

Rapid Synthesis

Changing Practice to Achieve Equity in Ontario's Education Sector

3 October 2017



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**Rapid Synthesis:
Changing Practice to Achieve Equity in Ontario's Education Sector
30-day response**

3 October 2017

Forum+

Forum+ builds on McMaster University's expertise in advancing human and societal health and well-being in our efforts to strengthen social systems and get the right programs, services and products to the people who need them. By social systems we mean the following government sectors and program areas: citizenship, children and youth services, community and social services, consumer protection, culture and gender, economic development and growth, education, employment, food safety and security, government services, housing, infrastructure, public safety and justice, recreation, and transportation. Said another way, our work through Forum+ addresses most of the Sustainability Development Goals, with the exceptions of the health part of goal 3 (which the Forum already covers well), most of goal 7 (energy), and all of goals 13-15 (climate, water and land).

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Timeline

Rapid syntheses can be requested in a three-, 10- or 30-business-day timeframe. This synthesis was prepared over a 30-business-day timeframe. An overview of what can be provided and what cannot be provided in each of the different timelines is provided on the Forum+'s Rapid Response program webpage (www.mcmasterforum.org/find-evidence/rapid-response).

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Conflict of interest

The authors declare that they have no professional or commercial interests relevant to the rapid synthesis. The funder played no role in the identification, selection, assessment, synthesis or presentation of the research evidence profiled in the rapid synthesis.

Merit review

The rapid synthesis was reviewed by a small number of policymakers, stakeholders and researchers in order to ensure its scientific rigour and system relevance.

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KEY MESSAGES

Question

- What is known about options for addressing inequities in achievement and well-being outcomes among marginalized and racialized students?

Why the issue is important

- Ontario is home to people from more than 200 countries who speak more than 130 languages, and multiculturalism, human rights and diversity are core values embraced in the province.
- However, there continue to be well-documented inequities in achievement and well-being outcomes among select groups of students in Ontario (e.g., ethnic minorities, recent immigrants or refugees, Indigenous students, LGBTQ).
- Given the rapidly changing and increasingly complex society in Ontario, it is timely to take stock of what is known about the effectiveness of options for addressing inequities in achievement and well-being outcomes among marginalized and racialized students.

What we found

- We identified a total of 23 recent documents that addressed the question, including one overview of systematic reviews, nine systematic reviews, four non-systematic reviews including one comparing education policies in Organisation for Economic Development and Cooperation jurisdictions, and nine primary studies of interventions conducted in Canada.
- The literature showed a great diversity at the levels in which interventions were implemented including: 1) student- or teacher-level interventions; 2) school- and community-level interventions; 3) district-level interventions; and 4) broader system-level interventions.
- At the student or teacher level, we found evidence that supported the provision of leadership opportunities for students who were recent immigrants, and for the use of experiential learning and reflective tasks for teachers.
- At the school and community level, we found:
 - evidence that supported the provision of out-of-school academic programs, mentorship programs, case management, college-oriented programming, vocational training, physical health services, mental health counselling, culturally adaptive programming, alternative education, and classroom restructuring for students; and
 - evidence that supported improving the availability of school-level resources, providing collaborative mentorships for teachers, and hiring culturally responsive staff members to enable them to address the diverse needs of their schools.
- At the district level, we found supportive evidence for increasing the number of students, including students from lower socio-economic statuses, who attend grammar schools (i.e., schools requiring high scores on a standardized entrance exam taken at age 11).
- At the system level, we found:
 - evidence to support the use of large-scale assessments to develop education policy, strategies to promote fairness and equity in assessment processes, increasing school expenditures, individual financial incentives, and early childhood education;
 - mixed findings for the use of block grants or school choice; and
 - evidence that repeating a grade and early streaming hinder gains in the equity.
- Most of the literature included in this synthesis focused on examining the effectiveness of interventions to improve achievement and well-being among marginalized and racialized students, but did not explore explicitly whether these interventions were effective in reducing inequities between the majority of students and marginalized or racialized students.

QUESTION

- What is known about options for addressing inequities in achievement and well-being outcomes among marginalized and racialized students?

WHY THE ISSUE IS IMPORTANT

Ontario is home to people from more than 200 countries who speak more than 130 languages. Multiculturalism, human rights and diversity are core values embraced in the province.(1) The public education system can play a crucial role in supporting these core values by transcending socio-economic and ethno-cultural barriers, and helping students to become engaged, productive and responsible citizens.

Yet, there are well-documented inequities in achievement outcomes among students in Ontario. This includes, among others, racial or ethnic minorities, recent immigrants, children from low-income families, Francophone students, Indigenous students and students with special education needs.(1) For example, in 2012, the Toronto District School Board found that black students with Caribbean and Canadian-born parents under-performed on the Education Quality and Accountability Office (EQAO) test in all areas, particularly in mathematics, compared to the average student in the same district.(2) In addition, the same census found that less than half of Indigenous students were successful on the Ontario Secondary School Literacy Test taken in grade nine.(2) There are also regional differences in the province with, for instance, lower levels of education attainment in Northern Ontario than the provincial average.(3)

Inequities in well-being outcomes are also observed. It is estimated that as many as one in five children and youth in Ontario will experience some form of mental health problem, which may in turn create barriers in educational achievement.(4) However, some groups are more affected than others. For instance, First Nations youth die by suicide about five to six times more often than non-Indigenous youth.(5) Lesbian, gay, bisexual, transgender and queer (LGBTQ) youth face approximately 14 times the risk of suicide and substance abuse than heterosexual peers.(6) Youth living in the lowest-income neighbourhoods had the highest rates of suicide, emergency department visits for deliberate self-harm, acute care mental health service use, and prevalence of treated schizophrenia.(4)

Inequities in achievement and well-being may be caused (or exacerbated) by individual and structural factors, including systemic biases and barriers embedded at various levels of the education system (for example, in the student or teacher, school, district, or government levels) as well as in government policies, education structures and processes, organizational cultures, and educators' capacity, among others. Thus, there have been calls for interventions to address structural inequities in education, to help reduce the gap in educational achievement and well-being for marginalized and racialized students.(7)

Box 1: Background to the rapid synthesis

This rapid synthesis mobilizes both global and local research evidence about a question submitted to the Forum+'s Rapid Response program. Whenever possible, the rapid synthesis summarizes research evidence drawn from systematic reviews of the research literature and occasionally from single research studies. A systematic review is a summary of studies addressing a clearly formulated question that uses systematic and explicit methods to identify, select and appraise research studies, and to synthesize data from the included studies. The rapid synthesis does not contain recommendations, which would have required the authors to make judgments based on their personal values and preferences.

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This rapid synthesis was prepared over a 30-business-day timeframe and involved four steps:

- 1) submission of a question from a policymaker or stakeholder (in this case, the Education Research & Evaluation Strategy Branch of the Ontario Ministry of Education);
- 2) identifying, selecting, appraising and synthesizing relevant research evidence about the question;
- 3) drafting the rapid synthesis in such a way as to present concisely and in accessible language the research evidence; and
- 4) finalizing the rapid synthesis based on the input of at least two merit reviewers.

In response to some of these challenges, the Government of Ontario first launched its Equity and Inclusive Education Strategy in 2009.⁽⁷⁾ In 2014, the strategy was renewed with the goals of understanding, identifying, addressing and eliminating the barriers (for example, sex, sexual orientation, gender identity, gender expression, race, ethnicity, religion, socio-economic status, or physical and mental abilities) to learning, growing, and fully contributing to society.⁽⁸⁾

Given the rapidly changing and increasingly complex society in Ontario, it is timely to take stock of what is known about the effectiveness of options for addressing inequities in achievement and well-being outcomes among marginalized and racialized students, as well as conduct a jurisdictional scan (and targeted search) of equity-improving policies in OECD countries.

In conducting this rapid synthesis, we prioritized synthesized and pre-appraised research evidence from systematic reviews of effects, systematic reviews addressing other questions than effectiveness, and economic evaluations of interventions that were published since 2010. Findings from these documents were supplemented by a targeted search for primary studies of interventions in Canadian provinces and territories that were published since 2013.

To guide this rapid synthesis, three key concepts should be defined:

- Diversity refers to “the presence of a wide range of human qualities and attributes within a group, organization, or society. The dimensions of diversity include, but are not limited to, ancestry, culture, ethnicity, gender, gender identity, language, physical and intellectual ability, race, religion, sex, sexual orientation, and socio-economic status.”⁽⁷⁾
- Equity refers to “a condition or state of fair, inclusive, and respectful treatment of all people. Equity does not mean treating people the same without regard for individual differences.”⁽⁷⁾
- Inclusive education refers to “education that is based on the principles of acceptance and inclusion of all students. Students see themselves reflected in their curriculum, their physical surroundings, and the broader environment, in which diversity is honoured and all individuals are respected.”⁽⁷⁾

WHAT WE FOUND

We identified a total of 23 recent documents addressing the question, including one overview of systematic reviews, nine systematic reviews, four non-systematic reviews including one comparing education policies in Organisation for Economic Development and Cooperation jurisdictions, and nine primary studies of interventions conducted in Canada.

We present the findings from systematic reviews along with an appraisal of whether their methodological quality (using the AMSTAR tool) is high (scores of 8 or higher out of a possible 11), medium (scores of 4-7) or low (scores less than 4) throughout the document.

We provide more details about each systematic review and the quality-appraisal process in Appendix 1, and for the included primary studies in Appendix 2. In addition, we have included in the bibliography other older systematic reviews of effects that were identified during our search, but due to the mentioned time constraints could not be included in the rapid synthesis (see Appendix 3),(9-22) along with a list of systematic reviews of effects that have registered titles and are being planned (see Appendix 4).(23-29)

Question: What is known about options for addressing inequities in achievement and well-being outcomes among marginalized and racialized students?

The reviews and primary studies present evidence on a number of interventions that seek to address inequities in achievement and well-being among marginalized and racialized students. While many of these programs were found to be effective at improving retention of students and academic achievements, many of the reviews noted that the interventions alone are rarely enough to close the achievement gap for disadvantaged students.

The systematic reviews and primary studies largely focus on the use of school and community-based programs as well as broader system (or government) level policies to improve academic achievement, with relatively less pre-appraised and synthesized evidence having been published on interventions at either the student or teacher level or at the district level.

Most of the pre-appraised evidence found in these systematic reviews originates from the United States, with very few studies included in the reviews conducted in Canada. In response, a targeted search was conducted of recent primary studies conducted in Canada (and largely in Ontario). Despite these efforts, questions should be raised regarding the applicability and transferability of evidence, particularly if the contexts of the literature may not be aligned with specificities or core values of the education system in Ontario.

Box 2: Identification, selection and synthesis of research evidence

We identified research evidence (systematic reviews and economic evaluations) in Social Systems Evidence (www.socialsystemsevidence.org), EPPI-Centre Library, Campbell Collaboration Library, and ERIC (Education Resources Information Center). In all of these databases, we limited our search to systematic reviews and economic evaluations published from January 2010 to August 2017. We also conducted a targeted search in ERIC to identify single research studies of interventions conducted in Canada and published within the last five years.

In each database, we used the following combination of search terms to identify relevant reviews: (education OR school* OR student*) AND (equity OR inequit* OR inclusi* OR marginaliz* OR disadvant* OR rac* OR minorit*) AND (achiev* OR well-being).

We focused on finding literature that addressed equity considerations, achievement and well-being of racialized and marginalized populations, rather than conducting targeted searches for programs and interventions (e.g., early childhood education).

The results from the searches were assessed by one reviewer for inclusion. A document was included if it fit within the scope of the questions posed for the rapid synthesis.

For each systematic review we included in the synthesis, we documented the focus of the review, key findings, last year the literature was searched (as an indicator of how recently it was conducted), methodological quality using the AMSTAR quality appraisal tool (see the Appendix for more detail), and the proportion of the included studies that were conducted in Canada. We then used this extracted information to develop a synthesis of the key findings from the included reviews.

Lastly, it is important to note that the included systematic reviews focused on examining the effectiveness of interventions to improve achievement and well-being among marginalized and racialized students. For example, the systematic reviews could tell us whether some interventions produce larger achievement gains than usual practice among marginalized and racialized students, but not whether they are effective in reducing the achievement gap with the majority of students.

We summarize the key findings from these documents below according to the level of interventions: 1) student- or teacher-level interventions; 2) school- and community-level interventions; 3) district-level interventions; and 4) broader system-level interventions.

Student- or teacher-level interventions

We found one systematic review and one primary study that addressed two interventions at the student or teacher level.

At the student level, one primary study found that providing secondary school students who are recent immigrants with leadership opportunities improved their confidence in engaging with their Canadian-born peers.(30)

At the teacher level, one medium-quality systematic review found that experiential learning combined with reflective tasks was an effective intervention to improve student-teacher understanding and application of social justice in diverse classrooms.(31)

School- or community-level interventions

We found six systematic reviews, two non-systematic reviews and six primary studies that addressed school- or community-level interventions. Mixed evidence was found for a number of these interventions, with the variability of the intervention design frequently being cited in the literature as limiting the ability to determine levels of effectiveness or to compare the effectiveness across interventions.(32-36) Interventions examined by the literature have been grouped into six categories: 1) out-of-school-time academic and mentoring programs; 2) college-oriented and vocational training programs; 3) physical and mental health services; 4) culturally responsive and adaptive education programs; 5) training and support programs targeting school staff; and 6) interventions targeting hiring practices and procedures.

Out-of-school-time academic and mentoring programs

We found three systematic reviews that addressed out-of-school-time academic programs and mentoring programs. One recent medium-quality review focusing on out-of-school-time academic programs for low socio-economic, black, at-risk elementary students found that programs were most effective when provided for a specific subject and during the summer hours.(37) However, the specificity of the population under review may limit the transferability of these findings.(37)

The same recent medium-quality review found that mentoring programs that focused on academics encouraged respect and personal growth among disadvantaged students.(37) Similarly, one older low-quality review and one older medium-quality review found that mentorship programs and case-management programs (i.e., programs that connect students and their families to needed social and community resources) were a promising strategy to improve pupil behaviour and academic performance, as well as to reduce dropout rates.(33; 35)

College-oriented and vocational training programs

We found two medium-quality systematic reviews, one older and one recent, that assessed the effectiveness of college-oriented and vocational training programs. The reviews found that both college-oriented programming and vocational training significantly reduced dropout rates of students from secondary school, and improved graduation rates from high schools as well as the percentage of college enrolments.(34; 35)

Physical and mental health services

We found one medium-quality review addressing the provision of physical health services at school, as well as one older medium-quality systematic review and one non-systematic literature review focusing on the effects of providing mental health and counselling services (including social and emotional skills training) to students.

A medium-quality review examined the effects of school-based health clinics and found that they were associated with substantial educational benefits, including reductions in the rates of suspension and non-completion, as well as increases in grades and grade promotion.(38) In addition, the broader community saw a number of benefits including reductions in emergency department visits and hospital utilization for all conditions, as well as an increase in contraception use and access to prenatal care.(38)

One non-systematic literature review examined the use of mental health interventions to improve the social and emotional functioning of students who are refugees or asylum seekers and may have experienced trauma.(39) The non-systematic review found that leveraging psychologists, counsellors, social workers and other education specialists to deliver cognitive behavioural therapy was effective in increasing the accessibility of these interventions.(39) It also found that the delivery of either creative expression interventions or multi-modal interventions had mixed results and would likely be difficult to implement at the school-level due to their reliance on specialists and outside agencies.(39) Similarly, one older medium-quality review found that providing students with counselling services significantly reduced dropout rates.(35)

Culturally responsive and adaptive education programs

A common finding to emerge with regards to the needs of historically marginalized groups is the importance of providing adaptive programming, whether this includes integrating cultural aspects into teaching or adapting the pedagogical style to better match rates at which students are learning. We found four primary studies examining the use of (or need for) culturally responsive programming, and three medium-quality reviews that focused on alternative education and class restructuring.

One primary study found that culturally relevant programs for Indigenous youth in Ontario (through Peer Assisted Learning Strategies) was perceived as contributing to student success, improved relationships, increased sense of belonging, and improved confidence and leadership skills of participants.(40) A second primary study conducted in Ontario revealed that students from marginalized backgrounds are more engaged when taught in a curricula that connects to their lived experiences or cultural background.(41) Another primary study found that there was a need for more critical analysis of national and global diversity and inequality in school curriculums, particularly when teaching students about civics and citizenship.(42)

A fourth primary study found the use of socio-culturally responsive media studies improved students' overall attendance, fostered a sense of community, created space for students' voices, enacted multiple literacies, and helped students to become politically engaged citizens within the larger school community.(43)

In terms of alternative education and classroom restructuring, two medium-quality reviews found that both alternative education and classroom restructuring reduced dropout rates and significantly improved graduation rates among secondary school students, with slightly greater improvements noted for classroom restructuring (e.g., longer classes, smaller class sizes, or creating small learning groups).(34; 35) One of the medium-quality reviews reported that reducing student-teacher ratios may establish higher academic standards and better engage students in learning-related decisions.(34)

Finally, one medium-quality systematic review focused on marginalized students' perspectives on alternative education. The review found that students attending alternative schools described them as physical, psychological and emotionally safe spaces, where they felt comfortable acknowledging their lack of knowledge. The review further found that these characteristics were often critical in a student's decision to stay in school.(44)

Training and support programs targeting school staff

We found two primary studies and one non-systematic literature review that focused on supports (or identifying the need for supports) for school staff (including principal, vice-principal, teachers and counsellors) to enable them to address the diverse needs of their schools.

One primary study found that after reviewing publicly available documents and interviewing educational leaders from Ontario and the United States, there is a clear need for increased school-level resources (e.g., training opportunities to learn cultural competencies, support from colleagues, development of equity strategies) to prepare school principals, vice-principals and other school leaders to address the increasingly diverse needs of their students.(45)

Another primary study from Ontario focused on the use of collaborative mentorships between teachers to improve teacher-student relationships at a large multi-ethnic, multi-racial suburban school.(46) The case study found the following success factors for collaborative mentorship:

- commitment of the mentor and mentees to a path of equity and diversity;
- trust and respect between mentor and mentee;
- development of a commitment of support where multiple voices were brought to bear on tensions that arose;
- understanding that acquiring skills and attitudes to teach effectively in diverse classrooms is challenging and that each person is at a different stage of understanding;
- handling resistance through dialogue that does not cause personal or professional harm; and
- a recognition of the emotional investment that this kind of work requires.(46)

One non-systematic literature review examined challenges that influence the ability of high-school counsellors to improve post-secondary outcomes of college preparation and enrolment for students, including: role confusion of counsellors due to the many diverse responsibilities they hold; student-counsellor ratio and the available time for college counselling; inadequate college resources (e.g., brochures or knowledge of different programs); and reliance of lower-income families on school counsellors, rather than parents or other family members, to provide information on college.(47)

Interventions targeting hiring practices and procedures

We found one primary study from Ontario that suggested hiring staff members who are culturally responsive and committed to working within school communities based on students' academic and social needs, rather than hiring based on seniority (as per Ontario Regulation 274) could help to reduce gaps in education achievement.(41)

District-level interventions

We found one non-systematic review that compared the implementation of different education policies across districts and regions in the U.K. The comparative review found that efforts to increase the number of students attending grammar schools (i.e., schools requiring high scores on a standardized entrance exam taken at age 11), including students from lower socio-economic statuses, in districts of Northern Ireland did not dilute the quality of education.(48)

System-level interventions

We found one overview of systematic reviews, three systematic reviews, two non-systematic reviews (including one jurisdictional scan across OECD countries) and two primary studies examining system-level interventions. These interventions can be grouped according to four categories: 1) early childhood development services and pre-primary education; 2) assessment practices and grade repetition; 3) revenue streams and financial incentives; and 4) streaming.

Early childhood development services and pre-primary education

We found evidence on the impact of early childhood education (ECE) on children from low-income and minority families based on one recent low-quality systematic review and the jurisdictional scan of OECD countries.

The recent low-quality review found that centre-based ECE programs prior to enrolment in kindergarten improved students' standardized-test scores throughout their educational career, however with a declining effect size over time.(49) The systematic review found other benefits from ECE to include: improvements in high-school graduation rates; creation of additional work time for caregivers; and increased family income.(49) The review noted that one possible harm of ECE was a loss of recreational and family time for the child.(49)

The jurisdictional scan suggested that ECE has been linked to improvements in children's well-being, reductions in poverty, increases in social mobility, improvement in women's participation in the labour market, improvements in fertility rates, and better social and economic development.(50) Generally, evidence suggests that to ensure long-term benefits from ECE, systems should focus on targeting the quality and training of teachers and staff and setting goals that focus on children's cognitive skills.(50)

Further, the jurisdictional scan of OECD countries noted that most countries that have worked to improve their early childhood education programs have done so through broad strategies implemented at the government level. These policies have aimed to improve access to early childhood education, for example through providing funding (often for the most disadvantaged) for children to attend programs in the case of Poland, Turkey and Australia, or by setting out broad policies that contain guiding principles for the development of local policies in the case of Canada.(50) Other jurisdictions such as Finland and Korea have developed national curriculums for early childhood education that are aligned with the primary school to set children up for success at later levels of education.(50) Finally, almost all OECD countries have implemented a monitoring system to assess early childhood development and identify learning needs, such as in Australia, which has put in place the Early Development Index to provide an understanding of children's development before they reach school.(50)

Assessment practices and grade repetition

We found one overview of systematic reviews, one non-systematic review and one primary study focused on assessment practices and the use of assessment data. In addition, we have included information from a jurisdictional scan of OECD countries on the use of grade repetition on equity and quality of education.

One overview of systematic reviews examined the use of large-scale assessments to develop education policy in economically deprived areas, and found that policymakers were most often using information from large-scale assessments to inform curriculum updates. However, there was little evidence that this information was being used to inform policies targeting specific teaching and learning practices.(51) The overview of systematic reviews found that factors influencing the use of large-scale assessment data include the relationship between an assessment agency and governmental education agencies, as well as the media and public opinion.(51)

One primary study conducted in Alberta examined the significance of fairness and equity in assessment practices, and stakeholders' beliefs and attitudes about student assessment. Study findings revealed five key principles to promote fairness and equity in student assessment practices:

- educators must strive to address the personal impact of assessment practices on students and their families;
- assessment must be differentiated to accommodate the ability, social, cultural and linguistic backgrounds of students;
- all members of school communities must challenge the complacency associated with accepting indefensible assessment practices;
- the frequency, intensity and intrusiveness of assessments must not be overwhelming for students and their families; and
- assessment must not be used to counter inappropriate student behaviour or reward desired behaviour.(52)

The jurisdictional scan of OECD countries found that while grade repetition aims to raise student outcomes, evidence suggests that it does not improve results and is costly to education systems.(50) The jurisdictional scan also suggested two policy options that had been implemented in other regions:

- reduce the use of grade repetition to exceptional cases and implement assessment at the end of a learning cycle rather than at the end of the school year; and
- implement alternatives to grade repetition by developing remedial tools for schools.(50)

Revenue streams and financial incentives

We found mixed evidence from two medium-quality systematic reviews, three non-systematic literature reviews (including a jurisdictional scan of OECD countries) and one primary study on the impact of changes to revenue streams and other financial incentives on equity and quality of education.

One non-systematic review compared school expenditures across districts in the United Kingdom and found that increasing school expenditure improves student attainment, especially for disadvantaged groups, and may help to reduce inequality in educational outcomes.(48)

Mixed evidence was found for the use of block grants and resource investments in particular schools, with one medium-quality systematic review finding that block grants and investments in the physical infrastructure of a school tended to increase enrolment, but did not impact learning outcomes.(53)

Two non-systematic reviews also found mixed evidence on implementing school choice to instil competition between schools (which are paid on a per capita basis) to improve the quality of education. One of the non-systematic reviews noted that while some improvements have been seen, measuring school quality is often difficult, and implementing incentives for parents to choose schools may result in a focus on the improvement of reported indicators while neglecting other aspects of quality that are not publicly reported.(48) The jurisdictional scan also suggested that unsupported school choice could hinder equity advancements, and provided three possible policy options to manage these negative impacts:

- prohibit selection into primary schools based on income and performance;
- limit the ability of schools to expel low-performing students; and
- increase the number of publicly funded independent schools.(50)

In terms of incentives for students, one older low-quality review found that financial incentives to improve attendance increased participation, retention, attendance and academic achievement among disadvantaged ethnic minority students over the age of 16.(33)

Streaming

We found evidence on the use of streaming (or tracking) of students from one primary study and from the jurisdictional scan of OECD countries.

The jurisdictional scan noted that early tracking can reduce gains in equity.⁽⁵⁰⁾ This finding was supported by the primary study conducted in Quebec, which found that early mathematics tracking in secondary schools leads to negative consequences. The study shows that students whose parents have low educational capital and students who are less successful in high school opt out of mathematics earlier, and limit access routes for higher education later on.⁽⁵⁴⁾

The jurisdictional scan noted that to reduce the impact of early tracking the age of tracking should be raised, and comprehensive education should be provided to all by merging existing tracking pathways wherever possible.⁽⁵⁰⁾

Overview of recent reforms in select OECD countries

To complement the findings above, we have included additional findings from the jurisdictional scan of OECD countries, comparing recent reforms to improve the equity and quality of education. The jurisdictions included were chosen either for being other Anglo-Saxon countries (i.e., Australia, New Zealand, United Kingdom, United States) or were European countries that the requestor expressed a particular interest in (i.e., Finland and Germany). Targeted searches were undertaken to compliment the findings from the OECD report with publicly available evaluations on the results of the highlighted policies (see Table 2). General findings from the jurisdictional scan have been summarized below, with Table 2 providing more detail on specific jurisdiction's reforms.

Generally, to address inequities across schools, many jurisdictions have implemented either general policies or targeted programs tailored to specific groups. Comprehensive policies to support students include:

- developing priority educational regions which use multi-dimensional interventions to support groups of low socio-economic students;
- school support strategies which focus on providing pedagogical and technical support to low-performing schools; and
- providing additional funding to schools to improve the achievements of low socio-economic students.⁽⁵⁰⁾

Targeted programs implemented in OECD countries have mostly focused on immigrant communities and have included:

- implementing specific curriculum (differentiated by age, learning capabilities and background) to be completed after immigrating, but prior to entering mainstream schools; and
- development of broad policies to promote inclusive learning environments.⁽⁵⁰⁾

Finally, in select jurisdictions, targeted programs have been introduced to support ethnic minorities who have been underperforming compared to the general population. These policies have included:

- adapted curriculum that is taught in Indigenous languages (e.g., for Maori peoples in New Zealand) and incorporates Indigenous topics and culture into the curriculum;
- teaching cultural competencies for teachers in early childhood education, primary and secondary schools; and
- policies aimed at promoting the social and cultural capital of areas inhabited by ethnic minorities and hard-to-reach populations (e.g., Indigenous communities; Roma communities in Europe; recent immigrants and refugees).⁽⁵⁰⁾

Table 3. Education reforms in comparator jurisdictions to improve equity and quality (table adapted from Organisation for Economic Cooperation and Development)(50)

Jurisdiction	Level	Education level	Policy	Description	Evaluation
Australia	Government	Early childhood education and care	Closing the gap: Indigenous Early Childhood Development	Targets early learning, support for Indigenous families, and improved health for mothers and their children. Has worked to establish a network of 38 Children and Family Centres, which offers integrated early childhood and parenting services.	<p>Significant gains were made in the proportion of pregnant Indigenous women with antenatal contact in the first trimester of pregnancy, with a rise from 60% to 66% between 2007 and 2010 across three jurisdictions (where data was available). In addition, a 55% decline in infant mortality was observed among Aboriginal and Torres Strait Islander infants between 2001 and 2011.</p> <p>Hospitalization rates for Indigenous children (0-4 years old) significantly increased from 2004-05 to 2010-11, however this may be reflective of improvements in access and demand for hospital treatment in this population.</p> <p>Despite improvements in other areas, Indigenous children continue to be under-represented in preschool enrolment and attendance.(55)</p>
	Government	Primary and secondary schools	Aboriginal and Torres Strait Islander Education Action Plan	It identifies outcomes, targets and performance indicators, and national, systemic and local actions in six priority domains that evidence shows will contribute to improved educational outcomes among Aboriginal and Torres Strait Islanders and the non-Indigenous population.	<p>Throughout the three years of implementation, retention rates and grade progression ratios improved, though there remains variations between Indigenous and non-Indigenous populations as well as between jurisdictions.</p> <p>Many schools report that the action plan helped to establish the foundations for literacy and numeracy improvement. At a national level however, only three of eight literacy and numeracy targets were met in 2013 (at the end of the action plan's implementation), fewer than were achieved in either 2011 or 2012.</p> <p>The focus on trade training over the course of the action plan's implementation helped to provide pathways for post-school options. It is thought that a greater emphasis on pre-and post-school options outside of the trades could have had additional benefits for students.</p> <p>Sustainability of practices implemented as a part of the action plan are likely to experience an impact from high rates of teacher turnover.(56)</p>
	Government	Primary and secondary schools	Smarter Schools National Partnership for	Program to redistribute AUD\$1.5 billion to over 1,700 schools in socio-	Some variation in the extent of implementation was found across jurisdictions and education authorities.

			Low-Socioeconomic Status Communities	economically disadvantaged communities to support the transition of students.	<p>The money resulted in the implementation of a variety of initiatives including: coaching and mentoring; professional learning opportunities; case management; personalized learning plans; community partnerships; whole-school planning; professional-learning teams; collection and use of data; and parental-engagement efforts.</p> <p>The results of the evaluation found a small but significant association between the policy implementation and growth in student achievement in numeracy from 2009 to 2011, in years 3, 5, 7 and 9. A reduction in achievement in reading was observed over the same time period. This data is taken at a national level and cannot be considered causal.</p> <p>Generally, mixed results were found for the effects of the policy. Greater achievements were observed for numeracy scores compared to literacy, in partnership schools located in metropolitan areas, and among larger (greater than 400 students) partnership schools. Across most measurements greater improvements were observed among non-partnership schools with similar baseline levels in numeracy and reading, than among partnership schools. These trends differ significantly by region.</p> <p>Significant improvements were noted among Indigenous students who exhibited above-average growth in partnership schools compared to students at similar non-partnership schools. Further, improvements in school engagement were noted among Indigenous students at partnership schools, with significant improvements noted as a result of case managing and individual targeted support.(57)</p>
	Government	Early childhood education and care	Australian Early Development Index	Population-based measure of how children have developed by the time they start school and can be used to assess and track the success or failures of policies.	Index has been used twice since 2009 to collect data on health, maturity, social competency, knowledge and language on 96.5% of Australian children in their first year of schooling.(50)
	Government	Early childhood education and care	Investing in the Early Years – A National Early Childhood	The initiative covers socio-economically disadvantaged children from before birth to 8 years, by: strengthening	No evaluation found.

			Development Strategy	universal maternal, child and family health services; providing support for vulnerable children; engaging parents and the community in understanding the importance of early childhood development; improving early childhood infrastructure; strengthening the workforce across early childhood development and family support services; and building better information and a solid evidence base.	
Finland	Government	All levels	An Action Programme for Equal Opportunities in Education	Aims to reduce the achievement gap among immigrants by providing one year of preparatory education to improve opportunities for these students as they move into general upper secondary education.	No evaluation found.
	Government	Early childhood education	Early childhood education and care transfer from the Ministry of Social Affairs and Health to the Ministry of Education and Culture	Administration of early childhood education and care services is transferred from the Ministry of Social Affairs and Health to the Ministry of Education and Culture.	Policy implementation period ended 2016 and the final evaluation is pending.
	Government	Early childhood education	National Curriculum Guidelines for Early Childhood	Renewed core curriculum for pre-school education as well as for national curriculum guidelines on early childhood education.	No evaluation found.

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			Education and Care	This work is helping to support the standardization of pre-primary education to ensure that all students have access to the same level of education.	
Germany	Individual	Primary and secondary	Education Alliances	Supports out-of-school programs for students from disadvantaged backgrounds. The federal ministry has allocated annual funding of 30 million euros for this program.	No evaluation found.
	Individual	Primary and secondary	Education package	Aims to give 2.5 million children from disadvantaged backgrounds the opportunity to participate in activities such as school excursions, sports and music.	No evaluation found.
	Government	Early childhood education	Legal entitlement to early childhood education and care place for children ages 1 and 2	Enforceable legal entitlement to an early childhood education for children between the age of 1 and 3.	The legal increase triggered a significant expansion in services, whereby from 2008 and 2014 the percentage of children up to age 3 who were enrolled in early childhood education increased from 12.1% to 27.4% in Germany, and from 41.9% to 54.0% in eastern Germany. A report by the European Commission identified the following features as leading to success in the policy: <ul style="list-style-type: none"> • targeted financial investments by the federal, state and municipal governments; • careful monitoring of progress; • monitoring of those children enrolled in early childhood education; and • regular surveys on the demand for early childhood education from parents.(58)
	Region	Primary and lower secondary	Various initiatives to delay early tracking	Different regions in Germany have implemented a variety of policy initiatives to delay early tracking of students, including a combination of: postponing tracking from	One study conducted in the German state of Hessen found positive effects for reading results of children whose parents are unemployed and for first generation immigrants in groups that are tracked at a later point. Similarly, effects seem to be especially high at the lower end of the test score distribution, suggesting that later tracking may decrease education inequality.(59)

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				the age of 10 to 12; merging lower-level tracks into one school and improving the quality of education in these tracks; making tracks equivalent to allow students from all tracks to access any type of upper secondary education; and facilitating transitions between different tracks, including between academic and vocational tracks.	
New Zealand	Government (with regional implementation)	All education levels	Ka Hikitia – Accelerating the Success: Education strategy 2013-17	New Zealand delivers Māori-medium education, with certain subjects taught in Māori language.	Policy implementation is ongoing.
	Region	All levels of education	Pasifika Education Plan	Developed to increase accountability for Pasifika students' success and make improvements in practice. The plan focuses on the use of achievement information monitored annually.	Progress report from 2015 found: <ul style="list-style-type: none"> • increase in the proportion of children enrolling in early childhood education before enrolling in school, however Pasifika populations continue to have the lowest level of participation of all ethnic groups; • proportion of early childhood education being taught in Pasifika languages has remained relatively constant; • small increase in the number of children accessing early intervention services; • increase in the number of Pasifika students meeting literacy and numeracy requirements, however a significant gap still exists; • increase in Pasifika 18-year-olds achieving a level two qualification or equivalent; and • significant decreases in suspension and exclusion rates among Pasifika students.(60)
	Government	Primary and secondary	National Standards for Maori-medium education	Introduced in years one to 10 to support schools and students using the national curriculum for Maori-medium education. They establish national standards	An evaluation of the implementation of national standards revealed that: <ul style="list-style-type: none"> • an increasing proportion of schools included targets in their charters that address student achievement; • national standards were increasingly differentiated to accelerate the progress of specific groups throughout the standards implementation;

				for reading, writing, oral language skills and math.	<ul style="list-style-type: none"> • most schools used baseline data to inform their National Standards targets and focused on students who were 'below' or 'well below' the standards; • the proportion of schools that collated National Standards achievement data increased from 2011 to 2014, with the majority of schools tracking the progress of individual students in relation to the standards; • teaching interventions both within the classroom and external to the classroom where provided; • small increases in the proportions of students rated 'at' or above the reading, writing and mathematics standards have been observed in the five years of implementation; and • improvements in reading, writing and mathematics among Pasifika students in year seven and eight as well as among students at low-decile schools.(61)
	Government (adapted and implemented by individual schools)	Primary and secondary	New Zealand Curriculum for Maori Medium Schools	National curriculum which outlines outcomes, values, principles, key competencies, learning areas and achievement objectives to guide teaching and learning. Schools adapt the curriculum to fit the individual needs of the students in the class.	There is evidence from an Organisation for Economic Cooperation and Development (OECD) overview of Maori-medium schools that education outcomes for students are better than those of their peers in English-medium schools. Maori students in high-quality immersion and bilingual settings have higher scores on the National Certificate of Educational Achievement.(62)
	Government	Primary and secondary	Cultural Competencies for Teachers of Maori Learners	Resource to improve teaching of Maori learners by developing cultural competencies in teachers in early childhood education, primary and secondary schools.	No evaluation found.
	Government	Early childhood education and care	An Early Learning Taskforce	Provides connections between early childhood services and disadvantaged communities to improve access to services for families who are not currently participating in	Initial progress reports found that early childhood education centres (implemented as part of the Early Learning Taskforce) have already experienced success in increasing enrolment and attendance, with centres in Clendon reporting an increase from 76% to 86%.

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				early childhood education programs.	In addition, attendance by enrolled children increased from an average of 12.5 hours per child per week to 18.6 hours per child per week across all centres. A full evaluation on the outcomes of the Early Learning Taskforce was not found.(63)
	Government	All levels of education	Partnership with Schools program within the Education Amendment Act	Introduction of more school choice with a new type of school to ensure options for Māori learners, third-party leasing arrangements for early childhood education centres, and the assignment of a National Student Number to children at a younger age than before to allow for monitoring and early interventions.	At the two-year evaluation mark, mixed results were found for the implementation of partnership schools, with five of eight schools having almost met or exceeded their student achievement targets. Similarly, seven of eight schools met or exceeded their student attendance targets and six of eight schools met most or all of their student engagement targets. Other positive outcomes included improvements in the achievement in subjects outside of reading, writing and mathematics for primary-age students. Implementation of the intervention is still ongoing and further evaluations will be available in the coming years.(64)
United Kingdom	Government	Pre-primary to secondary	Pupil premium	Aims to reduce inequities by providing additional funding to disadvantaged students by targeting those who received free school meals at any point in the previous six years. Provides 1,300 pounds for students in primary school and 935 pounds for those in secondary school.	A recent review of the program indicates that the Pupil Premium is making a positive difference in many schools and has had mixed effects in others, including: <ul style="list-style-type: none"> • closing gaps in attainment in most schools; • improving the allocation and effectiveness of spending of the pupil premium from the initial years of the program (e.g., employ additional teachers to provide one-on-one support) • improving the performance of students eligible for free student meals in reading, writing and mathematics in some schools; and • unchanged rate of GCSE grades among students eligible for free school meals.(65)
	Government (adapted and implemented by schools)	Primary and secondary	Special Schools: Journeys to Inclusion	Development of inclusion support material to build capacity of mainstream schools to collaborate with special education schools.	No evaluation found.
	Government	Early childhood education and care	Early Years Collaborative	Consists of a number of initiatives to raise attainment and close the achievement gap, including improving literacy and the	No evaluation found.

				quality of teaching as well as investing in early years education, through the expansion of early years learning and child care, as well as widening access to higher education and vocational education, and sharing and learning through school improvement partnerships.	
	Government	Early childhood education and care	Extension to 30 hours of free child care	Extending the current provision of free early childhood education from 15 hours to 30 hours a week for 38 weeks of the year.	Findings from the evaluation of pilot sites found: <ul style="list-style-type: none"> • a high proportion of providers were willing and able to offer extended hours; • the main challenge for all types of providers was uncertainty around the business implications in terms of the switch in the balance of income towards free-entitlement funding; • that providers reported mixed financial impacts from delivering the extended hours, though there was a tendency towards higher costs and lower profits; • the parental work requirement in the eligibility criteria meant that those who took up the extended hours tended to be more educated and have higher incomes than other families; • while most children used the full extended hours, a substantial proportion (42%) used fewer than 15 extended hours; and • parents increased their work hours as a result, with a larger increase observed among women and for lower-income families.(66)
	Government	All levels of education	Equality Act	The act places the responsibility to eliminate inequities and discrimination on public bodies, organizations and institutions. In education, the act covers the issues of admissions, accessibility and treatment for protected characteristics, including disability, gender, ethnicity, religion and maternity.	No evaluation found.

	Government/ school	Primary and secondary	Increase the number of academies and free schools	Increase the number of academies and free schools to give schools more control over their curriculum, budget and staffing.	<p>The number of converter academies has grown to 445. Attainment among the high-performing converter academies remained above the national average for state-funded schools, with 84% of students in primary converter academies achieving a level four or above. In secondary converter academies, 64% achieved five or more A-C grades on their GCSE compared to 56% in mainstream schools.</p> <p>In addition, 305 sponsored academies were opened in 2014-15, bringing the total to 1,423 as of July 2015. The sponsored primary academies that have been open for two years have seen the proportion of pupils achieving a level four or above in reading, writing and mathematics improve by 10%. While some gains were made at the secondary-school level, they are not on par with the improvements observed at the primary-school level.</p> <p>Specifically for vulnerable and disadvantaged pupils, results from sponsored academies improved at a faster rate than those in mainstream schools. Results for students with special educational needs and for those eligible for free school meals were significantly higher than in sponsored academies when compared to other mainstream schools.(66)</p>
United States	Government (to be implemented by schools)	Pre-primary	Preschool Development Grants	Supports state and local efforts with funding to create or expand high- quality early childhood opportunities for all children.	<p>As of December 31, 2015, 18 states had expanded access to high-quality programs for four-year-olds from low- to moderate-income families. States that had expanded by taking advantage of Preschool Development Grants met nearly 90% of their targets for the number of children served, with six states (Alabama, Louisiana, New Jersey, New York, Rhode Island and Virginia) exceeding their targets.</p> <p>The extension of preschool programs also served an increasingly diverse population, with 8.5% of the children enrolled being children with disabilities, and 20% of those enrolled being English language learners.</p> <p>No full evaluation of the impact of Preschool Development Grants was found.(67)</p>

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APPENDICES

The following tables provide detailed information about the systematic reviews and primary studies identified in the rapid synthesis. The ensuing information was extracted from the following sources:

- systematic reviews - the focus of the review, key findings, last year the literature was searched, the proportion of studies conducted in Canada and the proportion of studies focused on equity in education; and
- primary studies (including, economic evaluations and costing studies) - the focus of the study, methods used, study sample, jurisdiction studied, key features of the intervention and the study findings (based on the outcomes reported in the study).

For the appendix table providing details about the systematic reviews, the fourth column presents a rating of the overall quality of each review. The quality of each review has been assessed using AMSTAR (A MeaSurement Tool to Assess Reviews), which rates overall quality on a scale of 0 to 11, where 11/11 represents a review of the highest quality. It is important to note that the AMSTAR tool was developed to assess reviews focused on clinical interventions, so not all criteria apply to systematic reviews pertaining to delivery, financial or governance arrangements within health systems. Where the denominator is not 11, an aspect of the tool was considered not relevant by the raters. In comparing ratings, it is therefore important to keep both parts of the score (i.e., the numerator and denominator) in mind. For example, a review that scores 8/8 is generally of comparable quality to a review scoring 11/11; both ratings are considered “high scores.” A high score signals that readers of the review can have a high level of confidence in its findings. A low score, on the other hand, does not mean that the review should be discarded, merely that less confidence can be placed in its findings and that the review needs to be examined closely to identify its limitations. (Lewin S, Oxman AD, Lavis JN, Fretheim A. SUPPORT Tools for evidence-informed health Policymaking (STP): 8. Deciding how much confidence to place in a systematic review. *Health Research Policy and Systems* 2009; 7 (Suppl1):S8).

All of the information provided in the appendix tables was taken into account by the authors in describing the findings in the rapid synthesis.

Appendix 1: Summary of findings from systematic reviews about changing practice to achieve equity in the education sector

Type of review	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
Systematic review	Evaluate interventions that seek to increase the participation and retention of disadvantaged ethnic minority students in post-compulsory education (33)	Fourteen intervention studies were identified. The review determined that financial incentives, which improved post-16 participation, retention, attendance, and academic achievement, was the only intervention close to being rolled out and implemented. Non-parental adult mentoring was also identified as a promising strategy that can improve pupil behaviour, academic performance, and dropout rates. However, this intervention takes years to yield results. The review notes that both of these strategies can be adapted for other contexts beyond the United States. The review also found several other interventions, but determined they had limited generalizability, or that the evidence for them was insufficient. These included monitoring of school engagement, supportive personalized environments, de-tracking and heterogeneous streaming, motivational and academic skills training, and academic and social support. The review concludes that given funding limitations, investment should be focused on designing and implementing financial incentives or mentoring programs.	2011	3/10 (AMSTAR rating from McMaster Health Forum)	0/14
Systematic review	Evaluate interventions that aim to improve educational outcomes for looked-after children and young people (LACYP) (32)	LACYP are less likely to complete primary or secondary education, possibly due to experiences of instability, variable access to the educational system, weak family and social networks, and insufficient accountability and monitoring of academic outcomes. This review identified 15 studies evaluating 12 educational interventions for LACYP. Nine interventions (Kids in Transition, Head Start, different variants of Teach Your Children Well, Multidimensional Treatment Foster Care, Fostering Individualized Assistance Programme, and On the Way Home) demonstrated variable positive effects on several outcomes, including academic skills, homework completion, school attendance, suspension, and dropout rates. No interventions demonstrated improvements in academic achievement, grade completion, school behaviour, or academic attitudes. The insufficiency of theoretically-driven interventions, the lack of scientific rigour, the small sample sizes, and the variable methodological quality limited the ability of the authors to evaluate bias and draw definitive conclusions about the relative effectiveness of the interventions. Additionally, questions remain about the extent to which interventions can be modified and customized without a loss in effectiveness. The review concludes that study designs must be strengthened in order to compare the effectiveness of these interventions.	2015	7/10 (AMSTAR rating from McMaster Health Forum)	n/a
Systematic review	Summarize the perceptions of marginalized young people on factors that affect their experiences with alternative education (44)	Alternative education caters to students whose needs are not met by traditional schools, through methods like small class sizes, flexible curriculums, and a supportive environment. Twenty-four (studies, including one quantitative study, five mixed-methods studies, and 18 qualitative studies, were included in the review. The review found many contradicting and unique perspectives. Generally, students attending alternative schools described them as physical, psychological and emotional safe spaces where students did not have to worry about violence or disruptive environments, and felt comfortable asking questions and admitting their lack of knowledge. The review defined safe spaces as being ones that foster a sense of community, embed student culture within the school, and provide flexible	2012	4/9 (AMSTAR rating from McMaster Health Forum)	2/24

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Type of review	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
		behavioural support. These characteristics and practices were often critical in the students' decisions to stay in schools, and may provide lessons for traditional schools to prevent exclusion of marginalized students. The review concludes with several insights. First, schools seeking to increase student retention should promote a culture of care and a strong sense of community, and explore culturally relevant perspectives. Second, it is important to consider the perspectives of marginalized young people, including those who are sometimes considered 'troublemakers'. Finally, examining perspectives from multiple disciplines can help formulate holistic perspectives and effective supports for marginalized students.			
Systematic review	Examine the effects of school-based health centres (SBHCs) on health and educational outcomes (38)	SBHCs aim to promote health and educational equity by increasing access to medical care among disadvantaged populations. Forty-six studies were identified. The review found that SBHCs are associated with substantial educational benefits, such as reductions in rates of suspension and non-completion, and increases in grades and grade promotion. SBHCs also improved student academic expectations, safety and respect, school engagement, and awareness of responsibility for their health. Health benefits included increases in the use of preventive services, and reductions in symptoms and incidents of asthma. There were also substantial reductions in emergency-department visits and hospital utilization for all conditions. In terms of reproductive and newborn health, contraceptive use increased among females, childbirth rates decreased, and prenatal care improved. SBHCs that offered more services and increased hours saw greater improvements. Other potential benefits of SBHCs include increased parental work times, and reduced child care and transportation costs. SBHCs also help connect families with social-assistance programs like Medicaid. While some papers raise concerns that SBHCs may fragment a child's healthcare, increase sexual activity, and undermine parental authority over medical decisions for their children, the review found no evidence to back up these concerns. Limitations to the review include the lack of randomization within studies, a deficiency of true baseline data, and the potential influence of confounders and effect modifiers like the presence of other community health resources. Despite these limitations, the paper concludes that SBHCs are a viable way to advance health equity.	2014	6/11 (AMSTAR rating from McMaster Health Forum)	Not reported in detail
Systematic review	Evaluate the effectiveness of various programs designed to increase high school completion (34)	A total of 167 studies on 368 independent study arms were found. The review found that all assessed program types were effective in increasing high school completion in the general student population. These program types included vocational training, social-emotional skills training, mentoring and counselling, and case management. An economic assessment from a governmental perspective demonstrated that benefit-to-cost ratios were mostly substantially greater than 1:1. The review found that the effectiveness of these programs did not differ across students from different ethnicities. However, the review did find that programs conducted within schools were more effective than community-based programs. Program duration and the racial and ethnic composition of the students were not associated with effectiveness. Of the programs that catered to teen parents, attendance monitoring and multi-service program types were found to be effective. These	2012	4/9 (AMSTAR rating from McMaster Health Forum)	Not reported in detail

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Type of review	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
		targeted programs were also more effective with older than younger participants. The review identifies one potential drawback of attendance and monitoring programs that deny benefits to families with children with low attendance. The loss of financial support may actually encourage further absenteeism, as the student may have to work instead of attending school to support the family financially.			
Systematic review	Assess out-of-school-time academic (OSTA) programs for at-risk students (37)	OSTA programs are voluntary programs with an academic component, which can take multiple forms, such as supervised time for students to complete their homework, or intensive tutoring. The review found 57 studies. Subject-specific programs were more effective than general or minimal academic programs, but general programs affected achievement in more than one subject. Reading-focused programs were only effective up to third grade. OSTA programs offered during the summer were more effective than programs offered during the school year. There was insufficient evidence demonstrating the effectiveness of OSTA programs on behavioural and longer-term academic outcomes. The review was also unable to provide a cost-effectiveness or cost-benefit assessment. Though the studies were conducted in the United States, the authors suggest that results may be transferable to other high-income nations with similar educational systems and achievement gaps. However, it should be noted that the impact of the OSTA programs on academic achievements for rural, middle- and high-SES, and non-black populations is unclear. The applicability of results to middle and high school populations is also uncertain. The paper concludes that despite evidence for their effectiveness, OSTA programs are unlikely to be sufficient by themselves to close the achievement gap or overcome health disparities. OSTA programs must be supported by educational, community, and family environments, and other initiatives in order to yield long-lasting changes.	2011	4/11 (AMSTAR rating from McMaster Health Forum)	0/57
Systematic review	Evaluate the effectiveness of centre-based early childhood education (ECE) programs (49)	Children from low-income and minority families experience obvious delays in development by the age of 3. This has long-lasting effects on educational achievement, which is a social determinant of health. Centre-based ECE programs are designed to close this gap by improving the cognitive and social development of children prior to kindergarten enrolment. Three types of ECEs were examined in this review: state and district programs, federal Head Start programs, and model programs like Perry preschool and Abecedarian programs. It was found that centre-based ECEs improve educational and health-related outcomes for low-income and minority children in high-income economies. Its effects on standardized test scores persisted after program completion, but with declining effect sizes over time, perhaps because post-ECE educational quality is an important effect modifier. The most rapid decrease happened immediately after the end of the program, and slowed in later years. All three program types were effective in different manners. Significant benefits were found for all three program types on standardized achievement tests. Head Start programs showed statistically significant benefits for high school graduation. State and district programs had significant effects on self-regulation. There were also non-significant favourable effects for grade retention, assignment to	2013	2/10 (AMSTAR rating from McMaster Health Forum)	0/59

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Type of review	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
		special education, crime, teen births, and emotional development. Data was insufficient for determining the most effective class sizes, hours, duration and foci. Other identified benefits of ECEs include the creation of additional work time for caregivers, and thus, increased family income. However, possible harms include the loss of free recreational time for children and the loss of family time. While most of the studies were conducted in low-income or minority communities, the review suggests that programs attended by children in higher-income communities should be effective given that they are generally of higher quality.			
Systematic review	Evaluate the effectiveness of prevention and intervention programs aimed at primary and secondary school students in reducing school dropout rates (35)	The 167 included studies covered a wide variety of program types, including attendance monitoring, case management, skills training and community service. No single program type stood out as significantly more effective than the others. Some programs catered to a general population whereas other programs specifically targeted teen parents. General programs effectively reduced dropout rates, with a mean odds ratio of 1.72. However, there was considerable variability between programs, with programs that experienced implementation problems having significantly smaller reductions in dropout rates. Classroom-based programs and mixed-setting programs produced better outcomes than community-based programs, but it is difficult to determine whether this is due to the setting or due to the program type as the two are heavily correlated. Less frequent programs were generally more effective, possibly because more frequent programs have more variability in program delivery. Demographics had minimal influence on effectiveness, and programs that were tailored to specific age, racial or ethnic groups did not fare significantly better. The teen parent programs had favourable odds ratios of 1.83 for dropout rates and 1.55 for school enrolment outcomes. Implementation quality was once again an important determinant to their effectiveness. The review was unable to synthesize cost-benefit information. There was no strong indication of the presence of publication or small-study biases. Given the similar effectiveness between the program types, the authors of the review recommend that school administrators and policymakers choose a strategy appropriate for their particular circumstances. It is also crucial to focus on implementation quality to maximize effectiveness.	2010	6/11 (AMSTAR rating from McMaster Health Forum)	8/368 independent samples
Systematic review	Evaluate educational initiatives for children with disabilities (36)	Eighty-nine articles were found, of which 14 were reviews. The review reveals the need to move beyond basic interventions like teaching and learning material, and the importance of involving different sectors when creating and implementing solutions. The review was unable to find cost-analysis comparisons between various approaches. The review was also unable to determine the most effective approaches in terms of impact or cost for increasing accessibility to education for children with disabilities. This is due to the high degree of variability among different contexts and jurisdictions with respect to the definition of disability, the role of teachers, the extent of social inclusion, and the effectiveness of peer support. Furthermore, most of the studies were carried out in higher-income countries, with studies from low- and middle-income countries mainly consisting of opinion pieces and commentaries. The review concludes that theoretical frameworks,	2012	5/9 (AMSTAR rating from McMaster Health Forum)	n/a

Changing Practice to Achieve Equity in Ontario's Education Sector

Type of review	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
		methodologies and tools need to be developed in order to understand and appraise the body of evidence. Additionally, local capacities to record and use evidence should go beyond focusing on the achievement of learning outcomes, and approaches to increase access to education need to be more specific to achieve a better targeted analysis.			
Systematic review	Examining pre-service teachers' values and beliefs of social justice (31)	<p>The review focused on 23 studies that emphasize the increased use of social justice as a theme in education research. The systematic review found that generally, there is a lack of empirical evidence on the effects of interventions focused on promoting social justice.</p> <p>The evidence from the systematic review can be divided into four themes: 1) understanding of social justice and attitudes to diversity; 2) changes in beliefs; 3) field experience and service learning; and 4) innovations and challenges in teacher education.</p> <p>Generally, the studies found that teachers had mixed levels of understanding of social justice when entering practice, with one large study finding that pre-existing attitudes and values towards social justice would not support teachers working in diverse classrooms. The review reported on one study which found three dispositional factors that may determine whether teachers adopt multicultural awareness: self-awareness and self-reflectiveness; openness; and commitment to social justice.</p> <p>The studies that focused on changes in beliefs drew a range of conclusions about whether and how teachers' understanding of social justice could or did change over time. Two studies concluded that teacher education programs with a social justice agenda can improve positive dispositions.</p> <p>Studies examining field experience and service learning found that using experiential approaches to learning combined with reflective tasks are the most effective interventions for pre-service teachers' understanding of and approaches towards social justice.</p> <p>Studies focused on innovations found that those interventions that placed social justice at the centre, either through curricular or pedagogical focus, were successful. The review highlighted the importance of collaboration between students working within courses or programs to achieve social justice aims.</p> <p>Overall the review noted the need for research, notably on the effects of improving social justice approaches to teaching on students in diverse classrooms.</p>	2014	4/9 (AMSTAR rating from the McMaster Health Forum)	1/23
Systematic review in progress	Evaluate the effectiveness of college access programs on improving college readiness and enrolment rates among	The preliminary literature search yielded 14 studies, which covered 12 different programs. Most of the programs included an academic enrichment program and a counselling element. A fewer number of programs also provided personal enrichment and social integration elements. The studies were either randomized controlled trials or had a quasi-experimental design. On average, college access programs that were included in the	Still in progress at the time of publishing	No rating tool available for this type of document	Still in progress at the time of publishing

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Type of review	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
	disadvantaged populations (68)	systematic review increased high school graduation by 8%. However, in the three programs evaluated by randomized controlled trials, the difference in impact was not statistically significant. The review also found that college access programs increase college enrolment by 12%. Randomized controlled trials found a smaller, but still statistically significant positive difference of 4%. Due to the sharp differences between the results of the randomized controlled trials and studies with a quasi-experimental design, results from the latter type of studies must be interpreted carefully. The authors also caution against drawing strong conclusions given that the results are still preliminary. Nonetheless, one thing of note is that measures of completed coursework are the best pre-college predictors of college graduation, and should be incorporated in evaluations of college access programs.			
Systematic review in progress	Compare the effectiveness of various centre-based, classroom-style early childhood education (ECE) programs in improving the development and achievement of low-income children (69)	There is much debate and contradicting evidence regarding the effectiveness of ECE programs. Some studies show lasting benefits in educational attainment, employment and earnings, and reductions in criminal behaviour and out-of-wedlock births. Other interventions show insignificant or fading effects, suggesting that other factors like neighbourhood and family are more important to a child's development. The main goal of this review is to determine the effectiveness of different ECE programs. This review will also answer questions regarding potential effect modifiers, the most appropriate outcomes for measuring effectiveness, how large of an effect size a program should aim for, and the generalizability of research. A search of existing reviews (literature, systematic, etc.) revealed about 800 reviews relevant to ECE. The included studies in the reviews were often cherry-picked, resulting in biased reviews either for or against ECE programs. Systematic reviews that looked at ECE were generally published before 2004, and therefore did not include large-scale evaluations of noteworthy and important programs like the Head Start program. More recent systematic reviews had more focused objectives, or employed a meta-analysis approach without evaluating the quality of the methodology of included studies. The authors will be guided by standards in the What Works Clearinghouse's <i>Procedures and Standards Handbook</i> and <i>Evidence Review Protocol for Early Childhood Education Interventions</i> . The authors plan on including studies of different methodologies, including comparisons-to-self/inter-temporal comparisons, econometric evaluations, comparison groups, and instrumental variable designs.	Still in progress at the time of publishing	No rating tool available for this type of document	Still in progress at the time of publishing
Systematic review in progress	Examine universal and school-based education programs that aim to reduce ethnic prejudice and promote respect for diversity among children aged 3-11 (70)	Research has consistently demonstrated that children begin to display ethnic prejudices at around the age of 3. This systematic review will look at universal school-based interventions delivered at a class level with specific objectives to reduce ethnic prejudices and/or promote respect for diversity among children aged 3-11. Other explored topics include the effect of program characteristics and participant demographic factors on efficacy, and the relationship between ethnic prejudice and respect for diversity. The authors found that existing reviews tended not to be systematic or use meta-analytic techniques. Many reviews were also limited in that they did not focus specifically on education, focused on only one particular intervention technique, used more general	Still in progress at the time of publishing	No tool available for this type of document	Still in progress at the time of publishing

Type of review	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
		outcomes, or looked at examining the construct of prejudice rather than interventions. The 'pearl harvesting' method will be used to locate the most relevant and inclusive keywords. Searches will be carried out in specialist and regional databases. The authors will also search for unpublished literature, conference presentations and proceedings, and government reports, look through bibliographies of previous reviews, and approach authors of included studies for unpublished and ongoing research. In order to be included, studies must have a randomized controlled trial or a quasi-experimental design, and include a suitably-matched control group and pre- and post-test measures. Retrieved studies will be independently screened and coded. Study quality and bias will be assessed with the Cochrane risk of bias tool. If necessary, effect sizes will be recalculated through the David Wilson practical effect size calculator. Meta-analysis will employ random effects models, and use Stata and R. Variations in effect sizes will be measured through the Q, I ² and Tau ² statistics. If necessary, sensitivity analyses and funnel-plot techniques will be used to measure robustness and possible publication bias respectively.			
Systematic review in progress	Evaluate the effect of "No Excuses" charter schools on math and literacy achievement in primary and secondary education (71)	"No Excuses" charter schools are typically found in inner city neighbourhoods, and are characterized by high academic expectations, strict discipline, longer academic calendars, and intensive tutoring. While studies of individual charter school networks have found evidence supporting the efficacy of "No Excuses" charter schools, no systematic reviews have been conducted yet on this topic. The review intends to evaluate the effects of "No Excuses" charter schools on academic achievement and racial- and income-based gaps, and determine the limitations to existing evidence. The review will also examine potential modifiers to effectiveness. Included studies must either employ a random assignment method or have a quasi-experimental design. Studies must also report student-level data, literacy or math achievement, and baseline equivalence. Searches for published and unpublished literature will be conducted through electronic databases, internet search engines, citations in previous reviews, citations in research reports, conference listings, hand searches of relevant journals, and correspondence with experts. Retrieved studies will be independently screened and coded. The Cochrane risk-of-bias tool will be used to assess RCTs. All estimated mean differences will be converted with Hedges' <i>g</i> and outliers removed. Q, Tau ² , and I ² will be used to assess heterogeneity, and funnel plots for publication bias. In anticipation of the heterogeneity across included studies, a random effects meta-analysis approach will be used. Grand mean effect sizes will be calculated separately for experimental and quasi-experimental studies, for math and literacy outcomes, and by follow-up timing of outcome measurement. All analysis will be performed through Stata. Mixed-effects meta-regression models will be used to explore the effect of moderator variables. Sensitivity analyses will also be conducted to investigate the robustness of results.	Still in progress at the time of publishing	No rating tool available for this type of document	Still in progress at the time of publishing
Systematic review in progress	Determine the effect of merit pay programs on teacher retention, teacher	Most K-12 teachers in the U.S. receive salary increases based on years of experience and number of degrees attained. Recently, concerns about educational quality have led to the proposal of alternative compensation approaches. Merit-based pay provides additional	Still in progress at	No rating tool available for	Still in progress at

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Type of review	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
	satisfaction, and student achievement in primary and secondary education (72)	financial compensation based on student outcomes. Proponents believe that merit-based pay promotes equity by encouraging teachers to focus on student achievement and work in low-income areas. Opponents are concerned that teachers would stop collaborating with each other and compete for a finite pool of bonus money. Previous reviews have concluded that though the theory of merit pay is compelling, actual programs have yet to show strong, consistent benefits, or be evaluated thoroughly. This review aims to evaluate the effect of merit-pay programs on student-achievement outcomes and teacher outcomes, determine the characteristics of the most successful merit-pay programs, and identify the subgroups of teachers, students and school systems for which merit-pay programs are most or least beneficial. Only studies of experimental or quasi-experimental design will be included. Searches will be carried out through internet search engines, electronic databases, prominent education and economic journals, education policy research organizations, and conference proceedings. To identify relevant gray literature, researchers will examine title lists of journal and organization publication, consult the reference lists of previous notable reviews, and contact experts in the field. Screening, data extraction and coding will be performed independently. The quality of each study will be assessed with a customized checklist. The meta-analysis will be based off a random effects model, and use the program Stata. Q, Tau ² , and I ² will be used to assess heterogeneity, and a funnel plot for publication bias. A sensitivity analysis will also be carried out.	the time of publishing	this type of document	the time of publishing
Non systematic review	Discuss the use of large-scale assessments in the development of education policy in economically developing countries and in countries of the Asia-Pacific (51)	<p>Large-scale assessments assess the quality of education systems by examining education system outputs, like student learning outcomes. With the recent shift toward evaluating education quality and equity, and the global adoption of evidence-based policymaking, the use of large-scale assessments to inform the development of best-practices models has increased internationally. This paper explores how results from large-scale assessments are being used to inform policymaking in education.</p> <p>The paper draws upon 103 documents from two previously conducted systematic reviews. Overall, policymakers most frequently use large-scale assessments during curricular policy reform or during the establishment or reform of assessment and evaluation systems. There was little evidence that large-scale assessments were being used to inform policies targeting specific teaching and learning practices. The paper also found little research examining the use of large-scale assessments in low- and middle-income countries.</p> <p>Factors influencing the use of large-scale assessment data include the relationship between a country's assessment agency and governmental education agencies, and the credibility and standing of the assessment agency. The media and public opinion can also catalyze policymakers to respond to and consider large-scale assessment results in education reform. However, the media can also sometimes play a negative role by pushing for ineffective or harmful education policies.</p>	N/A	No rating tool available for this type of document	N/A

Type of review	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
		The paper was unable to delve deeply into the specifics of the policymaking process. The authors suggest that further research could examine case studies closely in order to further clarify the relationship between large-scale assessments and the use of assessment data in education policy reform.			
Non systematic review	Examine how high school counsellor-student interactions can improve post-secondary outcomes of college preparation and enrolment (47)	<p>Contextual factors and longitudinal processes have a great impact on the transition from high school to college. This paper proposes a research framework that evaluates interactions between school counsellors and students through the consideration of four types of contextual factors: social, family, school and student.</p> <p><u>Social context</u> School counsellors often experience role confusion due to their many diverse responsibilities, which include registration, crisis counselling, and handling disciplinary problems. Additionally, research suggests that pre-service education programs for school counsellors do not adequately emphasize preparation for college counselling. Inadequate funds can also prevent the hiring of enough school counsellors. The paper suggests that counsellors would be able to work more effectively if given a more explicit definition of their roles and duties, and recommends that future research focus on understanding the impact of larger national, state or district-level factors on the high school counsellor-student relationship in college preparation.</p> <p><u>School context</u> Two organizational challenges hinder the effectiveness of student counsellors: the student-to-counsellor ratio; and the time available each day for college counselling. These factors must be considered together, as there is no relationship between counsellor ratio and college enrolment of students when considered alone. Research also demonstrates that starting college prep in the ninth grade and increasing collaboration between counsellors and the rest of the school community can yield beneficial post-secondary outcomes. On the other hand, inadequate college resources, whether physical (e.g., brochures) or intangible (e.g., knowledge of different programs) can hinder post-secondary outcomes. The paper also identifies access to a rigorous curriculum as being an especially important resource, as it often influences factors, like GPA and admission test scores, that are heavily considered for college admissions. More research that carefully isolates the aforementioned factors is needed in order to determine which factors are most influential.</p> <p><u>Family context</u> Family is an important determinant of social capital. Social capital often translates to human capital, like skills and knowledge, and predicts college enrolment. While students from higher-income families are more likely to rely on their parents for knowledge,</p>	N/A	No rating tool available for this type of document	N/A

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Type of review	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
		<p>students from lower-income families usually depend on school counsellors to obtain knowledge about the college process. The paper notes that schools that initiated outreach to families to involve them in the college planning process had better outcomes. The paper suggests that future research should focus on determining how school counsellors can identify students who need additional resources, and how to help them understand the college application process.</p> <p><u>The student context</u> The paper pushes for individualized services that address not only individual strengths and weaknesses, but also attitudes and behaviours like coping strategies. It notes that changing student motivation and effort is hard, as research has often demonstrated that received advice does not always translate to action. Therefore, the paper recommends that future research should focus on explaining and remedying this phenomenon.</p>			
Non systematic review	Compare education reforms and policy effectiveness of the constituent countries of the U.K. (48)	<p>This article aims to compare the educational systems' characteristics and outcomes of the constituent countries of the U.K. It also examines inequalities in educational attainment, and reviews existing literature on the effectiveness of different education policies. Some findings are summarized below.</p> <p><u>School type</u> Northern Ireland employs a "selective system" in which pupils are separated by ability into different school types at the age of 11. Evidence shows that increasing the number of students who can attend grammar schools, which are for higher-performing students, does not dilute the quality of education. England has an academies scheme, which initially targeted pupil under-achievement in deprived areas. The scheme aimed to replace failing schools with brand new schools that had autonomy over decision-making. However, this program has expanded so that any academy can now opt out of local authority control, and now is seen as a general school improvement strategy. While some evidence suggests that student performance increases within academies, it is too early to evaluate the impact of the new general model.</p> <p><u>Choice and competition</u> England differs from other countries by relying more on incentives and school choice to foster competition between schools. Some issues include the difficult task of measuring school quality. For instance, it is sometimes difficult to determine whether changes in school quality measures reflect real changes or random fluctuations. Measuring school quality may also encourage behaviour designed to look good on actual measures while neglecting other aspects of school quality that are not measured. There is mixed evidence on whether increased competition and increased school choice improves educational attainment.</p> <p><u>School resources</u></p>	N/A	No rating tool available for this type of document	N/A

Type of review	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
		<p>Based on previous research, increasing school expenditure improves student attainment, especially for disadvantaged groups. Thus, targeting resources on disadvantaged groups may help reduce inequality in educational outcomes.</p> <p><u>Pedagogy</u> England adopted several literacy and numeracy strategies, such as implementing literacy and numeracy hours. Comparisons of achievement to Wales, which did not implement these strategies nationally, seems to suggest that these hours were at least partially responsible for the divergence in achievement between the two countries. On the other hand, research about synthetic phonics, which was implemented in Scotland, seemed to improve reading ability in primary-school-aged children. However, several criticisms of the research point out that other factors, like other initiatives, may have influenced the results instead.</p> <p>Ultimately, the paper concludes that while the systems of the four countries of the UK are becoming increasingly divergent, there are still many similarities in terms of characteristics and outcomes. Thus, policies and programs that were implemented in England to great success may also have relevance for Scotland, Wales and Northern Ireland. It is important to note that the most effective policies in England were designed specifically in response to an identified need for an intervention. The review had some difficulty in determining the value for money for many educational policies, and calls for evaluation researchers to collect good quality cost data when interventions are designed and implemented.</p>			
Non systematic review	Evaluate school-based interventions that seek to improve the mental health and social-emotional functioning of students who are refugees or asylum speakers, or have war trauma (39)	<p>Thirteen studies were found. Three types of interventions were identified: cognitive behavioural therapy; creative expression; and multi-tiered or multi-modal models. Generally, the review found that school-based interventions may be effective at reducing trauma-related symptoms and impairment.</p> <p>Creative-expression interventions, which allow individuals to express and process feelings through a creative outlet, were most commonly used, but yielded the least consistent results. These interventions also tended to be costly, as the programs often relied on specially-trained therapists.</p> <p>In multi-modal interventions, the treatment is determined by the severity of the student's needs, and may consist of group interventions, family therapy, individual therapy, or in-home services. These interventions yielded mixed results, and may not be practical for schools hoping to implement services internally, as they often relied on clinicians from outside agencies.</p> <p>Cognitive behavioural therapy, which promotes healthy thinking and behavioural patterns, had more consistent results, but was also most often administered by external clinicians</p>	2015	No rating tool available for this type of document	3/13

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Type of review	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
		<p>with special training. The review suggests leveraging psychologists, counsellors, social workers, and other educational specialists who already part of the school staff to deliver cognitive behavioural therapy in order to increase the accessibility and cost-efficiency of the intervention.</p> <p>Generally, the literature was both recent and limited. This is perhaps explained by the logistical challenges to studying these populations, like their unique and dynamic characteristics. More research is needed to determine whether interventions should be tailored according to the student's culture or traumatic experiences.</p>			
Non systematic review	Examine the role of schools in communities of low socio-economic background (73)	<p>This paper elucidates the actions taken by schools and communities in order to address community-level disadvantages, and summarizes perceptions surrounding these actions (in particular, their purpose, and who holds power to act). Most studies were based in the U.K. or the U.S.</p> <p>Four types of school-led action were found: schools as providers of services and facilities; schools as developers of communities' social and civic capacity; schools as engines of area regeneration; and schools as developers of community-responsive curricula and pedagogy. Four types of community-led actions were found: the exercise of school choice by parents; the involvement of the community in school governance; the organizational role of community in promoting educational reform; and the role of communities in establishing schools.</p> <p>Actions can be analyzed through a social stance dimension, which determines the degree to which actions work within or transform existing societal arrangements. Actions can also be analyzed through a power and control dimension, which determines whether those with power (defined as those who set the agenda, whose interests are being served, and who can start or stop action) are situated within or outside of the community.</p> <p>Professionals, or powers exogenous to the community, working within existing arrangements appear to be in the best position to have a positive impact on disadvantages at the community level. As such, this review found that existing literature tended to focus on the decisions and performance of educational professionals rather than the community, and aligned with existing societal arrangements. This reflects how difficult it is for schools and disadvantaged communities to influence wider societal structures.</p> <p>The review calls for more research on community perspectives on the schools' role in mitigating community disadvantage, on determining how local actors exercise their power, and on examining how multiple agendas pan out simultaneously. There is also a lack of comparative research that could help define the generalizability of study results. The review concludes that in order to promote transformative action, there needs to be more</p>	N/A	No rating tool available for this type of document	N/A

Changing Practice to Achieve Equity in Ontario's Education Sector

Type of review	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
		dialogue and agenda alignment between professionals and communities, and between local, regional and national authorities.			
Non systematic review	Provide recommendations for successful education reform and compare policy trends across different countries of the Organisation of Economic Co-operation and Development (OECD) (50)	<p>The report examines 450 educational reforms adopted by OECD countries from 2008 to 2014.</p> <p>There is considerable variation across countries on how money earmarked for education is allocated, and the outcomes it produces. About 16% of the examined recent reforms focused on quality and equity in education. Twenty-nine per cent of reforms aimed to better prepare students for the future, through measures like improving the quality of vocational education, or increasing work-based training opportunities. Twenty-four per cent of reforms addressed school improvement, and more specifically, developing positive environments and retaining quality staff. Fourteen per cent of reforms developed or revamped evaluation and assessment tools and processes. Nine per cent of reforms addressed educational governance, either through refining roles and responsibilities, reorganizing institutional structures, or elaborating overarching visions for their system. Twelve per cent of reforms focused on funding arrangements, either at the system level, the institution level, or the individual level.</p> <p>Reforms tended to be most effective if they had a coherent framework, and a sufficient capacity for conducting and interpreting evaluations at all relevant system levels. Successful reforms also concretely addressed specific, well-defined issues. The most effective policies were designed around student learning, building teachers' capacity, and engaging stakeholders.</p> <p>In order to improve educational quality, the report recommends that policies focus on changing classroom practices, balancing external pressure and support, and developing long-term objectives. Additionally, only 10% of included reforms were evaluated following their implementation. The report identifies this as an area of opportunity as consistent measurement and follow-up is essential for developing successful policies in the future, and therefore is also likely to be cost-efficient in the long run.</p>	N/A	No rating tool available for this type of document	N/A

Appendix 2: Summary of findings from primary studies about changing practice to achieve equity in the education sector

Focus of study	Methods	Publication date	Sample description	Jurisdiction(s) studied	Key features of the intervention(s)	Key findings
Student- or teacher-level interventions						
Examine the effects of a leadership course designed for immigrant secondary school students learning English as an additional language with a social justice orientation (74)	Qualitative analysis of teacher's plans and notes, course assignments, ongoing informal conversations with students, artefact analysis, video footage of students presenting a conference workshop, and monthly feedback forms	2016	One Grade 11 English as a second language (ESL) Leadership class and their teacher	Ontario	A leadership course designed for immigrant secondary school students learning English as an additional language with a social justice orientation (Leadership and Peer Support, Grade 11, Open)	Findings revealed that each strand of the ESL Leadership course was strengthened because the teacher adopted the stance of a guide and facilitator, and that the students responded positively by taking responsibility for shaping the course. Students were also more engaged cognitively and affectively because their teacher invited them to share their past experiences and express their opinions on nearly every aspect of the course. The increased level of confidence reported by students grew from the many opportunities they had to interact with people from both their home culture and other cultures, and the related opportunity to debrief these interactions with their teacher in a supportive and inclusive environment. The ESL Leadership course allowed for the more equitable distribution of power amongst students in the school by providing opportunities for English-language learners to take on new roles and interact with a range of people they would not normally meet or interact with, including their Canadian-born peers. The ESL Leadership course included opportunities for students to develop a consciousness of self while collaborating for a common purpose leading to a sense of citizenship growing from their experience as emerging socially responsible leaders.
School- or community-level interventions						
Examine the effects of Peer Assisted Learning Strategies (PALS) to supplement classroom reading instruction (30)	Pre- and post-tests based on several measures (Curriculum Base Measurements, WIF, Developmental reading assessment)	2017	All first-grade students from the school district's 15 elementary schools (n= 436 students including 234 boys and 202 girls)	Ontario	PALS is a class-wide peer tutoring program that is implemented by classroom teachers (30 –40 minutes, three days a week) for all students as a supplement to existing literacy instruction aiming to improve reading achievement	Findings indicate that compared to previous years, when PALS was not used, students in this study made significantly greater gains in reading scores. Boys made similar gains to girls, Aboriginal students made similar gains to non-Aboriginal students, and at-risk students closed the achievement gap slightly with their typically achieving peers. For students who did not make adequate progress in reading throughout the year, the data indicate that the best predictor of at-risk status by the end of first grade was not a student's sex or Aboriginal status, but the ease with which he or she could effortlessly identify the sounds of letters and read words on entering the first grade.
Examine the preparedness of Ontario school principals to lead schools that support student diversity (45)	Document analyses of public records were used to investigate the current context of student affairs, and	2017	The study examined publicly available documents and conducted interviews with 59	Ontario and U.S.	Training and information available for principals and vice-principals to support them in leading schools which serve	Few institutional or social resources exist for school leaders. Those that do exist are not directly connected to the school system, such as settlement services. Review of existing public records indicates the importance of in-depth and targeted approaches to teacher preparation for classroom leadership. The study indicates the need for school-level resources to

Focus of study	Methods	Publication date	Sample description	Jurisdiction(s) studied	Key features of the intervention(s)	Key findings
	interviews were conducted to understand personal experiences of school leaders		educational leaders from Ontario and the U.S.		increasingly diverse student bodies	provide educational leaders with the knowledge and skills to support all students and address systematic issues of discrimination. Educational leaders are currently unprepared to deal with student diversity in Ontario, in part because few school boards require master's degrees in education for teachers. This can lead to the perpetuation of inequities in Ontario schools.
Examine how principals employ culturally responsive leadership practices to shape school experiences of marginalized students (41)	Case study research and cross-case analysis were conducted between different samples of elementary principals employing different leadership practices	2016	Two administrators and five teachers from two public elementary schools who were purposefully selected	Ontario	Culturally responsive leadership	<p>Students do not have control over factors such as socio-economic status, cultural background, race or language. However, these factors affect students' abilities to succeed within the educational system. Leaders within school communities (i.e., principals and teachers) have a responsibility to mitigate the propagation of student marginalization. The study suggests that it is necessary for school leaders to hire staff members who are culturally responsive and committed to working within school communities based on students' academic and social needs. Ontario Regulation 274, however, mandates that new teachers be hired based on seniority, therefore jeopardizing this institutional priority.</p> <p>Education Quality and Accountability Office (EQAO) standardized testing was found to be both a poor measure of student achievement as well as an inequitable way of assessing student learning. EQAO assessments were found to be non-indicative of what students in culturally diverse and marginalized communities could accomplish with more culturally and contextually-appropriate models. Many study participants also concluded that students from culturally marginalized backgrounds are more engaged when taught in curricula that connect to their lived experiences or cultural backgrounds.</p>
Examine culturally relevant school-based programming for First Nations youth (40)	Case study	2015	82 individuals participated in this study, including elementary and secondary students as well as educators and administrators from 15 schools	Ontario	A mixed-methods evaluation of these programs was undertaken utilizing 35 elementary and secondary student interviews, survey data from 45 secondary students, and seven educator and principal interviews	<p>Four themes emerged from the study findings:</p> <ol style="list-style-type: none"> 1) programming was perceived to contribute to student success; 2) participants experienced improved relationships and an increased sense of belonging; 3) participants gained confidence and leadership skills; and 4) the provision of culturally relevant experiences and role models was key to program success. <p>The results underscore the importance of developing and implementing culturally relevant programs for Aboriginal youth, who as a group have been historically marginalized in the</p>

McMaster Health Forum

Focus of study	Methods	Publication date	Sample description	Jurisdiction(s) studied	Key features of the intervention(s)	Key findings
						education system. Furthermore, promoting cultural connectedness in schools facilitates the development of bicultural competence, and reduces the pressure many of these youth experience to choose between success at school and their Aboriginal identity.
Examine how collaborative mentorship can support and sustain teachers on a journey of diversity and equity education (46)	Case study	2013	Two teachers working in a large multi-ethnic, multi-racial suburban school with a diverse population	Ontario	Collaborative mentorship is a mentoring approach to support and sustain teachers in diversity and equity education	The success of collaborative mentorship can be attributed to the following: 1) commitment of the mentor and mentees to a path of equity and diversity; 2) trust and respect between mentor and mentee; 3) development of a community of support where multiple voices were brought to bear on tensions that arose; 4) an understanding by both mentor and mentees that acquiring skills and attitudes to teach effectively in diverse classrooms is a complicated, messy and incomplete journey, and that each person is at a different stage of understanding; 5) handling resistance in a critical and dialogic way that does not cause personal and professional injury to either mentor or mentee; and 6) a recognition of the emotional investment that this kind of work requires.
District-level interventions						
N/A						
System-level interventions						
Examine how school choice options influence access to higher education (54)	Self-administered questionnaires	2017	3,540 graduates from high school and newcomers to higher education	Quebec	A sample of graduates from high school and newcomers to higher education responded to a self-administered questionnaire during the first weeks of their entry	This study reveals that some groups of students are at a disadvantage given the diversification and amount of mathematics tracking in high school, and they are more likely to opt for the tracking that limits future prospects. More specifically, new mathematics tracking seems to lead to negative unintended effects. The study shows that students whose parents have a low educational capital and those who are less successful in high school are more likely to opt for mathematics options that limit the access routes to the various higher education programs.
Examine the perceptions of high school students regarding their	Survey	2014	370 high school graduates	Quebec	New curriculum >> History and citizenship courses	The study reveals that history and citizenship courses in Quebec focusing on cultural and religious viewpoints favour a transmission approach to learning, and fail to connect the political process to students' concerns and interests. Without a clear conception of citizenship as a reference point, this

Focus of study	Methods	Publication date	Sample description	Jurisdiction(s) studied	Key features of the intervention(s)	Key findings
citizenship education (42)						curriculum appears to neglect the development of agency around civic engagement and social change. The study highlights the need for more critical analysis of national and global diversity and inequality in school curriculums.
Examine the significance of fairness and equity in assessment practices, and stakeholders' beliefs and attitudes about student assessment (52)	Questionnaires and interviews	2014	3,312 individuals representing a range of stakeholders (students, educators, parents, department of education personnel, teachers' union staff, school council members, school trustees, professional developers and university faculty)	Alberta	Strategies to promote fairness and equity in student-assessment practices	Five key principles emerged from the study findings: 1) educators must strive to address the personal impact of assessment practices on individual students and their families; 2) assessment must be differentiated to accommodate the ability, social, cultural and linguistic background of students; 3) all members of school communities must challenge the complacency associated with accepting indefensible assessment practices; 4) the frequency, intensity and intrusiveness of assessments must not be overwhelming for students and their families; and 5) assessment must not be used to counter inappropriate student behaviour or reward desired behaviour.
Examine the effects of a socio-culturally responsive media studies curriculum on : 1) academic achievement; 2) character development; 3) citizenship development; and 4) respect for diversity (43)	Action-research/ethnographic study	2013	Students aged 15 to 18	Ontario	New responsive media studies curriculum integrating emergent digital technologies and differentiated instructional strategies into five Grade 10 courses over a span of two years	Study findings reveal that many of the students in the program: 1) improved their overall attendance; 2) worked to foster a sense of community; 3) created spaces for both their voices and others to be heard; 4) enacted multiple literacies, and 5) became politically engaged citizens within the larger school community.

Appendix 3: Systematic reviews that have been excluded because they were published before 2010

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Appendix 4: Systematic reviews being planned

Arnold LS, Beelmann A, Coatsworth D. Family-focused prevention to improve cognitive, educational, and social-emotional development of immigrant children and adolescents. *Campbell Systematic Reviews* 2017.

Chalmers H. First language-mediated strategies for improving linguistic proficiency and academic attainment for bilingual children aged 4-11 in non-bilingual schools. *Campbell Systematic Reviews* 2016.

Connolly P, Craig N, Miller S, Archer L, Francis B, Hodgen J, Mazenod A, Taylor B, Tereshchenko A. The effects of grouping students by academic attainment on educational outcomes in secondary schools. *Campbell Systematic Reviews* 2017.

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