

# CURRENT AND EMERGING TRENDS INFLUENCING EDUCATIONAL RESEARCH

Document Scan - Themes

August 2017

***Bold Solutions for Complex Educational Problems***



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# Overview

This summary document presents brief synopses of seven themes related to current Canadian and international education, prepared for the Werklund School of Education Research Areas Working Group. Listed alphabetically, these themes connect to current and emerging trends influencing educational research in early years, K-20, and adult education. These themes were drawn from a scan of over 70 reports and research articles from international education bodies (e.g. OECD, UNESCO), research networks (e.g. Galileo Educational Network), organizations (e.g. McKinsey & Company), and Canadian Ministries of Education (Ontario and Alberta). These themes are:

- Adult Education & Lifelong Learning
- Belonging & Inclusion
- Citizenship & Changing Societies
- Digital Technology & STEM
- Engagement & Retention
- Health & Wellbeing
- Literacy & Numeracy

Each theme is presented with a bulleted list of challenges and concerns drawn from this initial scan.

## Themes

### Adult Education & Lifelong Learning

- 45% of Canadian adults struggle with literacy and numeracy skills required in the modern workforce
- Youth and adults are not receiving relevant skills and training for gainful employment
- Access to flexible and ongoing learning pathways, particularly vocational and technical, is limited
- There is little recognition and validation of competencies gained from informal/non-formal learning

An ageing population, supporting immigrant adults, and ongoing concerns over adult literacy and numeracy skills are contributing factors to the importance of adult education and lifelong learning in society (UNESCO, 2017). Particularly for older and 'low-skilled' populations, developing and investing in effective, quality, and accessible programming for adults can have significant economic benefits (OECD, 2016a). In addition to formal tertiary education, there is a growing focus across OECD countries in providing and recognizing informal and workplace training to up-skill or re-skill employees. These opportunities can help adults overcome structural barriers to learning opportunities, improving the visibility and perceived relevance of continued education.

Increasing the relevance of lifelong learning, and promoting technical and vocational education within schools, better connects education and the world of work. Providing youth and adults with relevant skills for gainful employment and entrepreneurship, as well as recognizing their prior learning and qualifications are two distinct but connected facets of goals to improve adult learning. Limited access to flexible learning pathways, and the validation of the competencies gained outside of formal institutions, are ongoing challenges in this area.

### Belonging & Inclusion

- Those perceived to not conform to prevailing norms continue to face discrimination and exclusion in education
- Systems and educators are not prepared to meet the learning needs of diverse populations

According to UNESCO (2017), educators are “the single most influential and powerful force for equity, access, and quality in education.” Persons with disabilities, Indigenous peoples, refugees, children in vulnerable situations, and those perceived not to conform to prevailing sexual and gender norms are frequently recognized as being at a heightened risk for discrimination and exclusion.

Increased migration and diversity in school systems requires providing educators with the tools to teach diverse classrooms effectively. Educators must learn to respond to learner diversity during their initial training, and seek out opportunities for continuing professional development on evidence-based, equitable practices (UNESCO, 2017). This includes responding to greater ethnic, linguistic, cultural, sexual, and gender diversity in the classroom, as well as the needs of those disadvantaged by life circumstances - such as refugees, children in care, and those experiencing poverty (Ontario Ministry of Education, 2014). Teaching tolerance, intercultural communication, acceptance, and understanding are also necessary to prevent radicalization, extremism, and bullying (UNESCO, 2017).

Inclusive education systems remove the barriers limiting the participation and achievement of all learners; respect diverse needs, abilities and characteristics; and that eliminate all forms of discrimination in the learning environment, curriculum, or instructional methods. This includes addressing issues of infrastructure and facility design that are not child, disability, or gender sensitive (UNESCO, 2015). Incorporating student-centred curricula, differentiated instruction, as well as modeling and teaching respect and understanding are potential avenues to supporting belonging and inclusion.

### Citizenship & Changing Societies

- There is a need for greater community engagement, global connections, and civic literacy in school
- Education systems are slow to respond to the demands of knowledge-intensive labour markets
- Many learners are not equipped with essential 21<sup>st</sup> century skills and global competencies

What is the role of education in today’s society? The OECD (2016d) notes that rising inequality, climate change, globalization, and other international issues require attention and action across national borders. Education systems are expected to respond to the skills needed to flourish in knowledge-intensive labour markets, equipping learners with essential 21<sup>st</sup> century skills and global competencies to engage meaningfully with complex challenges. This includes knowledge, values, skills and behaviours which foster responsible global and local citizenship, critical thinking, empathy, and intercultural communication.

The challenge for national education systems is to shape identities, and to promote awareness of and a sense of responsibility for others in an increasingly interconnected and interdependent world (UNESCO, 2015). Strong civic education and community connection are required to help students connect with their surroundings and those around them. Being better able to interpret and discuss political issues plays an important role in preventing violent extremism. Modifying curriculum, pedagogy, and school leadership practices are essential practices to integrating these ideals into a school’s culture.

### Digital Technology & STEM

- Many students lack digital competencies and technological skills required in future work
- Schools can do more to promote and reward innovation and creativity
- Educators are not being prepared with the knowledge and skills to integrate technology effectively into the classroom
- Essential STEM competencies are not effectively promoted in schools; gender gaps exist in the field

Schools are increasingly tasked with educating and guiding students through the advantages and disadvantages of the virtual world. Developing students' digital competencies and citizenship, advanced technological skills, and supporting innovation can help ensure that all are able to participate in today's world. This also requires digitally confident educators who are prepared to use digital resources effectively, and who are able to guide students in using digital tools for learning. Technology in education also brings the potential to reach greater audiences through online tertiary and informal learning.

Discussions of technology are often connected to students' STEM education and competencies. According to UNESCO (2017), creating knowledge and understanding through science equips us to find solutions to today's acute economic, social and environmental challenges and to achieving sustainable development and greener societies. To realize this potential, more students must be engaged and engage in the study of science. This is especially true of helping young girls to see themselves as becoming scientists and engineers, where gender differences continue to influence fields of study (OECD, 2016). The 2015 PISA results highlight that the amount of time spent learning science, and the way that science is taught, are critical factors in science achievement and interest.

### Engagement & Retention

- There is a need for learning environments which are relevant, applied, innovative, and capture student curiosity and interest
- Teacher-directed curricula and pedagogy continues to pervade classrooms
- Student empowerment (ability, agency, autonomy) is not consistently promoted in schools
- Educator burnout, disengagement, and inefficient school systems hamper quality education

Engaging students meaningfully in schools is critical to producing successful and skilled graduates (Ontario Ministry of Education, 2014). Educators must create more relevant, applied, and innovative learning experiences that spark learners' curiosity and inspire them to follow their passions. In addition to adapting curriculum, lesson, and assessment design, students must also be empowered to explore relevant issues linked to the world and their lives, and to self-direct their learning.

Committing to quality education also requires that educators are empowered, adequately recruited, well-trained, professionally qualified, motivated and supported within well-resourced, efficient and effectively governed systems. The negative impact of low-performing teachers is severe, particularly during the earlier years of schooling (McKinsey & Co., 2010). Retaining and reinforcing the commitment of quality teachers is essential, as is addressing issues of staff burnout and resistance to change. Across OECD countries, school principals cited student truancy and staff resisting change as problems that most significantly hinder student learning (OECD, 2016a).

### Health & Wellbeing

- Educators require more training in addressing students' mental and physical health
- Bullying, particularly social/verbal bullying, continues to affect students in OECD countries

What happens in school is crucial for students' well-being, and good quality education can set the foundation for future health outcomes (UNESCO, 2017). Psychological, cognitive, social, and physical qualities each play important roles in promoting a happy and fulfilling life. Encouraging and teaching healthy habits for emotional and physical wellbeing are increasingly recognized as key outcomes in education (OECD, 2016d).

Ensuring schools are safe places emotionally and physically involves addressing persistent issues such as bullying. In many OECD countries, verbal and psychological bullying occur frequently at school;

and while physical bullying is less frequent, it is still a considerable problem in many schools (PISA, 2017). Anxiety about schoolwork is also a frequently cited source of stress for school-age children and adolescents (OECD, 2016d). Strategies to support students' mental health need to be integrated into everyday classroom practices, and teachers must be prepared to understand mental health problems, services, and strategies to address these in the classroom.

### Literacy & Numeracy

- Students are not receiving engaging and relevant literacy/numeracy education
- The 2014 Canadian Financial Capability Survey notes that many Canadians struggle with financial numeracy
- Early identification and remediation of literacy/numeracy difficulties remains a challenge

Acquiring and improving literacy and numeracy skills throughout life is an intrinsic part of the right to education (UNESCO, 2017). These foundational skills empower citizens, enable them to participate fully in society, and contribute to improved livelihoods. Critical thinking, higher-order skills, and creativity need to be woven throughout curricula in these areas to help students engage and continue to connect with these subjects.

Quality education in these areas begins with early childhood education, and extends into adult and continuing education. There is a need for evidence-based, coordinated programs to boost student literacy and numeracy skills, and to improve teacher preparation in these key areas. Providing effective supports for students who fall behind is a recognized challenge, as later identification and intervention require more significant remediation (CLLRNET, 2009).

## Further Questions

UNESCO (2015) presents eight questions on the future of education with regards to pursuing a global, common good. These questions are posed in light of changing societies, globalization, and a time of increased intolerance and violence. Rethinking the purpose and means of education is essential to helping citizens and societies adapt and respond to contemporary issues.

- How can the pillars of learning (to know, to do, to be, to live together) be strengthened and renewed?
- How can education respond to the challenges of achieving economic, social and environmental sustainability?
- How can a plurality of worldviews be reconciled through a humanistic approach to education?
- How can such a humanistic approach be realized through educational policies and practices?
- What are the implications of globalization for national policies and decision-making in education?
- How should education be financed?
- What are the specific implications for teacher education, training, development and support?
- What are the implications for education of the distinction between the concepts of the private good, the public good, and the common good?

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Document	Impacts/Big Topics in Education
<p>OECD (2016). <i>Trends Shaping Education 2016</i>. OECD Publishing: Paris, France.  <a href="http://dx.doi.org/10.1787/trends_education-2016-en">http://dx.doi.org/10.1787/trends_education-2016-en</a></p>	<p><b>1. Globalization</b></p> <ul style="list-style-type: none"> <li>• Greater ethnic, linguistic and cultural diversity is facilitated by technology and decreasing transportation costs</li> <li>• Rising inequality, climate change, and other international issues require attention and action across national borders</li> </ul> <p>Education is impacted by</p> <ul style="list-style-type: none"> <li>a) Increased migration and diversity in school system</li> <li>b) The needs of those disadvantaged by life circumstances</li> </ul> <p>Education can respond through:</p> <ul style="list-style-type: none"> <li>i. Global citizenship <ul style="list-style-type: none"> <li>a) Language and intercultural learning</li> <li>b) Developing global competencies (e.g. tolerance, co-operation, cultural awareness)</li> <li>c) Fostering creativity and innovation</li> </ul> </li> <li>ii. Migration <ul style="list-style-type: none"> <li>a. Providing language courses for students and parents</li> <li>b. Teaching understanding and acceptance of diverse values</li> <li>c. Recognizing prior learning and qualifications</li> </ul> </li> <li>iii. Emerging economies <ul style="list-style-type: none"> <li>a. Use technologies to extend the reach of education (e.g. online tertiary education)</li> <li>b. Encourage international exchange programs</li> <li>c. Address issues of ‘brain drain’</li> </ul> </li> <li>iv. Climate change <ul style="list-style-type: none"> <li>a. Learning and building awareness of global climate challenges and solutions</li> <li>b. Encourage the study of science, including environmental sciences</li> <li>c. Plan school infrastructure around sustainability and conservation; preparing for extreme weather events</li> </ul> </li> </ul> <p><b>2. Future of the Nation-State</b></p>



	<ul style="list-style-type: none"> <li>• The state plays a role in ensuring the wellbeing and security of its citizens – which includes how it funds education</li> <li>• Changing labour markets require new skills and competencies</li> </ul> <p>Education is impacted by</p> <ul style="list-style-type: none"> <li>a) Changing spending priorities</li> <li>b) Responding to the skills needed to flourish in knowledge-intensive labour markets</li> </ul> <p>Education can respond through</p> <ul style="list-style-type: none"> <li>a) Governance and spending <ul style="list-style-type: none"> <li>a) Providing accessible and high-quality education for all</li> <li>b) Investing in early childhood development and prevention to support disadvantaged children and youth</li> </ul> </li> <li>b) Security <ul style="list-style-type: none"> <li>a) Producing highly-skilled and flexible graduates with capabilities to tackle new security challenges</li> <li>b) Tertiary education as a motor for innovation and technological advances</li> <li>c) Fostering trust and integration through civic education</li> </ul> </li> <li>c) Labour market <ul style="list-style-type: none"> <li>a) 21<sup>st</sup> century skills – e.g. multiple language and digital skills</li> <li>b) Attracting and retaining high quality researchers</li> <li>c) Closing the gender gap in the workforce – encouraging female entrepreneurship</li> <li>d) Reskilling an ageing workforce through lifelong learning</li> </ul> </li> <li>d) Health <ul style="list-style-type: none"> <li>a) Supporting physical and emotional wellbeing starting at the youngest ages</li> <li>b) Addressing national health concerns (obesity, smoking, etc.)</li> <li>c) Support excellence in science and medical research</li> <li>d) Increasing focus on lifelong learning</li> </ul> </li> </ul> <p><b>3. Are cities the new countries?</b></p> <ul style="list-style-type: none"> <li>• Urban environments concentrate productivity and employment opportunities, but also host high levels of poverty and market exclusion</li> <li>• Safety, infrastructure, and community engagement play important roles in the lives of citizens</li> </ul>
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	<p>Education is impacted by</p> <ul style="list-style-type: none"> <li>a) The need for civic literacy and skills for community engagement (citizenship education)</li> <li>b) Supporting creativity and innovation through the lifespan</li> </ul> <p>Education can respond through:</p> <ul style="list-style-type: none"> <li>i. Citizenship engagement <ul style="list-style-type: none"> <li>a. Encouraging student empowerment</li> <li>b. Teaching civic literacy</li> </ul> </li> <li>ii. Innovation <ul style="list-style-type: none"> <li>a. Rewarding young scientists and innovators</li> <li>b. Encouraging the establishment of science parks and start-ups working with tertiary institutions</li> <li>c. Attracting and retaining high-quality researchers and entrepreneurs</li> </ul> </li> <li>iii. Liveability <ul style="list-style-type: none"> <li>a. Teaching civic responsibility and environmental awareness</li> </ul> </li> <li>iv. Health and safety <ul style="list-style-type: none"> <li>a. Ensuring schools as safe places emotionally and physically</li> <li>b. Zero tolerance for bullying (face to face or online)</li> <li>c. School-based vaccinations and other public health drives</li> </ul> </li> </ul> <p><b>4. Family matters</b></p> <ul style="list-style-type: none"> <li>• Changing families and family structures requires rethinking how we see youth</li> <li>• Today's world has new concerns for our societies – e.g. obesity, cyber-risks, stress</li> </ul> <p>Education is impacted by</p> <ul style="list-style-type: none"> <li>a) Supporting disadvantaged students from the youngest ages</li> <li>b) Understanding and responding to changing family situations</li> </ul> <p>Education can respond through:</p> <ul style="list-style-type: none"> <li>i. Diversity of families <ul style="list-style-type: none"> <li>a. Promoting acceptance of non-traditional families</li> </ul> </li> </ul>
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	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>b. Acknowledging multicultural backgrounds and providing teachers with the tools to teach diverse classrooms</li> <li>c. Creating strategies and providing resources for teaching students with special needs</li> </ul> </li> <li>ii. New working patterns           <ul style="list-style-type: none"> <li>a. Offering high quality universal childcare</li> <li>b. Increasing relevance of lifelong learning</li> <li>c. Using professional skills of parents in the school</li> </ul> </li> <li>iii. Household Poverty           <ul style="list-style-type: none"> <li>a. Providing opportunities for disadvantaged students throughout their academic career</li> <li>b. Avoiding early tracking and developing links between tracks to allow for better student mobility</li> <li>c. Reinforcing financial education for responsible budgeting</li> </ul> </li> <li>iv. Health and well-being           <ul style="list-style-type: none"> <li>a. Encouraging and teaching healthy habits for emotional and physical wellbeing</li> <li>b. Paying attention to signs of abuse and neglect</li> <li>c. Providing accessible counselling, especially after a traumatic event</li> </ul> </li> <li>v. Values           <ul style="list-style-type: none"> <li>a. Addressing differences in social values and promoting respect</li> <li>b. Promoting trust between parents, teachers and administrators</li> <li>c. Teaching tolerance and critical thinking and preventing radicalization</li> </ul> </li> </ul> <p><b>5. A brave new world</b></p> <ul style="list-style-type: none"> <li>• Technology is transforming our lives, giving rise to new opportunities and risks</li> </ul> <ul style="list-style-type: none"> <li>a. Education is impacted by           <ul style="list-style-type: none"> <li>a) Schools are tasked with educating and guiding students through the advantages and disadvantages of the virtual world</li> </ul> </li> <li>b. Education can respond through:           <ul style="list-style-type: none"> <li>a) Information and data               <ul style="list-style-type: none"> <li>a) Teaching students and teachers how to evaluate the validity of online information</li> <li>b) Developing strategies to combat plagiarism</li> </ul> </li> </ul> </li> </ul>
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	<ul style="list-style-type: none"> <li>c) Providing training on the use of big data</li> <li>b) Learning and teaching <ul style="list-style-type: none"> <li>a) Integrating technology into the classroom</li> <li>b) Utilising collaborative learning platforms to share and expand knowledge</li> <li>c) Teaching programming and advanced computing skills</li> <li>d) Implementing self-paced and personalised e-learning</li> </ul> </li> <li>c) Digital divide <ul style="list-style-type: none"> <li>a) Ensuring that all students have the digital skills necessary for the modern world</li> <li>b) Supplying computers and training to students who lack access and resources</li> <li>c) Informal workplace training to up-skill or re-skill</li> </ul> </li> <li>d) Cyber-risks <ul style="list-style-type: none"> <li>a) Teaching students and parents how to protect themselves from online risks</li> <li>b) Strategies to combat cyberbullying</li> <li>c) Developing protocols to protect sensitive data from security flaws and hacking</li> </ul> </li> </ul>
<p>OECD (2016). <i>Education at a Glance 2016: OECD Indicators</i>. OECD Publishing: Paris, France. <a href="http://dx.doi.org/10.1787/eag-2016-en">http://dx.doi.org/10.1787/eag-2016-en</a></p>	<p><b>Funding higher education</b></p> <ul style="list-style-type: none"> <li>• More countries are shifting the cost of tertiary education from the government to individual households. An increasing number of students are taking public or state-guarantee loans, and graduating with both a diploma and debt.</li> </ul> <p><b>Gender imbalances in education</b></p> <ul style="list-style-type: none"> <li>• The reversal of the gender gap in tertiary education is well-documented, but women are still less likely to graduate from more advanced levels of tertiary education. The divide is reflected in students' field of study - mirrored in the labour market, and in earnings.</li> <li>• Within education, while four times more women than men graduate with a degree in the field, the percentage of female teachers shrinks with each successive level. Women are also less likely to become school principals, even though principals are often recruited from the ranks of teachers.</li> </ul> <p><b>Immigrant participation</b></p> <ul style="list-style-type: none"> <li>• Education systems play a critical role in integrating immigrants into their new communities – and into the host country's labour market. Immigrant student participation in pre-primary programs is considerably lower than</li> </ul>

	<p>among native born peers, and their educational attainment generally lags behind in comparison. The share of adults who have not completed upper secondary education is larger among those with an immigrant background</p> <p><b>Other findings</b></p> <ul style="list-style-type: none"> <li>• Enrollment in early childhood education has been rising – 69% of 3-year-olds, and 85% of 4-year-olds attend across OECD countries</li> <li>• Students with vocational upper secondary education as their highest level of attainment have a lower unemployment rate (9.2%) than among those with general upper secondary as their highest level of attainment (10.0%)</li> <li>• Between 2005 and 2014, the enrolment rate of 20-24-year-olds in tertiary education increased from 29% to 33%. Students often take longer to complete a tertiary program than theoretically envisaged. 41% of students complete a Bachelor's or equivalent program within the program's theoretical duration, and 69% in the expected duration plus three years.</li> <li>• The teaching force is ageing as the profession fails to attract younger adults. The share of secondary teachers aged 50 or older grew between 2005 and 2014 in 16 of the 24 OECD countries with available data.</li> <li>• Principals have a crucial influence on the school environment and teachers' working conditions. On average across countries with available data, over 60% of principals report frequently taking action to support co-operation among teachers to develop new teaching practices, to ensure that teachers take responsibility for improving their teaching skills, and to help them feel responsible for their students' learning outcomes</li> <li>• Despite the economic downturn in 2008, expenditure per student at all levels of education has been increasing on average. Between 2008 and 2013, real expenditure per student increased by 8% in primary to post-secondary non-tertiary education and by 6% in tertiary education</li> </ul>
<p>OECD (2016). PISA 2015 Results (Volume I): Excellence and Equity in Education. PISA, OECD Publishing: Paris, France.</p>	<p><b>Science</b></p> <ul style="list-style-type: none"> <li>• Singapore outperforms all other participating countries/economies in science. Japan, Estonia, Finland and Canada are the four highest-performing OECD countries.</li> <li>• Some 8% of students across OECD countries (and 24% of students in Singapore) are top performers in science, meaning that they are proficient at Level 5 or 6.</li> <li>• For the majority of countries with comparable data, science performance remained essentially unchanged since 2006, despite significant developments in science and technology over that period.</li> <li>• Even though gender differences in science performance tend to be small, on average, in 33 countries and economies, the share of top performers in science is larger among boys than among girls.</li> </ul>

<a href="http://dx.doi.org/10.1787/9789264266490-en">http://dx.doi.org/10.1787/9789264266490-en</a>	<ul style="list-style-type: none"> <li>On average across OECD countries, 25% of boys and 24% of girls reported that they expect to work in a science-related occupation. But boys and girls tend to think of working in different fields of science: girls envisage themselves as health professionals more than boys do; and in almost all countries, boys see themselves as becoming ICT professionals, scientists or engineers more than girls do.</li> </ul> <p><b>Reading</b></p> <ul style="list-style-type: none"> <li>About 14% of students in Canada are top performers in reading</li> <li>About 20% of students in OECD countries, on average, do not attain the baseline level of proficiency in reading. This proportion has remained stable since 2009 – few countries have seen improvements in reading since 2000.</li> <li>On average across OECD countries, the gender gap in reading in favour of girls narrowed by 12 points between 2009 and 2015: boys’ performance improved, particularly among the highest-achieving boys, while girls’ performance deteriorated, particularly among the lowest-achieving girls.</li> </ul> <p><b>Mathematics</b></p> <ul style="list-style-type: none"> <li>On average across OECD countries, boys outperform girls in mathematics by eight score points</li> </ul> <p><b>Equity</b></p> <ul style="list-style-type: none"> <li>Canada, Denmark, Estonia, Hong Kong and Macao achieve high levels of performance and equity in education outcomes.</li> <li>On average across OECD countries, and after taking their socio-economic status into account, immigrant students are more than twice as likely as their non-immigrant peers to perform below the baseline level of proficiency in science. Yet 24% of disadvantaged immigrant students are considered resilient.</li> <li>On average across countries with relatively large immigrant student populations, attending a school with a high concentration of immigrant students is not associated with poorer student performance, after accounting for the school’s socio-economic intake.</li> </ul>
<p>OECD (2016), PISA 2015 Results (Volume II): Policies and Practices for</p>	<p><b>Science</b></p> <ul style="list-style-type: none"> <li>Across OECD countries, socio-economically advantaged schools are considerably more likely than disadvantaged schools to offer science competitions and a science club as school activities.</li> <li>How much time students spend learning and how science is taught are even more strongly associated with science performance and the expectations of pursuing a science-related career than how well-equipped and –</li> </ul>

<p>Successful Schools. PISA, OECD Publishing: Paris, France.  <a href="http://dx.doi.org/10.1787/9789264267510-en">http://dx.doi.org/10.1787/9789264267510-en</a></p>	<p>staffed the science department is, which extracurricular science activities are offered at school and science teachers' qualifications.</p> <ul style="list-style-type: none"> <li>• According to students' reports, and on average across OECD countries, teachers in advantaged schools explain or demonstrate a scientific idea (teacher-directed instruction) more frequently than do teachers in disadvantaged schools.</li> </ul> <p><b>Learning environment</b></p> <ul style="list-style-type: none"> <li>• In most school systems, students in socio-economically disadvantaged schools are more likely to have skipped a day of school than students in advantaged schools. Between 2012 and 2015, the percentage of students who had skipped a whole day of school at least once in the two weeks prior to the PISA test increased by around 5 percentage points across OECD countries.</li> <li>• Across OECD countries, school principals cited student truancy and staff resisting change as the problems that hinder student learning the most; they also reported that learning in their schools is least hindered by students' use of alcohol or illegal drugs, or students intimidating or bullying other students.</li> <li>• Students in school systems that select students into different education programmes or types of schools at a later age reported receiving greater support from their teachers.</li> </ul> <p><b>School governance</b></p> <ul style="list-style-type: none"> <li>• Students in private schools score higher in science than students in public schools; but after accounting for the socioeconomic profile of students and schools, students in public schools score higher than students in private schools on average across OECD countries and in 22 education systems.</li> <li>• Standardised tests are used extensively across PISA-participating countries and economies. In about five out of six school systems, more than one in two students are assessed at least once a year with mandatory standardised tests, and in about three out of four countries, more than one in two students are assessed at least once a year with non-mandatory standardised tests.</li> <li>• When choosing a school for their child, parents are more likely to consider important or very important that there is a safe school environment, that the school has a good reputation and that the school has an active and pleasant climate – even more so than their child's academic achievement at the school.</li> </ul> <p><b>Selecting and grouping students</b></p> <ul style="list-style-type: none"> <li>• Thirty countries and economies used grade repetition less frequently in 2015 than in 2009</li> </ul>
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	<ul style="list-style-type: none"> <li>• Across OECD countries, socio-economically disadvantaged students, students with an immigrant background and boys are more likely to have repeated a grade, even after accounting for their academic performance, and their self-reported motivation and behaviour.</li> <li>• The later students are first selected into different schools or education programmes and the less prevalent the incidence of grade repetition, the more equitable the school system or the weaker the association between students' socioeconomic status and their performance in science.</li> </ul> <p><b>Resources invested in education</b></p> <ul style="list-style-type: none"> <li>• Students in larger schools score higher in science and are more likely than students in smaller schools to expect to work in a science-related occupation in the future. But students in smaller schools reported a better disciplinary climate in their science lessons and they are less likely than students in larger schools to skip days of school and arrive late for school, after accounting for schools' and students' socio-economic status.</li> <li>• On average across OECD countries, students in smaller classes reported more frequently than students in larger classes that their teachers adapt their instruction to their needs, knowledge and level of understanding.</li> <li>• Students score five points higher in science for every additional hour spent per week in regular science lessons, after accounting for socio-economic status.</li> <li>• School systems where students spend more time learning after school, by doing homework, receiving additional instruction or in private study, tend to perform less well in science.</li> </ul>
<p>OECD (2017), <i>PISA 2015 Results (Volume III): Students' Well-Being</i>. PISA, OECD Publishing: Paris, France.  <a href="http://dx.doi.org/10.1787/9789264273856-en">http://dx.doi.org/10.1787/9789264273856-en</a></p>	<ul style="list-style-type: none"> <li>• What happens in school is crucial for well-being. Students' well-being, as defined in this report, refers to the psychological, cognitive, social and physical qualities that students need to live a happy and fulfilling life.</li> <li>• On average across OECD countries, students reported a level of 7.3 on a life-satisfaction scale ranging from 0 to 10. Roughly speaking, this suggests that the "average" adolescent in an OECD country is satisfied with life. However, about 12% of students, on average across OECD countries – and more than 20% of students in some countries – reported that they are not satisfied with their life (they rated their satisfaction with life 4 or less on the scale).</li> <li>• Anxiety about schoolwork is one of the sources of stress most often cited by school-age children and adolescents. On average across OECD countries, students who reported the highest levels of anxiety also reported a level of life satisfaction that is 1.2 points lower (on a scale of from 0 to 10) than students who reported the lowest levels of anxiety.</li> </ul>



	<ul style="list-style-type: none"> <li>• A greater motivation to achieve can give students a sense of purpose in life. It is thus not surprising that, across all countries and economies that participated in PISA 2015, students with greater overall motivation to achieve reported higher satisfaction with life</li> <li>• In many countries, verbal and psychological bullying occur frequently at school. Physical bullying is less frequent, but still a major problem in many schools. On average across OECD countries, 42% of students who reported that they are frequently bullied also reported feeling like an outsider at school.</li> <li>• PISA data show that certain types of parental activities are positively related not only to students' performance, but also to students' satisfaction with their life. Students whose parents reported "spending time just talking to my child", "eating the main meal with my child around a table" or "discussing how well my child is doing at school" every week were between 22% and 62% more likely to report high levels of life satisfaction than students whose parents reported engaging in these activities less frequently.</li> <li>• On average across OECD countries, students who reported taking part in some moderate or vigorous physical activity were less likely to report that they feel very anxious about schoolwork and that they feel like an outsider at school. But around 6% of boys and 7% of girls reported that they do not participate in any form of physical activity outside of school.</li> <li>• Many students spend a lot of their time on the Internet: 26% of students reported that they spend more than six hours per day on line during weekends, and 16% spend a similar amount of time on line during weekdays. These "extreme Internet users" are more likely to feel lonely at school, have low expectations of further education, and tend to arrive late for school.</li> <li>• Students who work for pay outside of school reported a level of satisfaction with life that is similar to that of students who do not work. But students who work for pay were more likely to report disengagement from school.</li> <li>• Students' well-being is related to students' perceptions about the disciplinary climate in the classroom or about the support their teachers give them</li> <li>• Parental involvement and adolescents' perceptions about the support their parents give them are associated with students' feelings about schoolwork, their performance in PISA and their well-being, in general. Forging stronger relationships between schools and parents to give adolescents the support they need – academically and psychologically – could go a long way towards improving the well-being of all students.</li> </ul>
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<p>UNESCO. (2017). Education for the 21st Century. Retrieved from: <a href="http://en.unesco.org/themes/education-21st-century">http://en.unesco.org/themes/education-21st-century</a></p>	<p><b>Education for the 21<sup>st</sup> century</b></p> <p>a. <u>Right to Education</u></p> <ul style="list-style-type: none"> <li>i. In order to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all, the right to education must be maintained at the very foundation of development, in order to ensure that everyone can access and benefit from an education of good quality without discrimination or exclusion</li> </ul> <p>b. <u>Lifelong Learning Systems</u></p> <ul style="list-style-type: none"> <li>i. Early Childhood Education and Care <ul style="list-style-type: none"> <li>1. Early childhood care and education (ECCE) is more than a preparatory stage assisting the child's transition to formal schooling. It places emphasis on developing the whole child - attending to his or her social, emotional, cognitive and physical needs - to establish a solid and broad foundation for lifelong learning and wellbeing</li> </ul> </li> <li>ii. Inclusion in Education <ul style="list-style-type: none"> <li>1. Inclusive education systems remove the barriers limiting the participation and achievement of all learners, respect diverse needs, abilities and characteristics and that eliminate all forms of discrimination in the learning environment.</li> </ul> </li> </ul> <p>c. <u>Literacy for All</u></p> <ul style="list-style-type: none"> <li>i. Acquiring and improving literacy skills throughout life is an intrinsic part of the right to education. The "multiplier effect" of literacy empowers people, enables them to participate fully in society and contributes to improve livelihoods.</li> <li>ii. Literacy is also a driver for sustainable development in that it enables greater participation in the labour market; improved child and family health and nutrition; reduces poverty and expands life opportunities</li> </ul> <p>d. <u>Teachers</u></p> <ul style="list-style-type: none"> <li>i. Teachers are the single most influential and powerful force for equity, access and quality in education.</li> <li>ii. Worldwide there is a shortage of well trained teachers. According to the UNESCO Institute for Statistics (UIS), to achieve universal primary education by 2030, the demand for teachers is expected to rise to 25.8 million.</li> </ul>
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	<p>e. <u>Skills for Work and Life</u></p> <ul style="list-style-type: none"> <li>i. Technical and Vocational Education and Training (TVET) connects education and the world of work. TVET aims to address economic, social and environmental demands by helping youth and adults develop the skills they need for employment, decent work and entrepreneurship. In this way, TVET promotes equitable, inclusive and sustainable economic growth and supports transitions to green and digital economies.</li> </ul> <p>f. <u>Women's and Girls' Education</u></p> <ul style="list-style-type: none"> <li>i. Gender inequality in education affects both girls and boys, and women and men, but girls and women are still more often disadvantaged.</li> <li>ii. Poverty, geographical isolation, minority status, disability, early marriage and pregnancy, gender-based violence, and traditional attitudes about the status and role of women, are among the many obstacles that stand in the way of women's and girls' fully exercising their right to participate in, complete and benefit from education.</li> </ul> <p><b>Fostering Freedom of Expression</b></p> <ul style="list-style-type: none"> <li>i. UNESCO works to foster free, independent and pluralistic media in print, broadcast and online. Media development in this mode enhances freedom of expression, and it contributes to peace, sustainability, poverty eradication and human rights</li> </ul> <p><b>Protecting Our Heritage and Fostering Creativity</b></p> <ul style="list-style-type: none"> <li>i. In today's interconnected world, culture's power to transform societies is clear. Its diverse manifestations – from our cherished historic monuments and museums to traditional practices and contemporary art forms – enrich our everyday lives in countless ways. Heritage constitutes a source of identity and cohesion for communities disrupted by bewildering change and economic instability. Creativity contributes to building open, inclusive and pluralistic societies. Both heritage and creativity lay the foundations for vibrant, innovative and prosperous knowledge societies.</li> </ul> <p><b>Learning to Live Together</b></p> <ul style="list-style-type: none"> <li>a. Social Transformations</li> </ul>
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	<ul style="list-style-type: none"> <li>i. The world is undergoing important social transformations driven by the impact of globalization, global environmental change and economic and financial crises, resulting in growing inequalities, extreme poverty, exclusion and the denial of basic human rights. These transformations demonstrate the urge for innovative solutions conducive to universal values of peace, human dignity, gender equality and non-violence and non-discrimination. Young women and men, who are the most affected by these changes, are hence the principal key-actors of social transformations</li> <li>b. Intercultural dialogue <ul style="list-style-type: none"> <li>i. The world is more and more interconnected but it does not mean that individuals and societies really live together – as reveal the exclusions suffered by millions of poor, women, youth, migrants and disenfranchised minorities. Today there is more information, technology and knowledge available than ever before, but adequate wisdom is still needed to prevent conflicts, to eradicate poverty or to make it possible for all to learn in order to live in harmony in a safe world</li> </ul> </li> <li>c. Democracy and Global Citizenship <ul style="list-style-type: none"> <li>i. Education for peace and human rights is a fundamental building block in this process as a catalyst for fostering global citizenship. It builds knowledge and understanding of internationally shared values and supports the development of good policies and practice that help create safe learning environments, free from discrimination and violence</li> <li>ii. Inclusive quality education is a central to UNESCO’s approach to building citizenship and democracy, including the promotion of multilingual education.</li> </ul> </li> <li>d. Education for Health and Wellbeing <ul style="list-style-type: none"> <li>i. A good quality education is the foundation of health and well-being. For people to lead healthy and productive lives, they need knowledge to prevent sickness and disease. For children and adolescents to learn, they need to be well nourished and healthy</li> </ul> </li> <li>e. School Violence and Bullying <ul style="list-style-type: none"> <li>i. Violence in educational settings is a daily reality that denies millions of children and young people the fundamental human right to education. One estimate by Plan International suggests that 246 million children and adolescents experience violence in and around school every year. Girls are</li> </ul> </li> </ul>
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	<p>disproportionately affected, as are those perceived not to conform to prevailing sexual and gender norms.</p> <p><b>One Planet, One Ocean</b></p> <ul style="list-style-type: none"> <li>i. Conserving the diversity of life on Earth and ocean health is critical to global human welfare, yet essential resources are at risk from the direct results of unsustainable practices. Sustainable development cannot be achieved by technological solutions, political regulation or financial instruments alone. We need to change the way we think and act</li> <li>a. Addressing Climate Change <ul style="list-style-type: none"> <li>i. Climate change is one of the defining issues of our time. There is a need to contribute to creating knowledge, educating and communicating about climate change, and to understanding the ethical implications for present and future generations.</li> </ul> </li> <li>b. Education for Sustainable Development <ul style="list-style-type: none"> <li>i. With a world population of 7 billion people and limited natural resources, we, as individuals and societies need to learn to live together sustainably. We need to take action responsibly based on the understanding that what we do today can have implications on the lives of people and the planet in future. Education for Sustainable Development (ESD) empowers people to change the way they think and work towards a sustainable future.</li> </ul> </li> </ul> <p><b>Science for a Sustainable Future</b></p> <ul style="list-style-type: none"> <li>i. Creating knowledge and understanding through science equips us to find solutions to today's acute economic, social and environmental challenges and to achieving sustainable development and greener societies. As no one country can achieve sustainable development alone, international scientific cooperation contributes, not only to scientific knowledge but also to building peace.</li> <li>a. Building capacity in Science and Engineering <ul style="list-style-type: none"> <li>i. Science policies are not enough. Science and engineering education at all levels and research capacity need to be built to allow countries to develop their own solutions to their specific problems and to play their part in the international scientific and technological arena</li> </ul> </li> </ul> <p><b>Preventing Violent Extremism</b></p>
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	<ul style="list-style-type: none"> <li>i. It is not enough to counter violent extremism --- we need to prevent it, and this calls for forms of ‘soft power’, to prevent a threat driven by distorted interpretations of culture, hatred, and ignorance. No one is born a violent extremist – they are made and fueled. Disarming the process of radicalization must begin with human rights and the rule of law, with dialogue across all boundary lines, by empowering all young women and men, and by starting as early as possible, on the benches of schools.</li> <li>ii. This includes equipping learners, of all ages, and notably young women and men, with the knowledge, values, attitudes and behaviours, which foster responsible global citizenship, critical thinking, empathy and the ability to take action against violent extremism.</li> </ul>
<p>UNESCO (2015). Rethinking Education: Towards a global common good? UNESCO: Paris, France.</p>	<ul style="list-style-type: none"> <li>• The changes in the world today are characterized by new levels of complexity and contradiction. These changes generate tensions for which education is expected to prepare individuals and communities by giving them the capability to adapt and to respond</li> <li>• <b>Inequality</b> - The aspiration of sustainable development requires us to resolve common problems and tensions and to recognize new horizons. Economic growth and the creation of wealth have reduced global poverty rates, but vulnerability, inequality, exclusion, and violence have increased within and across societies throughout the world <ul style="list-style-type: none"> <li>○ Despite the progressive empowerment of women through greater access to education, they continue to face discrimination in public life and in employment. Violence against women and children, particularly girls, continues to undermine their rights. Again, while technological development contributes to greater interconnectedness and offers new avenues for exchange, cooperation and solidarity, we also see an increase in cultural and religious intolerance, identity-based political mobilization and conflict</li> </ul> </li> <li>• <b>Humanism</b> - Education alone cannot hope to solve all development challenges, but a humanistic and holistic approach to education can and should contribute to achieving a new development model. The ethical and moral principles of a humanistic approach to development stand against violence, intolerance, discrimination and exclusion.</li> <li>• <b>Policy-making</b> - The escalating levels of social and economic complexity present a number of challenges for education policy-making in today’s globalized world. While the trends point to a growing disconnection between education and the fast-changing world of work, they also represent an opportunity to reconsider the link between education and societal development.</li> </ul>

	<ul style="list-style-type: none"> <li>○ Furthermore, the increasing mobility of learners and workers across national borders and the new patterns of knowledge and skills transfer require new ways of recognizing, validating and assessing learning.</li> <li>○ The challenge for national education systems is to shape identities, and to promote awareness of and a sense of responsibility for others in an increasingly interconnected and interdependent world</li> <li>● <b>Common good</b> - We often refer to education as a human right and as a public good in international education discourse. Yet, while these principles are relatively uncontested at the level of basic education, there is no general agreement, in much of the discussion, about their applicability to post-basic education and training. Therefore a concern for knowledge – understood as the information, understanding, skills, values and attitudes acquired through learning – is central to any discussion of the purpose of education.</li> <li>● As we attempt to reconcile the purpose and organization of learning as a collective societal endeavour, the following questions may serve as first steps towards debate: While the four pillars of learning – to know, to do, to be, and to live together – are still relevant, they are threatened by globalization and by the resurgence of identity politics.</li> <li>● <b>Questions:</b> <ul style="list-style-type: none"> <li>○ How can the pillars of learning be strengthened and renewed?</li> <li>○ How can education respond to the challenges of achieving economic, social and environmental sustainability?</li> <li>○ How can a plurality of worldviews be reconciled through a humanistic approach to education?</li> <li>○ How can such a humanistic approach be realized through educational policies and practices?</li> <li>○ What are the implications of globalization for national policies and decision-making in education?</li> <li>○ How should education be financed?</li> <li>○ What are the specific implications for teacher education, training, development and support?</li> <li>○ What are the implications for education of the distinction between the concepts of the private good, the public good, and the common good?</li> </ul> </li> </ul>
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<p>McKinsey &amp; Company. (2007). <i>How the world's best-performing school systems come out on top.</i><a href="http://mckinsey.com/client-service/socialsector/resources/pdf/Worlds_School_Systems_Final.pdf">http://mckinsey.com/client-service/socialsector/resources/pdf/Worlds_School_Systems_Final.pdf</a></p>	<ul style="list-style-type: none"> <li>• Despite massive increases in spending and ambitious attempts at reform, the performance of many school systems has barely improved in decades</li> <li>• The main driver of the variation in student learning at school is the quality of the teachers. The negative impact of low-performing teachers is severe, particularly during the earlier years of schooling</li> <li>• To improve instruction, these high-performing school systems consistently do three things well: <ul style="list-style-type: none"> <li>◦ Get the right people to become teachers; develop these people into effective instructors; and put in place systems and targeted support to ensure that every child is able to benefit from excellent instruction</li> </ul> </li> <li>• The top-performing systems select for entry into the teacher training programs. They do so either by controlling entry directly, or by limiting the number of places on teacher training courses, so that supply matches demand.</li> <li>• All of the top-performing systems benchmarked (except for one) paid starting salaries that were at or above the OECD average, relative to their GDP per capita. They also often spend less on education than OECD average overall.</li> <li>• The ability of a school system to attract the right people into teaching is closely linked to the status of the profession.</li> </ul>
<p>McKinsey &amp; Company. (2010). <i>How the world's most improved school systems keep getting better.</i> <a href="http://mckinseyon.society.com/how-the-worlds-most-improved-school-systems-keep-getting-better/">http://mckinseyon.society.com/how-the-worlds-most-improved-school-systems-keep-getting-better/</a></p>	<ol style="list-style-type: none"> <li>1. A system can make significant gains from wherever it starts</li> <li>2. There is too little focus on 'process' in the debate today <ol style="list-style-type: none"> <li>a. Schools systems change their <i>structure</i> (school types, altering school years or levels, or decentralizing system responsibilities), <i>resources</i> (staffing or funding) and <i>processes</i> (modifying curriculum, pedagogy, and school leadership)</li> <li>b. Improving systems generally spend more of their activity on improving how instruction is delivered than on changing the content of what is delivered.</li> </ol> </li> <li>3. Each particular stage of the school system improvement journey is associated with a unique set of interventions</li> <li>4. A system's context might not determine <i>what</i> needs to be done, but it does determine <i>how</i> it is done.</li> <li>5. Six interventions occur equally at every performance stage for all systems: <ol style="list-style-type: none"> <li>a. Building the instructional skills of teachers and management skills of principals; assessing students; improving data systems; facilitating improvement through the introduction of policy documents and education laws; revising standards and curriculum; and ensuring an appropriate reward and remuneration structure for teachers and principals</li> </ol> </li> </ol>



	<p>6. Systems further along the journey sustain improvement by balancing school autonomy with consistent teaching practice</p> <p>7. Leaders take advantage of changed circumstances to ignite reforms</p> <p>8. Leadership continuity is essential</p>
<p>Statistics Canada, &amp; Council of Ministers of Education Canada. (2016). <i>Education Indicators in Canada: An International Perspective</i>. Statistics Canada Catalogue no. 81-604-X. Ottawa, Ontario. Retrieved from: <a href="http://www.statcan.gc.ca/pub/81-604-x/81-604-x2016001-eng.pdf">http://www.statcan.gc.ca/pub/81-604-x/81-604-x2016001-eng.pdf</a></p>	<p><b>A1 Educational attainment of the adult population</b></p> <ul style="list-style-type: none"> <li>• In Canada, the proportion of adults aged 25 to 64 with tertiary education (college/university completion) increased to 54% in 2014, the highest rate among OECD countries. At the same time, the proportion of individuals with less than high school completion (“below upper secondary”) decreased, from 15% to 10%. Similar changes were mirrored in the provinces.</li> <li>• In 2014, 25% of 25- to 64-year-olds in Canada had completed short-cycle tertiary education, far greater than the average of 8% reported by the OECD (non-university certificates or diplomas from community colleges, CEGEPs, or schools of nursing, as well as university certificates below the bachelor’s level).</li> <li>• The proportion of women who had successfully completed short cycle tertiary education (29%) was higher than the proportion for men (21%). In the traditionally male-dominated areas of trades and apprenticeship (“postsecondary non-tertiary” education), attainment was more common among men (15%) than women (7%).</li> <li>• The OECD average for completion of university education for 25- to 64-year-olds was 28%, a rate similar to Canada’s figure. The gender gap was less pronounced at this level of educational attainment, with figures of 30% for women and 27% for men.</li> <li>• 93% of Canadian adults aged 25 to 34 had attained at least upper secondary education in 2014, compared with 85% for those aged 55 to 64.</li> </ul> <p><b>A2 Upper secondary graduation</b></p> <ul style="list-style-type: none"> <li>• Canada’s upper secondary graduation rate was 85% in 2012. The OECD average was also 85%, and most OECD countries reported graduation rates of at least 80%.</li> <li>• In Canada, graduates under 25 years of age represented 95% of all graduates in 2012, compared with 97% for the OECD overall.</li> <li>• Upper secondary graduation rates for females were higher than those for males in all provinces and territories, as well as in most of the OECD countries. In Canada, the rate for females was 88%; the rate for males, 82%.</li> </ul>

	<ul style="list-style-type: none"> <li>• In Canada in 2012, successful completion in public schools was 73%. This indicator measures the “on-time” graduation of the 2009/2010 cohort of Grade 10 students (Secondary III in Quebec), an indication of the efficiency of the public school system.</li> </ul> <p><b>B1 Expenditure per student</b></p> <ul style="list-style-type: none"> <li>• In Canada in 2011/2012, expenditure per student at the combined primary and secondary level (\$9,865 US dollars using purchasing power parity) was above the OECD average of \$8,982, which also included postsecondary non-tertiary.</li> <li>• In Canada at the primary and secondary level, the portion of expenditure per student allocated to core services represented 95% of the total expenditure per student. This was similar to the average proportion of 94 % spent on core services in the OECD countries. Expenditure on educational core services includes all spending directly related to education; i.e., on teachers, school buildings, teaching materials, books and administration of schools.</li> <li>• In 2011/2012 expenditure per student at the university level was more than twice that of the primary/secondary level in Canada.</li> </ul> <p><b>B2 Expenditure on education as a percentage of GDP</b></p> <ul style="list-style-type: none"> <li>• With 6.4% of its GDP allocated to educational institutions in 2011, Canada devoted a higher share of its wealth to education than the OECD countries overall (an average of 5.3%). The share of GDP devoted to educational institutions varied from one province or territory to another. The allocation of financial resources to educational institutions is a collective choice, made by government, business, and individual students and their families. The share of GDP is partially influenced by the size of the school-age population and enrolment in education, as well as relative wealth.</li> <li>• In 2011, 42% of the share of GDP that Canada invested in education was allocated to the tertiary sector. Among the OECD countries, Canada, along with the United States (43%) and Chile (41%), allocated the largest share of education spending to tertiary education.</li> </ul> <p><b>B3 Distribution of expenditure on education</b></p> <ul style="list-style-type: none"> <li>• The proportions of education expenditure allocated to current spending in Canada in 2012 were: 93% for primary and secondary education, and 90% for all postsecondary. These figures are similar to the average proportions reported by the OECD for its member countries: 93% and 90%, respectively. Current expenditure reflects spending on school resources that are used each year for the operation of schools.</li> </ul>
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	<ul style="list-style-type: none"> <li>For primary and secondary education, the compensation of staff (79%)—particularly teachers (64%) accounted for the largest proportion of current expenditure in Canada in 2012, a situation mirrored in all other OECD countries. At the postsecondary level in Canada, 67% of current expenditure was devoted to compensation of all staff; more than half of which (38%) was spent on compensation for teachers.</li> </ul> <p><b>C1 International students</b></p> <ul style="list-style-type: none"> <li>In 2012, there were 134,568 international students registered in tertiary programmes in Canada. They accounted for 9% of all students enrolled in tertiary education, the same as the OECD average. The vast majority of them (56%) were in Bachelor’s or equivalent level programmes. Students from Asia accounted for more than half (63%) of the international students in Canada in 2012.</li> </ul> <p><b>C2 Transitions to the labour market</b></p> <ul style="list-style-type: none"> <li>In Canada in 2014, 44% of young adults aged 15 to 29 were still involved “in education”. The most recent international average (2014) for the OECD countries was 48%. The proportion of females (47%) was higher than that for males (42%).</li> <li>In 2014, 17% of 15- to 19-year-olds in Canada were no longer pursuing a formal education; the comparable OECD average (2014) was 14%. Many in this 15-to-19 age group were employed, and some were high school graduates who had not engaged in any further education.</li> <li>The “not in education” 15- to 29-year-old population includes those who are neither employed nor in education (or training), referred to as the “NEET” population. In 2014, 13% of Canada’s population aged 15 to 29 was neither employed nor in education, compared with the OECD average of 16%.</li> <li>In Canada and in the OECD overall, the highest proportion of individuals who were not in education and not in employment was in the 25-to-29 age group: 18%, which compares with the OECD’s 21%.</li> </ul> <p><b>D1 Instruction time</b></p> <ul style="list-style-type: none"> <li>In Canada, in 2014/2015, the total intended instruction time in formal classroom settings was 8,306 hours on average, between the ages of 6 and 14 (this includes the primary (ages 6 to 11) and lower secondary (ages 12 to 14) levels of education). By comparison, total intended instruction time for the OECD countries for which data were available was 7,626 hours. This was 680 fewer hours than the average total intended instruction time in all public institutions in Canada during the 2014/2015 school year.</li> </ul>
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	<ul style="list-style-type: none"> <li>• Total intended instruction time for students aged 6 to 17 (primary, lower secondary and upper secondary levels) varied by province and territory, ranging from 12,252 hours in the Northwest Territories to 9,900 hours in Quebec (where upper secondary ends at age 16).</li> </ul> <p><b>D2 Teachers' salaries</b></p> <ul style="list-style-type: none"> <li>• In Canada, the salary for teachers at the beginning of their careers, in public elementary and secondary schools was about \$51,150 Canadian dollars in 2012/2013, ranging from \$40,952 in Quebec to \$72,993 in the Northwest Territories.</li> <li>• In 2012/2013, teachers' salaries in and throughout Canada were similar regardless of the level of education being taught. Overall in Canada, average salaries for teachers at the beginning of their career (presented in US dollars for international comparisons) were \$39,660 in both primary and lower secondary institutions, and \$39,826 for those in upper secondary institutions. The comparable OECD averages (US dollars) were all lower, and they also varied by level taught, at \$29,807, \$31,013 and \$32,260, respectively.</li> <li>• In over one half of the provinces and territories in Canada, teachers in public elementary and secondary schools reached their maximum salary after 10 years' experience—much sooner than their counterparts in other OECD countries.</li> </ul> <p><b>D3 Teachers' working time</b></p> <ul style="list-style-type: none"> <li>• In Canada, primary school teachers taught an average of 795 hours per year in 2012/2013, compared with the OECD average of 772 hours. Figures varied by province and territory, ranging from 700 hours in New Brunswick to 905 hours in Alberta.</li> <li>• Net annual teaching time was 742 hours at the lower secondary level (generally Grades 7 to 9) and 743 hours at the upper secondary level (generally Grades 10 to 12). These figures for Canada are higher than the averages for the OECD countries overall—48 hours higher at the lower secondary level and 100 hours at the upper secondary level.</li> <li>• On average in Canada, net teaching time represented about 60% of teachers' total working time. It was similar for lower and upper secondary levels taught (60%), and higher at the primary level (65%). This ratio and the pattern across levels of education taught were similar to the OECD average.</li> </ul> <p><b>E1 Adult ICT and Problem-Solving Skills</b></p> <ul style="list-style-type: none"> <li>• Canadians with higher levels of educational attainment tended to have higher levels of ICT and problem-solving skills. In 2012, younger Canadians had higher levels of ICT and problem-solving skills, but older</li> </ul>
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	<p>Canadians fared better than their OECD counterparts. Canadian women fared better than their OECD counterparts, with 34% of women in Canada having had good ICT and problem-solving skills (group 4) compared to 29% for women in the OECD.</p> <ul style="list-style-type: none"> <li>• The proportion of Canadians with jobs requiring complex ICT skills at work that had good ICT and problem-solving skills was comparable to the 2012 OECD average. In Canada and the OECD, those who reported a stronger sense of confidence in having the computer skills needed to do their job well had higher ICT and problem-solving skills.</li> <li>• In 2012, Canadians with the highest levels of ICT and problem-solving skills (group 4) reported the highest rate of participation in employer-sponsored formal and/or non-formal education. For most Canadian provinces and territories, these rates were also higher than the OECD average participation rate for individuals in group 4.</li> </ul>
<p>Canadian Language and Literacy Research Network (2009). National Strategy for Early Literacy: Report and Recommendations. CLLRN: London, ON.</p>	<ul style="list-style-type: none"> <li>• Literacy – the ability to gain and use information through the printed word – is essential for the economic, academic, and social success of individuals and societies. Yet more than seven million Canadian adults struggle with literacy problems. Statistics Canada reports that more than 42% of Canadians lack the basic literacy skills required to succeed in today’s society (Statistics Canada &amp; OECD, 2005).</li> <li>• A number of systemic and individual barriers to successful literacy outcomes were identified: <ol style="list-style-type: none"> <li>1. The inability of many Canadian children to access high-quality early childhood education and care programs. Access tends to be a particular challenge for those children who are most vulnerable to poor literacy outcomes because they lack adequate supports through their home and neighbourhood environments.</li> <li>2. The inability of many Canadian children to access libraries, and other supporting programs and services, again with access challenges increasing for many of the most vulnerable Canadian children.</li> <li>3. The inability of many Canadian schools to identify and deal effectively with children who already lag behind their peers when they first enter school.</li> <li>4. The need to improve teacher preparation in the area of reading development and reading instruction, and to improve the quality of literacy-related instruction in Canadian classrooms.</li> </ol> </li> <li>• The four main general recommendations are: <ol style="list-style-type: none"> <li>1. To encourage and assist initiatives that facilitate children’s language and literacy development from a very young age.</li> </ol> </li> </ul>

	<ol style="list-style-type: none"> <li>2. To ensure that appropriate teaching strategies, shown through rigorous, evidence-based research to be effective in developing strong literacy skills, are used in all Canadian classrooms.</li> <li>3. To encourage community engagement and support for ongoing literacy development throughout the year.</li> <li>4. To ensure that initiatives are systematically and rigorously evaluated and to improve communication and the sharing of literacy-related knowledge and resources.</li> </ol>
<p>Ontario Ministry of Education. (2014). <i>Achieving Excellence: A Renewed Vision for Education in Ontario</i>. Toronto: Queen's Printer for Ontario.</p> <p><a href="http://www.edu.gov.on.ca/eng/about/renewedVision.pdf">http://www.edu.gov.on.ca/eng/about/renewedVision.pdf</a></p>	<ul style="list-style-type: none"> <li>• In addition to academic performance, achievement also means raising expectations for valuable, higher-order skills like critical thinking, communication, innovation, creativity, collaboration and entrepreneurship. These are the attributes that employers have already told us they seek out among graduates.</li> <li>• Educators are creating more relevant, applied and innovative learning experiences that spark learners' curiosity and inspire them to follow their passions.</li> <li>• Raising the bar for our teaching force, support staff and education leaders will increase student engagement – and student engagement is crucial. By being more engaged, our young people can be more successful in literacy, mathematics, science and the arts. They can gain important higher-order skills – like critical thinking, communication, collaboration and entrepreneurship.</li> <li>• Schools must take advantage of the technologies that are connecting us to information and people around the world and around the corner. Our task is to modernize classrooms and support educators' efforts to bring innovation to learning.</li> <li>• The current challenge facing educators is that they are competing on a daily basis for the attention and interest of their students, which can be easily drawn outside the classroom. As the world continues to change and technology becomes more prevalent, that challenge will only increase. That is why it is so important to ensure that school is a compelling, innovative and engaging place to learn for all students.</li> <li>• It is particularly important to provide the best possible learning opportunities and supports for students who may be at risk of not succeeding. This often includes, but is not limited to, some of our Aboriginal students, children and youth in care, children and students with special education needs, recent immigrants and children from families experiencing poverty</li> <li>• Developing child and student well-being means supporting the whole child – not only the child's academic achievement but also his or her cognitive, emotional, social and physical well-being. It also means ensuring that our schools, child care centres and early years programs are safe and welcoming physical environments. Achieving success in this goal will depend on the knowledge, wisdom and</li> </ul>

	<p>willingness of students, parents and guardians, community organizations, service providers, government ministries and others to create an environment that is healthy, safe and caring</p> <ul style="list-style-type: none"> <li>• An education system that is sustainable, responsible, accountable and transparent inspires public confidence and contributes to positive student outcomes. Public trust is built when the education system makes decisions based on evidence and research, and when it is seen as a good steward of public resources.</li> </ul>
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