, higher rankings, and more benchmark achievement than their counterparts, usually after controlling for socio-economic status and other factors. Finally, charter schools provide choice for parents and students, and evidence indicates that, particularly in some school districts, they exert positive competitive pressure on area schools.

While charter school enrolments have expanded substantially in the US, they have not done so in Canada. Yet the research suggests that these autonomous public schools are successfully serving particular groups of students with positive effects on student achievement. As such, they are worthy of more attention by education stakeholders.

Going forward, the focus of the research and policy making communities should be focused in four areas. First, a pressing need exists for more research on student achievement in Alberta charter schools. Few empirical evaluations exist and many have weaker research designs than the experimental or longitudinal approaches used in the US studies. Researchers should take advantage of the lotteries in oversubscribed schools in their study of Alberta charter school effects.

Second, further research should be aimed at determining which pedagogical and institutional models are most likely to improve achievement for particular groups, such that new charter school operators are able to learn from the experience of previous charter school models.

Third, an effort should be made to ensure that the accountability mechanisms inherent in a school's charter are alive and well, such that charters schools can continue to benefit from their flexibility and avoid failure.

Fourth, jurisdictions that are considering the benefits of charter schools must avoid developing a regulatory structure that will constrain charter schools from achieving their potential impact and reach. Proposed changes to charter school regulations could see a lift in (a lifting of the cap or a raise in the cap?) the cap on the number of charter schools, and an expanded role in working cooperatively with the traditional public schools to share innovative practices and serve as sites for professional development of teachers.

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Appendix A

Research on charter schools in Canada

Author(s)	Year	Title	Source
Angus, R. J.	2000	Almadina charter school: An assessment	Unpublished Master Thesis, Educational Administration and Leadership, University of Alberta. Available from Library and Archives Canada: < http://www.nlc-bnc.ca/obj/s4/f2/dsk1/tape3/PQDD_0011/MQ59747f.pdf >
Averill, M.	2008	Effective teaching practices for working with at-risk inner city youth: How trauma affects learning	Unpublished M.Ed Project, Department of Secondary Education, University of Alberta. Accessed through Boyle Street Education Centre: < http://www.bsec.ab.ca/pdf/At_Risk_Youth_How_Trauma_Impacts_Learning.pdf >
Baydala, L., Birch, J., Worrell, S., and Letourneau, N.	2010	A school story of cultural compatible education: Experiences and possibilities	Manuscript submitted for publication.
Baydala, L., Letourneau, N., Bisanz, J., and Klassen, T.	2009	Evaluating success: The Mother Earth's Children's Charter School Longitudinal Study.	Summary of Project: Child Studies, Child Health Intervention & Longitudinal Development. University of Calgary. < http://crawl.prod.proquest.com.s3.amazonaws.com/fpccache/df3ee9f9cba517c8019f43fa7512e534.pdf?AWSAccessKeyId=AKIAJF7V7KNNV2KKY2NUQ&Expires=1434482248&Signature=7lmleNpU%2FWfnW550Ed%2BfSomUZHk%3D >
Baydala, L., Letourneau, N., Bach, H., Pearce, M., Kennedy, M., Rasmussen, C., Sherman, J., and Charchun, J.	2007	Lessons learned through research with Mother Earth's Children's Charter School.	<i>Journal of Aboriginal and Indigenous Community Health</i> 5, 2.
Baydala, L., Rasmussen, C., Birch, J., Sherman, J., Wikman, E., Charchun, J., Kennedy, M., and Bisanz, J.	2009	Self-beliefs and behavioral assessment scales as related to academic achievement in Canadian aboriginal children.	<i>Canadian Journal of School Psychology</i> 24, 1: 19-33. < http://cjsp.sagepub.com > hosted at < http://online.sagepub.com >
Baydala, L., Rasmussen, C., Bisanz, J., Kennedy, M., Weigum, N., and Worrell, S.	2009	Evaluating success: Mother Earth's Children's Charter School longitudinal study.	<i>Canadian Journal of Native Education</i> 32: 79-93.
Bosetti, L.	1998	The dark promise of charter schools.	<i>Policy Options</i> 19, 6: 63-67.
Bosetti, L.	2000	Alberta charter schools: Paradox and promises.	<i>The Alberta Journal of Educational Research</i> 46, 2: 179-90.
Bosetti, L.	2001	The Alberta charter school experience.	In Hepburn, C. (ed.), <i>Can markets save our schools?</i> (Fraser Institute).
Bosetti, L.	2004	Determinants of school choice: Understanding how parents choose elementary school in Alberta.	<i>Journal of Education Policy</i> 19, 4: 387-405.
Bosetti, L.	2014	The Alberta charter school experience 20 years later.	<i>Policy Digest</i> (September).
Bosetti, L., and O'Reilly, R.	2002	Choice: Charter schools in Alberta.	In Vegari, S. (ed.), <i>The charter school landscape</i> (University of Pittsburg Press).
Butterfield, P.	2013	Instructional leadership in Alberta public charter schools: An exploration into the perceived effects of instructional leadership practice on student success.	Unpublished Dissertation, Graduate Programs in Education, University of Calgary.
Kachur, J.	1999	Privatizing public choice: The rise of charter schooling in Alberta.	In T. Harrison and J. Kachur (eds.), <i>Contested classrooms: Education, Globalization and democracy in Alberta</i> (University of Alberta Press and Parkland Institute).

Author(s)	Year	Title	Source
McConaghy, T.	1996	Charter schools, Alberta style.	<i>Phi Delta Kappa International</i> 77, 8: 580-81. < http://www.jstor.org/stable/20405646 >
Mindzak, M.	2011	Salience of charter schools in educational policy debates in three Canadian provinces: 1993-2010	Unpublished Master Thesis, Department of Graduate and Undergraduate Studies in Education, Brock University.
Mindzak, M.	2015	What happened to charter schools in Canada?	<i>Equity & Excellence in Education</i> 48, 1: 105-117.
O'Reilly, R.R., and Bosetti, L.	2000	Charter schools: The search for community.	<i>Peabody Journal of Education</i> 75, 4: 19-36.
Pearce, M., Crowe, C., Letendre, C., Letendre, M., and Baydala, L.	2005	Mother earth's children's charter school: Imagining a new story of school.	<i>Childhood Education</i> 81, 6: 343-48.
Roessingh, H.	2011	Family treasures: A dual-language book project for negotiating language, literacy, culture, and identity using a charter school as research site.	<i>Focus on the Classroom</i> 67, 1: 91-122.
Roessingh, H.	2012	Service learning and student engagement: A dual language book project using a charter school as research site.	<i>Canadian Journal of Education</i> 35, 4: 284-307.
Sawa, R.	2003	The perceived effects on three public schools of a charter school in Calgary, Alberta.	Unpublished Dissertation, Department of Educational Administration, University of Saskatchewan.
Wagner, M.	1999	Review of educational policy laid out by the Alberta PC government since the 1970s.	<i>The Alberta Journal of Educational Research</i> XLV, 1: 52-66.
Alberta Education	2009	For discussion purposes: Charter school concept paper.	< http://www.education.alberta.ca/media/6389633/abed_charterschoolconceptpaper_web%20pdf.pdf >
Alberta Education	2011	Action on research and innovation: The future of charter schools in Alberta, Summary of Online Survey Results.	< http://www.education.alberta.ca/media/6735500/thefutureofcharterschoolsinalberta.pdf >
Alberta Education	2011	Background information. Action on research and innovation: The future of charter schools in Alberta.	< https://education.alberta.ca/media/6389667/background%20information%20revised%20jan%207%202011.pdf >
Alberta Education	2011	Charter school handbook.	< https://education.alberta.ca/media/434258/charter_hndbk.pdf >
The Association of Alberta Public Charter Schools	2009	TAAPCS' response to questions of the minister of education.	< http://www.taapcs.ca/documents.html >
The Association of Alberta Public Charter Schools	2014	Charter School Research and Innovation Initiatives.	< http://www.taapcs.ca/pdf/Charter%20School%20Research%20Initiatives%20-%20Final%20.pdf >
Alberta Teachers Association	2011a	Charter schools in Alberta.: Permanent Centres of Research?	< http://www.teachers.ab.ca/Publications/ATA%20News/Volume-45-201011/Number14/Pages/CharterSchoolsinAlberta.aspx >
Alberta Teachers Association	2011b	Initial Response to Action on Research and Innovation: the Future of Charter Schools in Alberta	< http://www.teachers.ab.ca/SiteCollectionDocuments/ATA/News-Room/2011/Alberta%20Public%20Charter%20Schools.pdf >
Bosetti, L.	1998	Canada's charter schools: Initial report.	Society for the Advancement of Excellence in Education.
Bosetti, L., Foulkes, E., O'Reilly, R., and Sande, D.	2000	Canadian charter schools at a crossroads. Final report.	Society for the Advancement of Excellence in Education.
Brandon, J.	2014	School leadership framework implementation project report.	The Association of Alberta Public Charter Schools. < http://www.taapcs.ca/documents.html >
Johnson, D.	2013	Identifying Alberta's best schools: 2010-2012 charter schools	C.D. Howe Institute. < https://www.cdhowe.org/albertas-best-schools-2013/22531 >
Clements, J., and Gibson, D.	2013	Delivery matters: Cyber charter schools and K-12 education in Alberta.	Parkland Institute. < http://parklandinstitute.ca >
da Costa, J., and Peters, F., with Violato, C.	2002	Achievement in Alberta's charter schools: A longitudinal study.	Society for the Advancement of Excellence in Education.

Author(s)	Year	Title	Source
Gereluk, D. Kowch, E., and Thompson, M.	2014	The impact and capacity of Alberta's public charter schools.	Association of Alberta Public Charter Schools. < http://www.calgarygirlsschool.com/appendix/Appendix%20P.6%20-%20TAAPCS%20U%20of%20C%20research%20proposal%20May%209%202012.pdf >
Johnson, D.	2013	Identifying Alberta's best schools: 2010-2012 charter schools.	C.D. Howe Institute. < https://www.cdhowe.org/albertas-best-schools-2013/22531 >
Morrison, K.	2002	Measuring success: Tracking former charter school students.	Canadian Charter Schools Centre.
Morrison, K., and King, D.	2001	Clearing the hurdle: Tracking charter school rejections.	Canadian Charter Schools Centre.
Ranham, H.	1998	Choice and charter schools in Canada: The myths, politics, and reality.	Society for the Advancement of Excellence in Education.
Ritchie, S.	2010	The west in Canada research series. Innovation in action: An examination of charter schools in Alberta.	Canada West Foundation. < http://cwf.ca/news-releases/charter-schools-are-part-of-alberta-s-recipe-for-a-great-educational-system?A=SearchResult&SearchID=11402003&ObjectID=1098001&ObjectType=35 >
Thomson, K.	2008	An evaluation of the charter school movement in Alberta	Unpublished paper < http://www.ncspe.org/readrel.php?set=pub&cat=198 >

Appendix B

Overview of Alberta charter schools

Based on 2014/15 enrolment data as reported by the Director of Field Services, Alberta Education, July 10, 2015.

<p>Almadina Language Charter Academy Calgary, two campuses Grades K-9 Enrolment: 1021 Charter granted 1996 Granted 15 year Charter</p>	<p>Almadina has an emphasis on English language acquisition for students whose second or third language at home is English. Students include newcomers to Canada as well as others who need to increase their English proficiency level. Students are offered French, Urdu and Arabic language courses to increase their conceptual understanding of English. The vision is to be the best public school for ELL students to reach their full potential.</p> <p>Character development is emphasized through a deliberate focus on the values in safety, caring and acceptance of diversity.</p>
<p>Aurora Academic Charter School Edmonton Grades K-9 Enrolment: 644 Charter granted: 1996</p>	<p>Aurora School offers a traditional school program with an emphasis on direct instruction methods. Their mission is to "provide an orderly and structured environment, with properly sequenced teacher-directed instruction and strong home/school partnerships, where average children can excel in an academically-oriented program."</p> <p>Character development is focused on recognizing the value of hard work and enterprise, developing a desire to be productive, law-abiding loyal employers and employees.</p>
<p>Boyle Street Education Centre Charter School Edmonton Ages 14-19 Enrolment: 148 Charter granted: 1995</p>	<p>The purpose of the Boyle Street Education Centre (BSEC) is to inspire and support the educational success and social development of high-risk youth or youth (ages 14-19) who have previously experienced interruptions in their formal learning. The education philosophy is guided by seven principles: 1) learner-centred, 2) shared responsibility and accountability, 3) community engagement, 4) inclusive access, 5) flexibility, 6) sustainability, and 7) innovation.</p> <p>The mental, physical, emotional and spiritual growth of students is aimed at the development of: Engaged thinkers; Ethical citizens who are;</p> <p>Entrepreneurial in their approach to post-secondary learning or their workplace goals.</p>
<p>Calgary Arts Academy Calgary, two campuses Grades K-9 Enrolment: 517 Charter granted: 2003 Granted 15 year Charter</p>	<p>CAA uses an arts immersion curriculum where the Arts are taught all day and core subjects are explored through the Arts. The stated purpose is "to transform children into young people who are curious, kind, empathetic and engaged; preparing them like no other school to contribute and lead in their communities."</p> <p>The arts immersion curriculum is supplemented by the pillars of the Circle of Courage to promote student empowerment, caring and empathy; Democratic Discipline to promote self-discipline, responsibility, decision making and independence; and contracted learning.</p>
<p>Calgary Girls School Calgary two campuses Grades 4-9 Enrolment: 611 Charter granted: 2002 Granted 15 year Charter</p>	<p>CGS intends to create an engaging and meaningful education for girls and young women to develop leadership and problem solving skills and a strong voice for important issues. The stated mission is that "girls and young women of CGS are agents of change who develop confidence and a strong sense of self in a safe, collaborative, inquiry-based learning environment."</p> <p>CGS uses an inquiry-based, collaborative approach that emphasizes team work. The guiding values of the school are: Compassion, Courage, Diversity, Integrity, Curiosity, Democracy and Collaboration.</p>
<p>CAPE (Centre for Academic and Personal Excellence) Medicine Hat Grades K-9 Enrolment: 220 Charter granted: 1995</p>	<p>CAPE offers an individualized, integrated program for students who are underachieving. The vision is "to foster in students a desire to learn, to grow, to explore, to excel, to achieve, and to develop into lifelong learners and productive, contributing world citizens".</p> <p>CAPE emphasizes a program of study that is responsive and accessible for student's different cognitive, emotional and social development rates. The mission is "to foster academic and personal skills in students so that they may pursue and achieve personal and academic excellence and become lifelong learners and contribute to human improvement". Extended programs are offered for language and literacy development.</p>
<p>Connect - Calgary's Science School Calgary Grades 4-9 Enrolment: 599 Charter granted: 1999 Granted 15 year Charter</p>	<p>Connect promotes learning through an inquiry-based approach. There is an emphasis on the use of technology, the use of real-life learning environments and collaborative classroom relationships. The vision is "preparing our students as extraordinary citizens."</p> <p>Principles guiding the school include caring, teamwork, mutual respect and building a strong sense of community.</p>

<p>Foundation for the Future Charter Academy Calgary, seven campuses Grades K-12 Enrolment: 3366 Charter granted: 1996 Granted 15 year Charter</p>	<p>FFCA offers a traditional, direct instruction environment. The stated mission is “to provide a safe and caring environment where academic excellence, character development, parental involvement and staff leadership are valued and fostered.”</p> <p>The FFCA learning environment emphasizes clear standards and building confidence through achievement. Class size, composition, , tailored class size and composition and use of specialist teachers. Uniforms are worn and there is high expectation of parental involvement.</p> <p>Character development emphasizes the virtues of: respect, responsibility, integrity, self-discipline and compassion.</p>
<p>Mother Earth’s Children’s Charter School Genessee Grades K-9 Enrolment: 127 Charter granted: 2003</p>	<p>MECCS is a culturally-based learning environment rooted in traditional Indigenous teachings. MECCS believes that there are four needs that must be met for every child to be able to succeed. Every child feels the need for:</p> <ul style="list-style-type: none"> Belonging (I mean something to you); Mastery (I am good at something); Independence (I have power to make decisions); and Generosity (I have a purpose in life). <p>The school setting is culturally appropriate and offers a connection to Mother Earth and traditional ceremonies such as such as pow wows. There is an emphasis on the development of resilience and personal responsibility and support of adults to find a life purpose.</p>
<p>New Horizons School Ardrossan Grades K-9 Enrolment: 220 Charter granted: 1995 Granted 15 year Charter</p>	<p>New Horizons School focuses on meeting the unique needs of academically-gifted children. The school offers a low-anxiety, positive and supportive environment with individualized learning approaches.</p> <p>The educational program includes practices such as acceleration, extension, enrichment and curriculum compacting so that each student is challenged to perform to potential. Students may focus on in-depth research projects geared to their interests and abilities. Students are encouraged to maintain a safe and caring environment that recognizes, accepts and appreciates the need and capabilities for all.</p>
<p>Suzuki Charter School Calgary Grades K-6 Enrolment: 310 Charter granted: 1994 Granted 15 year Charter</p>	<p>Suzuki Charter School is an arts-focused school where musical skills and appreciation are the foundation for a mastery approach to learning.</p> <p>Based on the philosophy of Dr. Shinichi Suzuki, who believed that if children can learn a complex language at a young age, then they can also develop musical skills and appreciation if they are exposed to music making and music listening at a young age. The mastery approach is distinguished by three phases of development: 1) emphasis on the learner’s understanding of what is to be learned, 2) meaningful practice with appropriate feedback, and 3) review that develops and reinforces the automatic execution of skill.</p> <p>The school has a philosophy that every individual has an innate ability and talent, with the potential and capacity to learn within a nurturing environment characterized by encouragement, praise and cooperation. There is an emphasis on social interaction in the form of group lessons.</p>
<p>Valhalla Community School Valhalla Centre Grades K-6 Enrolment: 114 Charter granted: 2008</p>	<p>The Valhalla Community School (VCS) has an aim to equip rural students with knowledge and skills for community leadership. The rural students are viewed as having an entrepreneurial perspective and a closeness of personal ties that is unique and beneficial.</p> <p>Direct teaching is the primary approach to learning and there is priority placed on the role of parents. The skills of memorization, mental calculation and excellent penmanship are highly valued. Multi-grade groupings are used to encourage a sense of community connection. As students advance there is an increased focus on the development of critical thinking. Students are required to learn a second language from kindergarten (German).</p>
<p>Westmount Charter School Calgary, two campuses Grades 1-12 Enrolment: 1220 Charter granted: 1996</p>	<p>The mission of Westmount school is “to meet the learning needs of gifted students and promote their social-emotional development in a congregated setting”. Westmount believes gifted students are capable of exceptional performance with comprehensive specialized educational programming and specially trained teachers.</p> <p>The stated purpose of the school is to provide qualitatively differentiated educational programming for students who are gifted so that each student can optimize their potential. Humanitarianism is a key component of the school program.</p>

Appendix C

Story box of research

Almadina Language Charter Academy

English language learning

Background

Almadina Language Charter Academy (ALCA) received a charter in 1996 and has two campuses in Calgary, Alberta. Almadina serves children from kindergarten to grade nine who have recently immigrated, or those born in Canada whose parents are learning English as a second or third language.

<www.esl-almadina.com>

Pedagogical distinctions

There is emphasis on English language acquisition, but also other international languages of choice. Academic content is taught within the context of culture and students' lived experiences, from several cultural perspectives. Yet, not taking for granted that students are simultaneously learning to speak, read, write, and connect concepts, teachers conceptualize the learning process as moving from pre-teaching of vocabulary, to content teaching, review within cultural contexts, and reflection on knowledge. Curriculum is supplemented with newspapers, video clips, and other formats from popular culture to accommodate knowledge scaffolding among heterogeneous grade groupings. Teachers create a language inventory alongside lesson plans to “unpack” the language and skills required of students and consider the content-specific forms and functions of the vocabulary to be presented. An additional emphasis on values and virtues programming is woven into school culture, and with the more senior students, has focused on leaders who promote peace.

Research participation

Benjamin Franklin's statement—“Tell me and I forget. Teach me and I remember. Involve me and I learn”—led thinking during a research partnership with Dr. Hetty Roessingh of the University of Alberta. The research created “Family Treasures – a dual language book project.”

Boyle Street Education Centre

Serves students with multiple social problems

Background

Boyle Street Education Centre (BSEC) has been chartered since 1995 and is located in downtown Edmonton, Alberta. Almost 90 percent of students have self-identified as First Nation, Metis, or Inuit. They range from 14-19 years of age. Student intake includes a functional assessment to develop an appropriate learning program and individualized plan to be reviewed regularly.

<www.bsec.ab.ca>

Pedagogical distinctions

BSEC employs a model of inclusion focused on student engagement, ethical citizenship, and entrepreneurial spirit, as outlined by *Inspiring Education* (Alberta Education, 2013). Also, teaching pedagogy and individual student plans are driven by seven practices: set clear standards, use focused goals, provide challenging tasks, protect students from negativity, affirm student performance, and provide novelty, variety, and choice. Student feedback directs the organization of drop-in special interest courses using group instruction. Block scheduling has been changed from 80 minutes to 60 minutes per class to accommodate the known impacts to many students of trauma, Fetal Alcohol Syndrome Disorder (FASD), and Attention Deficit Hyperactivity Disorder. Since many students reflect the impact of intergenerational poverty and oppression and have not been attending school, Alberta Learning accepts the estimated 45 percent four year average attendance rate. BSEC states that “the doors aren’t open or closed; they are revolving,” and there is a standing invitation for former students to join the school community for lunch on Fridays. Once a week time is dedicated to develop student portfolios for potential post-secondary study.

Research participation

BSEC is currently a co-research institution as part of a Community/University of Alberta Partnership study to investigate the impact the school is having on adolescents living with FASD, resulting in journal articles, conference presentations, and a published book.

Calgary Arts Academy

Arts immersion

Background

The Calgary Arts Academy is a public charter school currently serving K to grade nine on two campuses in Calgary, Alberta. The Calgary Arts Academy uses music, drama, visual art, dance, and literary arts to infuse core curriculum. <www.caaschool.com>

Pedagogical distinctions

Teachers are practicing artists working in collaboration with eight full-time artists to plan and deliver the Alberta Program of Studies, along with some part-time artists and short-term contract artists. The Calgary Arts Academy has partnerships with; the Calgary Arts Academy Adult Choir who are ambassadors to the Calgary Arts Academy, the Calgary Exhibition & Stampede, the Calgary Arts Academy Student Care Program providing daycare to students and their families, the Calgary Public Library, and the Tianjiao International Education Group (Beijing, China).

Research participation

In partnership with Dr. Robert Kelly from the University of Calgary, teachers are engaged in research on learning through the arts in the higher grades. They are also exploring the concept of design as it is related to arts instruction, and comparative studies on different art methodologies that might inform pedagogical practice at the Calgary Arts Academy.

Centre for Academic and Personal Excellence (CAPE)

Gifted education, special education, and second language instruction

Background

The Centre for Academic and Personal Excellence (CAPE) was chartered in 1995, currently serving students who are intellectually capable yet under-achieving, from kindergarten to grade nine, in Medicine Hat, Alberta. <www.apeisgreat.org>

Pedagogical distinctions

The academic program at CAPE offers total integration of core content within the Alberta Program of Studies, particularly utilizing cultural perspectives alive in French and Spanish as second languages and on-site learning in the community, social skills development, attention to wellness, and societal connections like citizenry, the environment, and global issues. CAPE aims to provide multi-aged, individualized, and flexible programming to meet student

needs through curriculum adaptations, enrichment, acceleration, or expansion, with school and community supports.

Research participation

CAPE staff has completed action research on numerous topics impacting student engagement and achievement including use of stability balls, culture-based second language instruction, emotional IQ development, use of iPads, beginner reading skills, quality learning output, use of the Mind-up program, use of classical music in math, and peer mentorship. CAPE has a research partnership with the University of Lethbridge, to investigate parental engagement.

Calgary Girls' School

Centre of excellence for girls and young women

Background

The Calgary Girls' School (CGS) received a charter in 2003, and is now serving grades four through nine on two campuses in Calgary, Alberta. These campuses are all-girl learning environments intended to promote achievement, and to develop students' voice to become confident, innovative leaders, inclusive of the changing diversity of Alberta's demographics.

<www.calgarygirlsschool.com>

Pedagogical distinctions

The Alberta Program of Studies is delivered through inquiry-based methods and personalized learning; specifically, the CGS addresses the gender difference in math and science achievement. Additional curricular emphasis asks girls to examine, understand, and appreciate the contributions of women in society over past, present, and future generations, to develop their full capacity in rigor and depth of learning, realize personal agency, as well as enable thoughtful career and life choices.

Research participation

The CGS is involved with the University of Calgary Research Partners Agreement as a signatory currently investigating assessment practices, and with the Werklund School of Education to focus on math teaching and learning. CGS staff members have presented on math topics at several conferences and forums within Alberta and participated in research driven events with the Pacific Institute for the Mathematical Sciences and Banff International Research Station for Mathematical Innovation.

Mother Earth's Children's Charter School (MECCS) **Culturally compatible education**

Background

Mother Earth's Children's Charter School (MECCS), built in 2003, is located in north central Alberta, Canada. The school's founding philosophy is based on the Medicine Wheel, central to North American indigenous teachings.

www.meccs.org

Pedagogical distinctions

MECCS' curriculum is rooted in identity and experience, calling for core learning understood and experienced through Aboriginal ways of knowing to include ceremonies, prayers, storytelling, circle theories, and recognition of life stories. The land is the first classroom, where "... the grass and the wind move the spirit of the children ..." (Bearhead, 2005; founding member). The priority of research is ongoing evaluation of the effects of culturally compatible education while the school community story shifts between tensions and possibilities.

Research participation

The notion of community is complex, yet by adopting the principles of community-based participatory research, the potential for exploiting or undervaluing any contributions can be avoided. Visual narrative inquiry is a compatible research method to capture the everyday stories not usually seen nor heard by anyone outside the school community.

Initial inquiry has uncovered the strong belief in connecting, respecting, and valuing the environment and the spirit of the land as a space for learning. Also, those initial stories attended to what had been evaded in a narrative of growing up as an Aboriginal student in schools, and the importance of sustained conversation through relational research for children to see education as a healthy lifestyle ray of hope. Evaluation of the school has developed a greater understanding of community-based participatory research and indigenous research methodology, but also an appreciation for the complexity of culturally compatible education that really works for a community, is in relationship with research, and opens up new ways to document the value of indigenous education.

Suzuki School

Mastery Learning through Music

Background

The Suzuki School received a charter in 1995 and is currently serving kindergarten to grade six. The Suzuki method is education through music to “raise in children” sensitivity, receptivity, creativity, and refined abilities. <www.edline.net/pages/Suzuki_Charter_School>

Pedagogical distinctions

The Suzuki Approach is mastery learning: emphasis on the learner understanding what is to be learned, then meaningful practice with appropriate feedback specific to the child’s current performance levels to achieve goals within immediate reach, and also review that develops and reinforces automatic execution of skills. This approach states that creating desire in a child is a parent’s duty, and that learning results when adults collaborate to provide strong interest and praise, yet requires waiting patiently, exerting great control, and letting the child do it for him/herself. “... [T]he purpose does not lie in an effort to create professional musicians, but to create persons of a receptive, creative mind and fine ability” (Suzuki, 1982).

Research participation

The Suzuki School has research partnerships with the Learning Disabilities Association of Alberta with regard to reading readiness and assessment, the Hospital for Sick Children in Toronto for intensive reading intervention programming, Sylvia Hannah from British Columbia for her phonological awareness expertise, and Dr. Jacqueline Leighton and Paolina Seitz of the University of Alberta investigating the impact of the Suzuki Approach on student learning.

Westmount Charter School Gifted Education

Background

Westmount Charter School for gifted students received a charter in 1996 and currently serves kindergarten to grade twelve. Westmount recognizes that giftedness is asynchronous development with advanced cognitive abilities and heightened intensity of experience & awareness that are qualitatively different from the norm. “The uniqueness of the gifted renders them particularly vulnerable and requires modifications in parenting, teaching, and counseling in order for them to develop optimally” (The Columbus Group, 1991; Gifted Development Center).

<www.westmountcharter.com>

Pedagogical distinctions

The Westmount Charter School offers differentiated programming through administrative and organizational strategies including advanced post-secondary placement or credit, concurrent or dual enrollment at various grade levels, cross-grade or multi-age grouping, course or grade advancement, independent study, seminars, and tutorials.

Research participation

Research projects with the University of Calgary have addressed grades five to nine math with Dr. Krista Francis-Pocente, and the relationship between parenting stress and child attribution style in anxiety, with Maisha M. Syeda. Dr. Frank Falk from the University of Akron planned to follow up within two years on his study of “overexcitabilities” in gifted students. Dr. Joan Stevenson from Queen’s University studied victimization and kindness, and Luliia Khilko from the University of Ukraine studied socialization of gifted children in Canadian schools.

About the authors



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Lynn Bosetti is a Senior Fellow at the Fraser Institute and a professor in the Faculty of Education at the University of British Columbia, Okanagan, where she completed her term as dean of the faculty. After earning her B.Ed. from the University of Alberta she became a secondary school teacher with the Calgary Board of Education. Then, following her studies towards an M.Ed. and Ph.D. in Educational Policy and Administration at the University of Alberta, Ms. Bosetti worked as a professor of education for over twenty years in the faculty of education at the University of Calgary, during which time she served in various senior administration roles as well as Director of the Center for Gifted Education. She has a distinguished record of funded tri-council research and her publications focus on school choice, charter schools, leadership in higher education, and feminist issues. She has published in numerous academic journals, presented extensively at academic conferences, and been an invited speaker in a wide variety of international venues. She has served as a visiting fellow, scholar, and lecturer at many universities, and has successfully supervised over 40 graduate theses. Her forthcoming co-authored book published by the University of Toronto Press, *Understanding School Choice in Canada*, is positioned to make a significant and timely contribution to advancing discussion on educational choice.



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