Generative Artificial Intelligence in K–12 Ontario Education

Discussion Paper by the Ontario Teachers' Federation (OTF) and its Affiliates, January 2026

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Purpose

The purpose of this paper is to outline key issues and considerations that can support national, provincial and board level policy-making discussions to ensure secure and responsible development, deployment and use of AI technologies.

This paper is focused on the integration of generative AI (GenAI) in K–12 classroom-based teaching and learning as opposed to all potential AI applications in the publicly funded education system.

It is the position of this paper that while AI may be able to make some tasks associated with teaching easier to complete, AI can never replace or replicate the humanity required for quality teaching and learning.

Issue definition

Arguably, the greatest concern with artificial intelligence is its lack of comprehensive regulation. There is a growing vacuum of policies informing and regulating development (i.e., design, training, and building of AI), deployment (i.e., launch and integration into real-world environments) and use (i.e., adoption by people or organizations after deployment) of responsible and secure GenAI. What is particularly lacking is the laws and regulations that have specific context and application to K–12 education.

There is a potential misconception that the only required policies in K–12 education are policies that govern how teachers and students are to use this technology and what students should learn about this technology. However, policies that affect the development and deployment (including procurement) of responsible and secure AI are also of critical importance as K–12 teachers and students are end-users of GenAI.

Comprehensive AI policies, therefore, must be complementary national, provincial and school-board level policies working together to protect teachers, students, and the broader public. If a comprehensive policy vacuum persists and expands then K–12 teachers and students may haphazardly use AI technology that has been irresponsibly developed and deployed, putting their safety and security at risk.

Context

Since the public release of ChatGPT in 2022, conversations about artificial intelligence (AI) use, and more particularly generative AI (GenAI), by K–12 teachers and students have steadily grown in frequency and urgency across the province.

Ontario school boards are slowly releasing board-approved GenAI systems for teacher and student use. The number of teachers and students using GenAI to complete work and school tasks is growing. There are increased publications about GenAI use in education and there has been an explosion of corporation-developed, education-targeted GenAI systems available to teachers to purchase and use.

Teacher and student use in K–12 Ontario education

It should be noted that the fulsome impact of AI technologies on teacher professional practices and student learning in Ontario K–12 education has not been systematically investigated.

However, the European Commission has identified broad categories of AI use-cases in education, which are:[1]

- Student Teaching–Using AI to teach students (student-facing)
- Student Supporting–Using AI to support student learning (student-facing)
- Teacher Supporting–Using AI to support the teacher (teacher-facing)
- System Supporting–Using AI to support diagnostic or system-wide planning (system-facing).

Some research about AI use by teachers, students, and school board staff have been conducted in post-secondary settings, K–12 use-cases, and anecdotal reports from subject/division associations. The following are the identified categories of AI use by K–12 Ontario teachers, students, and school board staff.[2] These align with European Commission's use-case categories.

Classroom instructional and assessment GenAI assisted practices

Common classroom instructional and assessment practices include:

- Writing lesson plans, including interactive activities tailored to student interests and learning profiles
- Production of learning materials like work examples, games, and exercises for students
- Creation of rubrics and other assessment tools for evaluation of student learning

1 European Commission: Directorate-General for Education, Youth, Sport and Culture. Ethical guidelines on the use of artificial intelligence (AI) and data in teaching and learning for educators (2022), 14.

2 Canadians for 21st Century Learning & Innovation and Dell Technologies. Integrating AI in Education: Transforming Learning: An AI Use Case Initiative for Canadian Education (2024).

- Generating timely feedback based on success criteria
- Representing curriculum content in various forms like images, poems, and songs
- Providing personalized levelled reading support through text differentiation (e.g., simpler texts, vocabulary, and multiple languages)
- Supporting student executive functioning through time and task scheduling, reminders, management, and goal setting
- Supporting student social skill development through conversational practice and identifying and understanding social cues.

Communication and administrative GenAI assisted tasks

Common communication and administrative tasks for which teachers use GenAI include:

- Drafting and editing letters and emails to parents and creating newsletter templates
- Facilitating language translation from English to a variety of languages read and spoken in school communities and homes
- Editing report card comments for more precision.

School and Board business and operations GenAI assisted tasks

Common school and board business and operations tasks include:

- Analyzing and summarizing data reports and documents to then be used to identify trends and predict outcomes
- Creation of meeting agendas
- Outlines for professional development sessions
- Drafting of public communications.

Concerns and considerations of teacher and student use of GenAI in education

Common considerations and concerns about the use of GenAI in Ontario K–12 classrooms and schools can be categorized under the following:

1. De-professionalization of Teaching
2. Adverse Effects on Student Learning and Well-being
3. Corporate Encroachment in Public Education.

De-professionalization of teaching

A primary concern with integration of GenAI into K–12 education is the de-professionalization of teaching by threats to teacher autonomy through the erosion of professional judgment. Professional judgment could be broadly defined as the informed decision-making process teachers use to advance student learning while also protecting and nurturing student well-being.

Professional judgment is grounded in professional knowledge of:

- students' lives and day to day experiences
- subject content
- evidence of learning from conversations with, observations of, and work of students
- assessment of whether students have met or exceeded curriculum learning expectations, and if not, how close they are to meeting those expectations.

This knowledge continually informs the selection and application of appropriate instructional and assessment strategies.

The Ontario Ministry of Education's assessment, evaluation, and reporting policy *Growing Success*, formalizes the definition of professional judgment as, "judgment that is informed by professional knowledge of curriculum expectations, context, evidence of learning, methods of instruction and assessment, and the criteria and standards that indicate success in student learning. In professional practice, judgment involves a purposeful and systematic thinking process that evolves in terms of accuracy and insight with ongoing reflection and self-correction."[3]

Teachers using GenAI to assist or augment the work they do could have larger transformative impacts (for good or ill) or even replace key aspects of their work entirely. An argument can be made that GenAI can amplify human thinking, but it can also greatly diminish thinking. For example, nested within the erosion of teacher autonomy is the potential for cognitive offloading leading to de-skilling.

Cognitive offloading could be simply understood as reducing demands on working memory and attention. The introduction of new technologies has always held the promise of lifting cognitive demands with lower-level or routine mental tasks so that mental efforts can be used for higher-order thinking. GenAI as technology appears to hold the same promise. However, GenAI is not like other technologies (e.g., calculators) as it can perform tasks that weaken or even replace core cognitive and analytic skills required for problem-solving, reading comprehension, argumentation, etc. This decline leads to de-skilling.

De-skilling involves skills and expertise becoming misrepresented or seen as less valuable because of GenAI use. For teachers, de-skilling can lead to the relinquishing of

3 Ontario Ministry of Education. Growing Success: Assessment, Evaluation, and Reporting in Ontario Schools (2010), 152.

legislated (e.g., *Education Act*) duties to GenAI and eventually becoming unable to skillfully perform those duties. As an example, providing descriptive feedback to improve student work could potentially become obsolete. The ultimate effect of de-skilling contributes to the de-professionalization of teaching which lays the groundwork for continued efforts to privatize education.

Adverse effects on student learning and well-being

Much attention is currently being paid to the adverse effects of emerging technologies on children and youth. Notably, the effects of social media on youth mental health are being broadly dissected, discussed, and debated.[4] Movements to reduce the amount of children and youth screen time and cell phone restrictions are largely being hailed as critical to addressing the adverse effects of social media.

Paralleling the concerns of social media are the concerns with GenAI use, especially as they relate to student learning and well-being.

Regarding student learning, the use of GenAI may de-value human-centered teaching and learning. While it is suggested that GenAI systems can potentially facilitate personalized student learning, over-reliance on these models could also lead to less relationship building between and among teachers and students, which is understood to have a reciprocal effect on academic achievement and overall well-being. This is especially problematic as there are emerging cases where students have developed inappropriate social-emotional bonds to AI-based chatbots.[5]

Additionally, student dependence on GenAI tools facilitates a level of cognitive offloading that would no longer require or exercise critical thinking, analytical and problem-solving skills. Since GenAI systems create learning products (e.g., essays, projects) readily for students, students are not challenged to develop the necessary skills to think critically and perform independently.

Regarding student well-being, students could be exposed to harmful ideas and stereotypes as GenAI outputs are generated through biased data. This type of harm could personally impact students, especially if they identify with groups historically marginalized. Additionally, this exposure could amplify biases and identity-based prejudice in society.

4 Weir, Kirsten. Social Media Brings Benefits and Risks to Teens. Psychology Can Help Identify a Path Forward (2023).

5 Kurian, Nomisha. 'No, Alexa, no!': Designing Child-Safe AI and Protecting Children From the Risks of the 'Empathy Gap' in Large Language Models (2024).

See Appendix A for a more detailed list of AI systems, their applications and how they may be used in K–12 education, including risks to youth.

Corporate encroachment into public education

As GenAI is developed and maintained by various technology corporations and AI-based educational technology (EdTech) companies have emerged. Use of education focused AI can potentially invite further commercial exploitation of teachers, students, schools, and communities. With the increasing work-related pressures (e.g., limited time, complex classrooms, resources, etc.) for teachers in classrooms, the rapid and wide-spread adoption of GenAI is highly likely as education technology (EdTech) corporations offer "promises of reducing workloads, personalized learning, and generally revolutionizing education."[6]

Past relationships between EdTech and public education have followed the pattern of, "…tech's hyped potential outpac[ing] evidence of its efficacy; profit opportunities incentivize targeted marketing to educators; school boards and unions belated scramble to establish policy guard rails. As a result, new technological practices, including AI, become embedded in schools through a for-profit model before pro-public actors are able to articulate, let alone implement, a fully public alternative."[7]

This exploitation is further entrenched by EdTech companies positioning themselves as pedagogical experts by crafting teacher training, and creating and selling teacher resources (e.g., lesson plans) that ultimately support AI adoption. All of this could threaten publicly funded education and strengthen efforts to privatize education.

Broader societal considerations

While the lack of policies for use and adoption of GenAI in education is a major concern, there are intersecting societal issues that are amplified by the lack of regulations for GenAI development and deployment.

These broader societal issues about AI technology should also be considered within the Canadian context.

Exponential evolution of artificial intelligence

GenAI can process and produce natural language which makes it unique artificial intelligence technology. However, it is designed to only perform a specific task or a narrow range of tasks. As a result, it is categorized as narrow or weak AI. Other examples of

6 Samuel, Chris. Enshittification, Artificial Intelligence, and the Privatization in Public Education. Canadian Centre for Policy Alternatives (2025).

7 Samuel, Chris. Enshittification, Artificial Intelligence, and the Privatization in Public Education. Canadian Centre for Policy Alternatives (2025).

narrow or weak AI are virtual assistants (e.g., Siri, Alexa), facial recognition technology, and recommendation algorithms (e.g., recommendation lists for streaming services).[8]

While GenAI could, in its current form, be considered narrow AI or weak AI, its continued evolution could contribute to the exponential evolution and growth in the broader field of artificial intelligence—eventually leading to the development of AI that is superior to human intelligence and capabilities.[9] Notable artificial intelligence experts, including Geoffrey Hinton, the "godfather of AI," warn of this inevitability and have called for greater control over the development of AI.[10]

GenAI training data and bias in data sets

Since GenAI systems are trained on large sets of existing data collections, which can include personal information about teachers and students, many concerns about data privacy and potential data breaches are rightly raised. These data sets need constant input to keep relevant and updated. In turn, any inputs from teachers and students into GenAI models can become part of dataset training for AI models.

These concerns echo broader societal concerns raised around intellectual property. The primary issue is whether GenAI outputs infringe on copyright or are permitted exceptions. Since training data comes from original human creators, the argument is made that creators' intellectual property is exploited. However, GenAI developers argue that GenAI's outputs are products of the analysis of large datasets and are not equivalent to original works. As a result, questions around ownership of GenAI outputs have emerged. For example, is the owner of an output the user who wrote the prompt or in the case of the workplace, is the owner the employer? From a national legislative perspective, there is an urgent need for clarification on these issues.

Another major concern about the large sets of training data is bias and the perpetuation and reinforcement of discrimination in the outputs of AI systems. Regulations should address responsibilities and accountability for the creation and maintenance of equitable and inclusive data. This includes ensuring that input data reflects linguistic and cultural diversity and screens for misinformation. Any mis- and dis-information in data sets will work against the efforts in publicly funded education to address and eliminate discrimination and other human rights violations.

A clear example is with linguistic equity and cultural bias in GenAI systems. English is the language in which GenAI systems are trained. While users can prompt in French and receive outputs in French, all of the 'back-end' data processing is done with English data. Examples of bias are with gender (e.g., incorrect translation of gender-neutral pronouns), culture (e.g., inaccurate translation of English idiomatic expressions), and sentiment (e.g., mistranslation of French nuances of sentiment).[11]

GenAI outputs

Underlying the concern with training dataset bias is the inaccurate perceptions of neutrality in GenAI outputs.

For example, anecdotal observations have been made that ChatGPT4 outputs 'nudge' or take a position (e.g., political, ideological) on certain issues. Outputs may not provide accurate information and, in fact, may direct the user towards a specific opinion and/or seek to influence or even "correct" the user's thinking.

Conversely, there is also concern with GenAI outputs reinforcing closed loop thinking. Since GenAI is optimized for user satisfaction instead of accuracy, there have been findings of 'sycophancy' where GenAI is designed to affirm or agree with users, even when the user's inputs or prompts are factually incorrect.[12] GenAI can adapt to user feedback and adjust tone and response to suit the user's needs. This includes reinforcing perspectives or belief systems that a user holds. In turn, a user adds their own bias to the AI training dataset through prompts they enter.

Inequitable access to GenAI

Access to GenAI is inequitable. Teachers and students may not have equal access to up-to-date and quality GenAI models as there is often a financial cost to advanced AI models. This type of inequality can further entrench educational disadvantages between schools, school communities, and boards.

Societal distrust of AI

AI has been used by nefarious actors for exploitation of people. An example are deepfakes which are hyper-realistic video or audio recordings that can make it appear as if someone is saying or doing something that they never did. This could be used to spread mis- or dis-information, commit fraud or even damage reputations. Other examples of online exploitation are phishing attacks, social media manipulation, synthetic identities and automated scams.

8 Stryker, Cole and Kavlakoglu, Eda. What is AI? (2024).

9 Huang, Sonya, et al. The Agentic Reasoning Era Begins (2024).

10 Brown, Sarah. Why Neural Net Pioneer Geoffrey Hinton is Sounding the Alarm on AI (2023).

11 Wong, Ethan Paker and M'hiri, Faten. Analyzing Language Bias Between French and English in Conventional Multilingual Sentiment Analysis Models (2024) and Jourdan, Fanny et al. FairTranslate: An English-French Dataset for Gender Bias Evaluation in Machine Translation by Overcoming Gender Binarity (2025).

12 Sphonheim, Caleb. Sycophancy in Generative-AI Chatbots (2024).

Negative environmental impacts

The use of GenAI has had significant impacts on the environment. These impacts are increasingly being assessed. Some key areas of concern are energy consumption and water usage. For example, training and deploying GenAI requires substantial computational power. This translates to high energy consumption. Data centers that host these GenAI models consume significant amounts of electricity which contribute to carbon emissions.[13] Additionally, there is the requirement for immense quantities of water to cool the hardware used in AI operations. This can strain local water supplies and affect ecosystems.[14]

Use of other AI technologies in the workplace

It is important to note that other types of AI are also infiltrating the workplace. For example, AI can be used to hire, monitor, surveil, and discipline employees.[15] As AI broadly continues to evolve, more employers may be looking to leverage AI technology for management of their workforce.

With these concerns and considerations, comprehensive policies and processes will be required to ensure that AI is developed, deployed and used responsibly and ethically, for Canadian society broadly and education specifically.

Current policy landscape

Technology policy (tech policy) could be understood "…as the public, industry, and civil society policies and initiatives that set the conditions, rules and oversight for the development, use and impact of digital technology in Canada and globally."[16]

There appears to be a wide breadth of tech policies, inclusive of AI policies, that have emerged with the common goal "… to better align the development and deployment of digital technology with values and principles of an open, inclusive, equitable, and democratic society."[17] These tech policies can be placed and grouped on a spectrum of increasing regulatory power. Figure 1 depicts the tech policy spectrum.

Currently most tech policies regarding AI use in education can be categorized as thought-leadership and activism. for secure and responsible technology. These principles can be helpful in analyzing tech policies and they are:

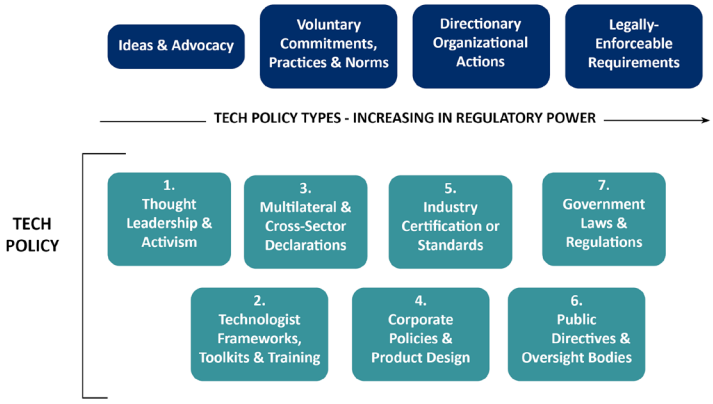

Figure 1

Complementing this spectrum of tech policies are principles for secure and responsible technology. These principles can be helpful in analyzing tech policies and they are:

1. **Transparency**–the goals and the impacts on individuals, society or the environment are transparent, understandable (in plain language), and allow for informed consent.
2. **Accountability**–the ownership, control or decision-making responsibility are clear with consequences for failure to prevent or address harms, misuse or negligence.
3. **Equity and inclusion**–the outcomes are fair, respect free will and offer choice, and do not create or reinforce discrimination, bias or unfair limits on access or use.
4. **Security and safety**–the risks are assessed and managed, data privacy and protection prioritized, and public safety assured both online and offline.
5. **Prudence**–efforts are made to exercise caution, anticipate potential adverse or unintended consequences and misuse, with steps taken to address any that arise.
6. **Democratic legitimacy**–the values of democratic society are reflected, such as rule of law, civil rights, economic and political freedoms, social trust, and solidarity.

Any development, deployment, and use of GenAI policies in education should underscore and reinforce these principles as they support the espoused values underpinning equitable publicly funded education. For example, GenAI development and deployment policies can facilitate transparency and accountability by compelling developers to clearly communicate how they account for the privacy and protection of children and youth throughout the life cycle of their GenAI systems.

Policy options

It is critical that all levels of government work in concert to ensure that the safety of all Canadians is prioritized and protected. In the context of publicly funded education, the matter is even of more acute importance given the moral and legal responsibility to ensure that our children and youth are not harmed.

13 Zewe, Adam. Explained: Generative AI's environmental impact (2025).
14 Zewe, Adam. Explained: Generative AI's environmental impact (2025).
15 Canadian Teachers' Federation (CTF/FCE). The Impacts of Artificial Intelligence on Education Workers (2024).
16 Andrey, Sam, et al. An agenda for responsible technology policy in Canada, Canadian Public Administration. (2023), 439.
17 Andrey, Sam, et al. An agenda for responsible technology policy in Canada, Canadian Public Administration. (2023), 441.

In the policy brief, "Towards a Responsible use of Artificial Intelligence in Canadian Public Education, CTF/FCE called on the Federal Government and the Council of Ministers of Education Council to "…to develop and implement policies that safeguard the rights of educators and students as AI systems proliferate in public education across the country."[18]

As such, CTF/FCE has called for collaboration among federal, provincial and territorial governments in developing comprehensive policies that include:

- Specific provisions for protecting students' privacy and data security;
- Regulating the use of AI in classrooms; and,
- Ensuring the responsible use of AI systems with ethical guidelines.

All development, deployment, and use policies in and for publicly funded education should affirm the teaching profession as anchored by teacher autonomy to exercise professional judgment. In this case, professional judgment includes deciding when and why a teacher may choose (or not choose) to use AI for professional tasks (e.g., planning, assessing student learning and written communications).

Development and deployment policy recommendations

Development policies regulate the design, training, and building of AI. Deployment policies set the direction and parameters for the launch and integration of AI into real-world environments. Development and deployment policies that have the greatest regulatory power, or greatest influence on policy, are at federal and provincial levels.

The Ontario Ministry of Education should:

(a) **Lobby the federal government to revive Bill C-27 and the *Artificial Intelligence and Data Act* (AIDA) to include education-specific regulations to address high-impact AI systems**.[19] Lobbying includes requests for:
   - Direction and support to establish infrastructure to evaluate and validate AI systems for K–12 education as aligned to regulations set out in a revived AIDA.
   - Guidance for provincial procurement processes that hold AI system developers accountable for their system's ethical, secure and responsible development and deployment.

(b) **Ensure provincial and school board procurement policies and procedures of AI systems are aligned with, and are legally reinforced by, a revived AIDA.** This includes clarity on the licensing use by specific age groups and development and/or use of processes and documents like:
   - AI-sensitive Privacy Impact Assessments (PIAs)
   - The Ontario Human Rights AI Impact Assessment (HRIA).

Additionally, school board procurement policies and procedures should require AI system developers to demonstrate:[20]

- Evidence-based benefits: To teaching and student learning and well-being.
- Adoption of Privacy-Enhancing Technologies (PETs): Implement differential privacy, homomorphic encryption, and anonymization techniques to minimize risk.
- Limited data collection and retention: Set and enforce strict data minimization policies to ensure AI models only store essential information for the shortest duration possible.
- Enhanced transparency and youth-friendly design: Develop clear, age-appropriate privacy dashboards and real-time data usage alerts for young users and their guardians.
- Strong AI safety and cybersecurity: Regularly audit AI models to identify and patch vulnerabilities that could lead to data leaks or adversarial attacks.
- Algorithmic transparency: Description and demonstration of which data is collected, how it is processed, and the potential impacts on users in schools.
- Initial and ongoing testing: For bias and discrimination in the training data and outputs of AI systems with demonstrated use and application of the Ontario Human Rights AI Impact Assessment (HRIA). Training data and outputs should be produced in multiple languages, with a specific focus on French language. This would promote inclusiveness for linguistically and culturally diverse students and communities, with special attention to the French language.

Procurement policies should also be written to promote interoperability of their systems to prevent sole-source dependence. It is essential that this protection is further safeguarded by mandating developers to seek approval prior to the activation or integration of updates and new features into their systems. This includes ensuring that any modifications to existing environments do not compromise the safeguards already in place.

These requirements should be communicated with Ontario Education Collaborative Marketplace (OECM) and include reviews by teachers directly and through their federations or unions.

18 Canadian Teachers' Federation (CTF/FCE). Towards a Responsible Future of Artificial Intelligence in Canadian Public Education, (2024).

19 Canadian Teachers' Federation (CTF/FCE). Towards a Responsible Future of Artificial Intelligence in Canadian Public Education, (2024).

20 Canadian Teachers' Federation (CTF/FCE). Towards a Responsible Future of Artificial Intelligence in Canadian Public Education, (2024).

(c) **Assess provincial privacy acts and update legislation as needed to address emerging risks associated with AI systems.**[21] Legislation should hold AI system developers/deployers accountable to the following best practices that address the privacy of children and teens:[22]

- Proactive, not reactive; preventative not remedial
- Privacy as the default
- Privacy embedded into design
- Full functionality–positive-sum, not zero-sum
- End-to-end security–full lifecycle protection
- Visibility and transparency–keep it open
- Respect for user privacy–keep it user-centric

The joint resolution, "Protecting the privacy of children and youth through responsible use of educational technologies in the classroom" between the Federal, Provincial and Territorial (FPT) Privacy Commissioners and Ombuds with Responsibility for Privacy Oversight (FPT Privacy Regulators) identifies key risks that need to be addressed by policy makers. This resolution should inform and guide decision-making for protection and promotion of privacy of children and youth through safe and responsible development and deployment of GenAI technology.

In the case of Ontario, the Information and Privacy Commissioner of Ontario (IPCO) could be accessed to provide privacy protection advice for policies and could potentially develop relevant resources for teachers and parents.

(d) **Establish a province-led AI in Education Advisory Council** (teacher federations and unions, French and English AI researchers, French and English K–12 education and AI researchers, French and English policy makers and students, Indigenous communities and other equity deserving groups) to develop and review AI-related policies, especially as AI technologies continue to exponentially evolve and are integrated into many aspects of the daily lives of Ontarians.[23] The Advisory Council should also engage with OECM as procurement processes should be impacted.

Use policy recommendations

As the Ontario Ministry of Education develops the policies and regulations that shape the teaching profession and set standards for student daily learning experiences, it should develop and set direction for policies on use of GenAI in K–12 publicly funded education. These use policies are predicated on development and deployment policies for secure and responsible AI technologies.

In turn, the Ministry of Education should:

(a) **Ensure that provincial and school board policies affirm teacher professional judgment.** Use policies should emphasize the professional responsibility of teachers in determining when and why a teacher may choose (or not choose) to use AI for professional tasks (e.g., planning, assessing student learning, communications).

(b) **Ensure that any provincial and school board policies have clear indicators to track policy effectiveness.** Collecting feedback directly from teachers are important data sources for indicator evidence.

(c) **Provide guidance to school boards on developing GenAI use policies in schools.** This should be done in collaboration with teachers, school leaders, students, and teachers' federations and unions. Guidance should emphasize effective pedagogical approaches that respect the autonomy of teachers and protect the social and relational dimensions of learning. As such, guidance should:

- Be based on the principles of secure and responsible tech and use of AI systems in K–12 public schools.
- Be developed in alignment with broader AI federal and/or provincial policies and legislation.
- Support development and enhancement of teacher GenAI literacy.
    - For teachers, this could include:
        - **Foundational Knowledge:** Understanding what AI is, how it works, and its various applications. This includes, "basic conceptual knowledge on AI such as: the definition of AI, basic knowledge of how [GenAI] models are trained, and associated knowledge on data and algorithms; main categories of AI technologies and examples of each; [this builds] the capacity to examine the appropriateness of specific [GenAI] tools for education and operate validated [GenAI] tools."[24]

        Practical Skills: Knowing how to interact with GenAI tools and technologies which include the ability to "identify and leverage the pedagogical benefits of [GenAI] tools to facilitate subject-

21 Canadian Teachers' Federation (CTF/FCE). Towards a Responsible Future of Artificial Intelligence in Canadian Public Education, (2024).

22 Kwok, Tiffany and Tessono, Christelle. (Gen)eration AI: Safeguarding youth privacy in the age of generative artificial intelligence, (2025) and Canadian Teachers' Federation (CTF/FCE). Towards a Responsible Future of Artificial Intelligence in Canadian Public Education, (2024).

23 Kwok, Tiffany and Tessono, Christelle. (Gen)eration AI: Safeguarding youth privacy in the age of generative artificial intelligence, (2025) and Canadian Teachers' Federation (CTF/FCE). Towards a Responsible Future of Artificial Intelligence in Canadian Public Education, (2024).

24 Miao, Fengchun and Cukurova, Mutlu. AI Competency Framework for Teachers (2025), 30.

specific lesson planning, teaching and assessment while mitigating the risks."[25] For example, practical skills should reinforce effective, fair, and comprehensive assessment principles and practices. This would involve developing skills in using GenAI to strengthen the triangulation of student learning products (e.g., written pieces) with observations of students at work, and conversations with their peers and teacher.

- **Critical Evaluation:** Understanding that GenAI outputs need to be evaluated for credibility, relevance, and potential bias of information. This involves the exercise and application of robust professional and general knowledge.
- Awar**eness of Safe and Responsible GenAI Technology:** Being continually informed of how GenAI evolves and affects society at large, including workplaces, industries, citizen privacy, and daily life. This awareness has focus on social and ethical concerns that emerge from GenAI development and deployment. This requires "critical understanding that AI is human-led, and that corporate and individual decisions of AI creators have a profound impact on human autonomy and rights, and are aware of the importance of human agency when evaluating and using [GenAI] tools."[26] This would require, "basic understanding of ethical issues surrounding AI and of the principles required for ethical human–AI interactions including protection of human rights, human agency, promotion of linguistic and cultural diversity, inclusion and environmental sustainability."[27]

School boards should ensure that teachers are informed of when guidance is provided to them, where to locate this guidance, and who to follow up with when they have questions.

(d) **Provide comprehensive funding for provincial licensing, hardware, and school board IT department-led training on basic functions of GenAI.** Special consideration must be given to French-language specific teacher training given linguistic and cultural biases in GenAI datasets and outputs.

(e) **Provide funding for teacher -initiated, -developed, and -led professional learning in key areas related to GenAI.** Teachers (French, English, pre-service) must be supported to learn how to responsibly and effectively use GenAI to complement teaching and learning to ensure a strong teacher workforce skilled in digital literacy (and GenAI literacy) education. Professional learning should include exploration of "… the use of [GenAI] tools to enhance their professional development and reflective practices, assess their [professional] learning needs, and personalize their [professional] learning pathways in a rapidly evolving educational landscape."[28]

It is critical that any guidance, training or professional learning about pedagogical applications of AI should not be led by corporations (e.g., EdTech and AI companies) as conflicts of interest abound.

Professional development and training provided by school boards should align with theoretical frameworks about effective professional learning and teacher adoption of technology into teaching and administrative practices.

(f) **Identify how student curriculum learning expectations may be opportunities to develop AI literacy as a part of digital literacy.** One definition of AI literacy for K12 students is "…the technical knowledge, durable skills, and future-ready attitudes required to thrive in a world influenced by AI. It enables learners to engage, create with, manage, and design AI, while critically evaluating its benefits, risks, and ethical implications."[29]

25 Miao, Fengchun and Cukurova, Mutlu. AI Competency Framework for Teachers (2025), 31.
26 Miao, Fengchun and Cukurova, Mutlu. AI Competency Framework for Teachers (2025), 28.
27 Miao, Fengchun and Cukurova, Mutlu. AI Competency Framework for Teachers (2025), 29.
28 Miao, Fengchun and Cukurova, Mutlu. AI Competency Framework for Teachers (2025), 32.
29 OECD. Empowering learners for the age of AI: An AI literacy framework for primary and secondary education (2025), 6.

Appendix A: List of GenAI use in education and social media platforms (non-exhaustive)

Source: Kwok, Tiffany and Tessono, Christelle. (Gen)eration AI: Safeguarding youth privacy in the age of generative artificial intelligence, (2025) and Canadian Teachers' Federation (CTF/FCE). Towards a Responsible Future of Artificial Intelligence in Canadian Public Education, (2024), p. 11.

Application	Name	Utility for school boards and educators	Utility for youth	Risks to youth
Conversational Chatbot/ Companion AI	Character. AI Replika Snapchat's My AI Meta AI	Teacher's assistant	Emotional support on social media	Develop strong emotional bonds Receive false, problematic, harmful or misleading information Sensitive and personal information is used by malicious actors against youth
Image, audio and video generation and editing	Dall-E Stable Diffusion Adobe Google's Veo 2 Canva Suno	Create visual and auditory content for pedagogical purposes	Visual and audio content for assignments Create memes and humorous content for social media	Pictures, videos and audio from the youth could be edited to (un) intentionally harm them CSAM (child sexual abuse material) developed by malicious actors Media developed could be unrepresentative and perpetuate harmful biases
Translation	HeyGen	Translate to promote accessibility and comprehension	Support reading comprehension, translation to native language etc.	Poor and inaccurate translation of concepts may further marginalize youth, which may lead to poor academic performances and sense of belonging
Text editor, text generation	Grammarly OpenAI's ChatGPT Microsoft Copilot Google's Gemini	Curriculum development, automated grading, assessment development	Essay drafting and editing, coding development, editing, problem solving, summarizing text, support reading comprehension	Inability to apply and understand academic integrity norms Overreliance on tools may lead to undeveloped critical thinking and writing skills
Academic assessment, Teaching Assistant, AI based tutoring	Quizlet Khanmigo Brisk SchoolAI Quizizz	Develop grading rubrics, create quizzes, tests, exams and other assessment methods	Practice quizzes, tests, exams and other assessment methods	Assessments and AI-based tutoring may not accurately grasp students' learning style and needs
Literature scanning, academic search engines	Perplexity R3 Elicit	Find and analyze scholarship as well as primary and secondary sources	Find and analyze scholarship as well as primary and secondary sources	Degradation of reading comprehension and research skills
Learning management system	Google Classroom Canvas*	Organize learning materials and student-teacher communications in a central platform	Access learning materials and student-teacher communications in a central platform	Sensitive and personal information may be exposed due to cyber attack
*The above learning management system examples have integrated features (e.g., Google Workspace for Education has Gemini)				

Sources

American Federation of Teachers (AFT). Commonsense Guardrails for Using Advanced Technology in Schools. 2025, updated. aft.org/sites/default/files/media/documents/2024/Commonsense_Guardrails_AI_0604.pdf

Andrey, Sam, et al. An Agenda for Responsible Technology Policy in Canada. 2023. doi.org/10.1111/capa.12535

British Columbia Ministry of Education and Child Care. Considerations for Using AI Tools in K–12 Schools. 2024. gov.bc.ca/assets/gov/education/administration/kindergarten-to-grade-12/ai-in-education/considerations-for-using-ai-tools-in-k-12-schools.pdf

Brown, Sarah. Why Neural Net Pioneer Geoffrey Hinton is Sounding the Alarm on AI. 2023. mitsloan.mit.edu/ideas-made-to-matter/why-neural-net-pioneer-geoffrey-hinton-sounding-alarm-ai

Buick, Adam. Copyright and AI Training Data—Transparency to the Rescue? 2025. doi.org/10.1093/jiplp/jpae102

Canadians for 21st Century Learning & Innovation and Dell Technologies. Integrating AI in Education: Transforming Learning: An AI Use Case Initiative for Canadian Education. 2024. c21canada.org/ai-use-case-initiative

Canadian Teachers' Federation (CTF/FCE). Towards a Responsible Future of Artificial Intelligence in Canadian Public Education. 2024. ctf-fce.ca/wp-content/uploads/2023/12/3-ENAI-policy-brief-AGM-2024.pdf

Canadian Teachers' Federation (CTF/FCE). AI Legislation and Policy in Canada: Gaps and Risks in K–12 Education. 2024. ctf-fce.ca/wp-content/uploads/2024/11/Artificial-Intelligence-AI-Legislative-and-Policy-Scan-Summary-EN.pdf

Canadian Teachers' Federation (CTF/FCE). The Impacts of Artificial Intelligence on Education Workers. 2024.

European Commission: Directorate-General for Education, Youth, Sport and Culture. Ethical guidelines on the use of artificial intelligence (AI) and data in teaching and learning for educators. Publications Office of the European Union. 2022. data.europa.eu/doi/10.2766/153756

Government of Canada. Artificial Intelligence - ITSAP.00.040, Awareness Series. 2025. cyber.gc.ca/en/guidance/artificial-intelligence-itsap00040

Government of Canada. Generative artificial intelligence (AI)—ITSAP.00.041, Awareness Series. 2025. cyber.gc.ca/en/guidance/generative-artificial-intelligence-ai-itsap00041

Government of Canada. Guide on the use of generative artificial intelligence. 2025. canada.ca/en/government/system/digital-government/digital-government-innovations/responsible-use-ai/guide-use-generative-ai.html

Government of Ontario. Ontario's Trustworthy Artificial Intelligence (AI) Framework. 2025. ontario.ca/page/ontarios-trustworthy-artificial-intelligence-ai-framework

Hargrave, Megan et al. The Artificial Intelligence Playbook. Corwin, 2024.

Heaven, Will Douglas. Geoffrey Hinton tells us why he's now scared of the tech he helped build. 2023. https://www.technologyreview.com/2023/05/02/1072528/geoffrey-hinton-google-why-scared-ai/technologyreview.com/2023/05/02/1072528/geoffrey-hinton-google-why-scared-ai

Holmes, Wayne. The Unintended Consequences of Artificial Intelligence and Education. Educational International. 2023. ei-ie.org/en/item/28115:the-unintended-consequences-of-artificial-intelligence-and-education

Huang, Sonya, et al. The Agentic Reasoning Era Begins. 2024. sequoiacap.com/article/generative-ais-act-o1/

Jourdan, Fanny et al. FairTranslate: An English-French Dataset for Gender Bias Evaluation in Machine Translation by Overcoming Gender Binarity. 2025. arXiv:2504.15941

Joyner, David. A Teacher's Guide to Conversational AI: Enhancing Assessment, Instruction, and Curriculum with Chatbots. Routledge, 2024.

Kurian, Nomisha. 'No, Alexa, no!': Designing Child-Safe AI and Protecting Children from the Risks of the 'Empathy Gap' in Large Language Models. 2024. doi.org/10.1080/17439884.2024.2367052

Kwok, Tiffany and Tessono, Christelle. (Gen)eration AI: Safeguarding youth privacy in the age of generative artificial intelligence, (2025) and Canadian Teachers' Federation (CTF/FCE). Towards a Responsible Future of Artificial Intelligence in Canadian Public Education, (2024). dais.ca/reports/generation-ai-safeguarding-youth-privacy-in-the-age-of-generative-artificial-intelligence/

Lang-Radd, Nathan. The AI Assist: Strategies for Integrating AI Into the Very Human Act of Teaching. ASCD, 2025.

Law Commission of Ontario and Ontario Human Rights Commission. Human Rights AI Impact Assessment. 2024. ohrc.on.ca/en/human-rights-ai-impact-assessment

Li, Vivian and Dobbs, Graham. Right Brain, Left Brain, AI Brain: AI's impact on jobs and skill demand in Canada's workforce. The Dias, 2025. dais.ca/reports/right-brain-left-brain-ai-brain

McRae, Phil. Artificial Intelligence in Education (AIED) and Responsible Use of Technology Policy: A Draft Model for Consideration and Adaptation. 2024. philmcrae.com/blog/artificial-intelligence-in-education-policy

Miao, Fengchun and Cukurova, Mutlu. AI Competency Framework for Teachers. UNESCO, 2025. doi.org/10.54675/ZJTE2084

Miller, Matt. AI For Educators. Ditch That Textbook, 2023.

OASBO and ECNO. Guidelines For Responsible Use of Generative Artificial Intelligence. 2025. ecno.org/wp-content/uploads/2025/04/English-Generative-AI-Guidelines-v1.3.pdf

OECD. Empowering learners for the age of AI: An AI literacy framework for primary and secondary education (Review draft). 2025. ailiteracyframework.org

Ontario Ministry of Education. Growing Success: Assessment, Evaluation, and Reporting in Ontario Schools. 2010. edu.gov.on.ca/eng/policyfunding/growSuccess.pdf

Post Primary Teachers' Association / Te Wehengarua. A Policy on Teaching With Digital Tools and Technologies. 2023. ppta.org.nz/communities/ict-advisory-committee/document/2539

Samuel, Chris. Enshittification, Artificial Intelligence, and the Privatization in Public Education. Canadian Centre for Policy Alternatives. 2025. policyalternatives.ca/news-research/enshittification-artificial-intelligence-and-the-privatization-in-public-education/.

Shah, Priten. AI and The Future of Education: Teaching in the Age of Artificial Intelligence. Jossey-Bass, 2023.

Southgate, Erica. "Artificial Intelligence and Machine Learning: A Practical and Ethical Guide for Teachers." in Digital Disruption in Teaching and Testing edited by Claire Wyatt-Smith, Bob Lingard, and Elizabeth Heck. Routledge, 2021, 60–74.

Spencer, John. The AI Roadmap: Human Learning in the Age of Smart Machines. Blend Education Publishing, 2023.

Sphonheim, Caleb. Sycophancy in Generative-AI Chatbots. 2024. nngroup.com/articles/sycophancy-generative-ai-chatbots/.

Stryker, Cole and Kavlakoglu, Eda. What is AI? 2024. ibm.com/think/topics/artificial-intelligence.

The Dias. Best Practices for Safeguarding Childrens' Privacy with GenAI Tools (Infographic Tool). 2025. dais.ca/wp-content/uploads/2025/03/Infographic-01-Best-Practices-for-Safeguarding-Childrens-Privacy-with-GenAI-Tools.pdf

The Logic. Superintelligence: Is Canada Ready for AI? Sutherland House, 2024.

UNESCO. AI and Education: Guidance for policy-Makers. 2021. unesdoc.unesco.org/ark:/48223/pf0000376709

UNESCO. Guidance for Generative AI in Education and Research. 2023. unesdoc.unesco.org/ark:/48223/pf0000386693

UNESCO. Recommendation on the ethics of artificial intelligence. 2022. unesdoc.unesco.org/ark:/48223/pf0000381137

UNICEF. Guidance on AI and Children. 2025. unicef.org/innocenti/media/11991/file/UNICEF-Innocenti-Guidance-on-AI-and-Children-3-2025.pdf

U.S. Department of Education, Office of Educational Technology. Artificial Intelligence and Future of Teaching and Learning: Insights and Recommendations. 2023. ed.gov/sites/ed/files/documents/ai-report/ai-report.pdf

Vu, Viet, et al. Waiting for Takeoff: The Short-term Impact of AI Adoption on Firm Productivity. 2024. dais.ca/reports/waiting-for-takeoff

Weir, Kirsten. Social Media Brings Benefits and Risks to Teens. Psychology Can Help Identify a Path Forward. 2023. apa.org/monitor/2023/09/protecting-teens-on-social-media

Wong, Ethan Paker and M'hiri, Faten. Analyzing Language Bias Between French and English in Conventional Multilingual Sentiment Analysis Models. 2024. doi.org/10.48550/arXiv.2405.06692

Zewe, Adam. Explained: Generative AI's Environmental Impact. 2025. news.mit.edu/2025/explained-generative-ai-environmental-impact-0117