

Google for Education

Future of the Classroom

Emerging Trends in K-12 Education
Canada Edition





Our approach

This report is part of a series on the evolution of K-12 education, mapping out current and emerging trends in classroom education. In collaboration with our research partner, **Canvas8**, we conducted a global analysis spanning:

- Fourteen expert interviews with global and country-specific thought leaders in education
- Academic literature review focusing on the last two years of peer-reviewed publications
- Desk research and media narrative analysis across the education sector, including policy research and teacher surveys, as well as input from Google for Education representatives across the globe

We acknowledge that some of the areas discussed in this report are ones that overlap with Google-led products and programs. In order to maintain a focus on the research and studies presented, we've intentionally excluded them.

Canadians are thinking critically about edtech

Educational attainment in Canada is high, with 91% of 25- to 64-year-olds holding at least a high school diploma. The country's investment in education reflects this – 6.0% of Canada's GDP is devoted to education, though there are variations between provinces, from 4.4% in Alberta to 8.8% in Nunavut.¹

The use of digital resources to enhance education is on the rise. Concurrently, concerns about the mindful use of technology are increasing – 80% of Canadian parents stress the importance of their child thinking critically about how they use digital devices.²

“It's important to understand when and how to use tech effectively and when to resort to tried pedagogical methods from the past.”

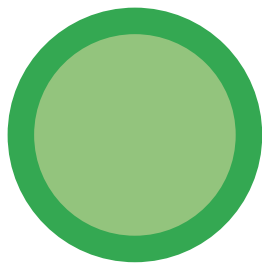
Dr. Jen Jenson, Professor of Pedagogy and Technology in the Faculty of Education and Director of the Institute for Research on Digital Learning at York University

80%

of Canadian parents emphasize the importance of their child thinking critically about how they use digital devices.

MediaSmarts (2018)²

The Canadian classroom at a glance



Elementary
school

797

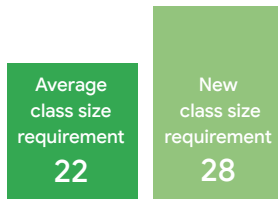
Upper
secondary
school

743

797 hours

is the average taught by elementary school teachers, which is in line with the OECD average of 794 hours. Meanwhile, upper secondary school teachers teach an average of 743 hours, higher than the OECD average of 662 hours.

Statistics Canada (2014/15)⁴



Average
class size
requirement

22

New
class size
requirement

28

22

students is the current average class size requirement, while 28 students is the new legislated requirement for Ontario secondary schools, which will be phased in over the next four years.

CBC News (2019)³



Hours per day
5

5 hours

per day is the minimum amount of compulsory instruction required for primary students in Canada, compared to less than four hours in two-thirds of OECD countries.

Education at a Glance (2018)²⁰

Key Trends

From our [Global Report](#), we've analyzed three of the most prominent trends in Canada's K-12 classrooms

01 Digital Responsibility

Parents want schools to help students to have healthy relationships with technology, and to be safe and confident explorers of the digital world.

02 Emerging Technologies

Schools are incorporating emerging technologies into the classroom to create more innovative and engaging teaching methods.

03 Life Skills & Workforce Preparation

People want children to have a more holistic education that goes beyond standardized testing to include social and vocational skills.

“Changing the curriculum means shifting perspective to understand that literature can also include history, can also include math, can work across all of these creative areas and sciences and so on.”

Dr. Jen Jenson, Professor of Pedagogy and Technology in the Faculty of Education and Director of the Institute for Research on Digital Learning at York University



Digital Responsibility

Children are online at a younger age than ever before – an estimated one in three Internet users globally are of school age.⁵ In Canada, three in four families have a mobile device (laptop, tablet, and/or smartphone) in their home, and on a typical weekday, over one in three of children nationwide use digital technology for schoolwork.⁴

At the same time, while close to two-thirds of Canadian parents think their child benefits from digital technology, over 50% agree that the less time their child spends online, the better off they are.² Consequently, there is a need for resources that teach best practices for engaging with digital technology – something that often falls under the jurisdiction of the education system.

Over 1 in 3

Canadian children use
digital technology for schoolwork.

MediaSmarts (2018)⁶

49%

of Canadian parents say that their child needs them to check on what they do online.

MediaSmarts (2018)⁶

In 2019, a Cyber Safety Curriculum is being piloted across Canadian K-12 schools. This curriculum seeks to educate teachers, parents, and students about digital responsibility, including safe social media use, online fraud prevention, and cloud privacy.⁷ With 40% of Canadian parents reporting that their children lack confidence when checking if the information they find online is true, digital responsibility education can steer children in the direction of safety.⁶

Research shows that teaching students how to be responsible explorers of the digital world by managing their own behavior online is a key pillar of ensuring their safety and that of their peers.⁸ But many schools globally are not yet integrating this level of nuanced education in their tech programs, often opting only to focus on technical skills.⁹ Canada is hoping to change this and the country's investment in cyber safety is a key first step.



“We don’t have a lot in the educational system right now that is actually dealing with our highly technologized, screen-based lives. I think we need to invest time and energy at the level of the school.”

Dr. Jen Jenson, Professor of Pedagogy and Technology in the Faculty of Education and Director of the Institute for Research on Digital Learning at York University



Emerging Technologies

In Canada, there is a considerable focus on the potential offered by emerging technologies. For example, the federal government has pledged C\$125 million over five years from 2017 to develop artificial intelligence (AI), making Canada the first country in the world to have a national AI strategy.¹⁰ The role of technology in daily life is also growing; it is estimated that 5.8 million Canadians will use a smart speaker at least once a month in 2019 – a 51.2% increase from 2018.¹¹

Within education, there is a focus on improving access to tech in all classrooms. The Toronto District School Board, for example, lacks a policy on student-to-computer ratios, resulting in some schools having a 1:1 ratio and others having an 8:1 ratio.¹²

C\$125 million
is being invested in AI over five
years from 2017 by the Canadian
federal government.

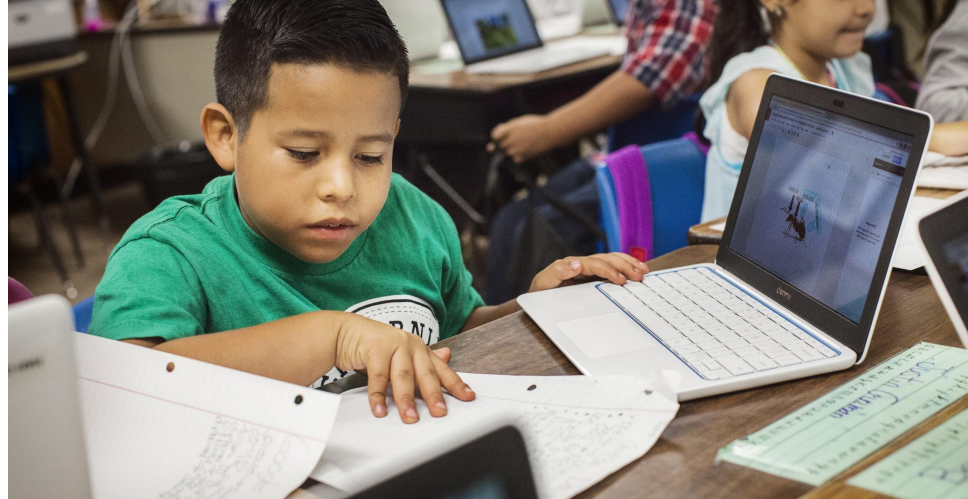
UNESCO (2018)¹⁰

“The kinds of things that tech ought to be able to do and can do is get the very best content and scale it out to people – content I think has been an underappreciated dimension of this.”

Rachel Wolf, Founding Partner at Public First

Studies are exploring the possible roles of emerging technologies in education. For example, research on augmented reality (AR) in classrooms has confirmed that it improves learning performance and boosts learning motivation.¹³ And by 2022, it is estimated that, per month, there could be 2 billion mobile AR users worldwide.¹⁴

Making sure that all students get exposure to emerging technologies can level the playing field for disadvantaged children who may not experience them otherwise. The national organization Canadians for 21st Century Learning and Innovation encourages schools to implement digital learning environments to set learners up for success in a globally-connected and technologically-saturated world.¹⁵



“We need to invest time and energy in teaching kids about new technologies at a school level, as it helps ensure that students who might not have access to them at home don’t get left behind. Those kids need to be educated so they get a lift up and better chances later in life.”

Dr. Jen Jenson, Professor of Pedagogy and Technology in the Faculty of Education and Director of the Institute for Research on Digital Learning at York University



Life Skills & Workforce Preparation

With research suggesting that more than 25% of Canadian jobs will be heavily disrupted by technology in the coming decade, there will be a demand for more human skills – such as critical thinking, coordination, social perceptiveness, active listening, and complex problem-solving.¹⁶

As a result, more value is being placed on teaching soft skills. Research suggests that higher levels of emotional intelligence are linked to better leadership and ability to cope with pressure, and there is a growing desire to help students develop such abilities.¹⁷ In a survey of human resources professionals in Ontario, 42% reported that new hires lack the soft skills necessary to prepare them for their role, with problem-solving, attention to detail, and interpersonal or teamwork skills at the top of the list.¹⁸



70.7%

of Ontario HR professionals say that modifications to the secondary school curriculum could help students acquire missing soft skills.

Human Resources Professionals Association (2017)¹⁸

“Addressing a problem from different disciplinary perspectives is important. This is not only what students need to do when they enter the workforce. This is what we need to solve the big problems that we face, like climate change.”

Dr. Hanna Dumont, Educational Psychologist and Researcher in International Education

With 70.7% of HR professionals saying that modifications to the secondary school curriculum could tackle the soft skills shortage, empathy, confidence, articulation, and teamwork are being taught alongside traditional subjects such as math and English.¹⁸

In line with the desire to give students tools to prep them for the future of work, there is also a focus on vocational education. In Quebec, vocational programs are offered separately from general programs. With 73% of graduates from upper secondary vocational programs older than 24 years old, this training is seen as providing a second-chance for older students.¹⁹ But promoting their value to younger students could see more organizations reaping the benefits of such skills.



“One large school board in Ontario has changed its curriculum to reflect what it is calling a modern learner, which a lot of people have just called the 21st century learner.”

Dr. Jen Jenson, Professor of Pedagogy and Technology in the Faculty of Education and Director of the Institute for Research on Digital Learning at York University

“What I’d really like classrooms to look like in the future is open spaces where there is mobility and responsibility. Places where people can study quietly or have a conference with the teacher. They should be places of experimentation.”

Dr. Jen Jenson, Professor of Pedagogy and Technology in the Faculty of Education and Director of the Institute for Research on Digital Learning at York University



Read the [Future of the Classroom: Global Edition](#)
for insights across all eight emerging trends



Digital
Responsibility



Computational
Thinking



Collaborative
Classrooms



Innovating
Pedagogy



Life Skills & Workforce
Preparation



Student-led
Learning



Connecting
Guardians & Schools



Emerging
Technologies

Works Cited

¹ Education indicators in Canada: An international perspective. (2017). Retrieved from <https://www150.statcan.gc.ca/n1/daily-quotidien/171212/dq171212a-eng.htm>

² Parents want more resources and tools to become digital role models. (2018). Retrieved from <https://www.ctf-fce.ca/en/news/Pages/default.aspx?newsid=1983998949&year=2018>

³ Bigger classes, new math and sex-ed programs part of Ontario's education revamp. (2019). Retrieved from <https://www.cbc.ca/news/canada/toronto/ontario-education-system-changes-1.5057122>

⁴ Back to school... by the numbers. (2018). Retrieved from https://www.statcan.gc.ca/eng/dai/smr08/2018/smr08_220_2018#a10

⁵ THE STATE OF THE WORLD'S CHILDREN 2017: Children in a Digital World. (2017). Retrieved from https://www.unicef.org/publications/files/SOWC_2017_ENG_WEB.pdf

⁶ The Digital Well-Being of Canadian Families. (2018). Retrieved from <http://mediasmarts.ca/sites/mediasmarts/files/publication-report/full/digital-canadian-families.pdf>

⁷ New Cybersafety Education Curriculum Now Available to Ontario Schools. (2019). Retrieved from <https://www.globenewswire.com/news-release/2019/02/02/1709444/0/en/New-Cybersafety-Education-Curriculum-Now-Available-to-Ontario-Schools.html>

⁸ Middaugh, E., Clark, L., and Ballard., P. (2017). Digital Media, Participatory Politics, and Positive Youth Development. Pediatrics, 140(2), S127-S131. <http://dx.doi.org/10.1542/peds.2016-1758Q>

⁹ Harrison-Evans, P. and Krasodonski-Jones, A. (2017). The Moral Web: Youth Character, Ethics and Behaviour. Retrieved from <https://www.demos.co.uk/project/the-moral-web/>

¹⁰ Canada first to adopt strategy for artificial intelligence. (2018). Retrieved from http://www.unesco.org/new/en/media-services/single-view/news/canada_first_to_adopt_strategy_for_artificial_intelligence/

¹¹ Why Are Smart Speakers Taking Off in Canada?. (2019). Retrieved from <https://www.emarketer.com/content/who-will-win-the-smart-speaker-war-in-canada>

¹² Ontario suffers wide disparities in school's IT resources: Auditor General. (2018). Retrieved from <https://www.itworldcanada.com/article/ontario-suffers-wide-disparities-in-schools-it-resources-auditor-general/412677>

¹³ Richardson, J. (2018). Augmented reality could rule the classrooms of the future. Retrieved from <https://bigthink.com/jake-richardson/augmented-reality-could-rule-the-classrooms-of-the-future>

¹⁴ Key Augmented Reality Statistics You Need to Know. (2017). Retrieved from <https://arpost.co/2017/11/15/key-augmented-reality-statistics/>

¹⁵ DIGITAL TRENDS AND INITIATIVES IN EDUCATION: THE CHANGING LANDSCAPE FOR CANADIAN CONTENT. (2017). Retrieved from <http://www.omdc.on.ca/Assets/Research/Research+Reports/Digital+Trends+and+Initiatives+in+Education/Digital+Trends+and+Initiatives+in+Education.pdf>

Works Cited

¹⁶Humans Wanted. (2018). Retrieved from http://www.rbc.com/newsroom/_assets-custom/pdf/03-2018-rbc-future-skills-report.pdf

¹⁷Saini, S. (2018). Emotional Intelligence at Workplace – A Conceptual Study. International Journal Of Management Studies, V(3(5), 53. [dx.doi.org/10.18843/ijms/v5i3\(5\)/08](https://doi.org/10.18843/ijms/v5i3(5)/08)

¹⁸NEXT STEPS FOR IMPROVEMENT: Identifying the Gaps Between Education and Employability in Ontario High Schools [PDF file]. (2017). Retrieved from <https://www.hrpa.ca/Documents/About/WDTW-whitepaper-May31-final.pdf>

¹⁹Education at a Glance. (2017). Retrieved from https://read.oecd-ilibrary.org/education/education-at-a-glance-2017_eag-2017-en#page58

²⁰Education at a Glance. (2018). Retrieved https://read.oecd-ilibrary.org/education/education-at-a-glance-2018_eag-2018-en#page339