Signal49 RESEARCH

In partnership with

Future Skills Centre | Centre des Compétences futures



AI Adoption Outpaces Readiness

Student Experiences with Generative AI in Canadian Post-Secondary Education

DATA BRIEFING | September 29, 2026

Future Skills Centre | Centre des Compétences futures

The Future Skills Centre (FSC) is a forward-thinking centre for research and collaboration dedicated to driving innovation in skills development so that everyone in Canada can be prepared for the future of work. We partner with policymakers, researchers, practitioners, employers and labour, and post-secondary institutions to solve pressing labour market challenges and ensure that everyone can benefit from relevant lifelong learning opportunities. We are founded by a consortium whose members are Toronto Metropolitan University, Blueprint, and Signal49 Research, and are funded by the Government of Canada's Future Skills Program.

In partnership with: Toronto Metropolitan University, Signal49 RESEARCH, Blueprint

Funded by the Government of Canada's Future Skills Program | Canada

Contents

4
Key findings

5
From adoption to readiness

6
Student AI use is widespread

6
Perceived learning benefits remain limited

8
Students report low AI confidence and readiness

8
Concern about AI outweighs optimism

9
Students primarily use AI in basic ways

10
Students are largely navigating AI on their own

11
Institutional support is linked to higher AI use

13
From widespread use to meaningful adoption

14
Appendix A: Methodology

16
Appendix B: Bibliography

Key findings

- In 2026, more than 75 per cent of students report using AI at least occasionally, up from 55.0 per cent in 2024.
- Chatbot-based tools are the most commonly used generative AI tools among post-secondary students.
- While many students use AI regularly, fewer than four in 10 report improvements in efficiency, understanding of course material, work quality, or their overall learning experience.
- Less than 40 per cent of students report having the knowledge and skills needed to use generative AI effectively in learning, while only around one in five feel prepared to navigate AI-related changes or succeed in an AI-driven labour market.
- Nearly half of students express concern about the impact of generative AI on post-secondary education, while only one-quarter report feeling optimistic about its future impact.
- Editing, brainstorming, and research are among the most common uses of AI, while innovative applications remain comparatively rare.
- Few students report receiving support from instructors or institutions to develop AI-related skills or prepare for an AI-enabled workforce.
- Students with access to AI-related supports such as institutional training and guidance are more likely to use generative AI frequently, suggesting that institutional environments play an important role in shaping engagement.



From adoption to readiness

As AI becomes increasingly embedded in education and the workplace, preparing students to use these technologies effectively, critically, and responsibly has become a national priority.

The Government of Canada's 2026 National Artificial Intelligence Strategy (AI for All)[1] recognizes that realizing AI's economic and social benefits depends not only on widespread adoption but also on widespread AI literacy and positions post-secondary education (PSE) as a critical pathway for developing these capabilities.

Since the release of ChatGPT in late 2022, generative AI has rapidly become part of everyday student life. We find that students now routinely use AI to support research, writing, studying, brainstorming, and problem-solving. The central question facing post-secondary institutions (PSIs) is no longer whether students are using AI but whether they are developing the capabilities needed to use it meaningfully in their academic and professional lives.

When we first examined this issue in 2024, generative AI was still in the early stages of adoption across Canadian PSIs and student use was characterized by experimentation, curiosity, and uneven uptake.[2] Two years later, the landscape has evolved considerably. We find that AI is now a mainstream learning tool, and the conversation has shifted from adoption to readiness.

We conducted a national survey of 503 post-secondary students to examine:

- how they are using generative AI today,
- the benefits and challenges they are experiencing,
- how prepared they feel for an AI-enabled future,
- the role instructors and institutions play in developing AI-related knowledge and skills.

For post-secondary leaders, our findings provide timely evidence on how students are engaging with generative AI and where institutions have opportunities to strengthen AI literacy, enhance workforce readiness, and better prepare graduates for an increasingly AI-enabled economy.

1 Innovation, Science, and Economic Development Canada, "Canada's National Artificial Intelligence Strategy: AI for All." The Government of Canada has since launched the National AI Literacy Initiative as a key initiative under AI for All, providing free, practical AI learning for students, educators, workers, and communities across Canada. Innovation, Science, and Economic Development Canada, "Government of Canada Launches National AI Literacy Initiative."

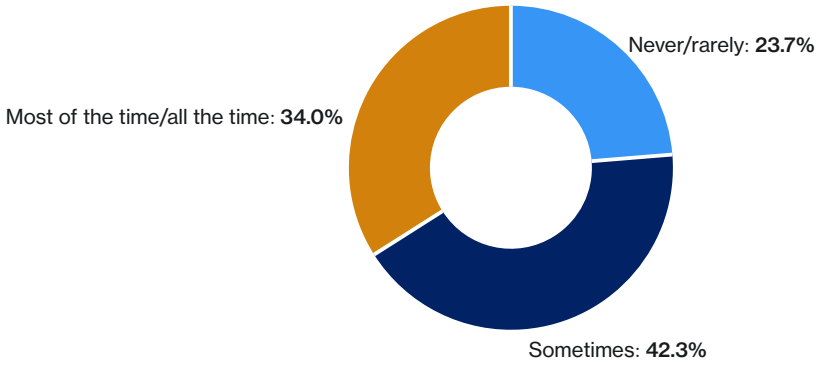
2 Signal49 Research, *Preparing an AI-Ready Workforce: Strategies for Canadian Post-secondary Leaders*.

Student AI use is widespread

Generative AI has quickly become a core part of the post-secondary learning experience. Today, more than 75 per cent of students report using generative AI at least occasionally, including 34.0 per cent who use it most or all the time. (See Chart 1).

This represents a substantial increase from our 2024 survey, when only 55.0 per cent of students reported using AI at all and only 20.0 per cent of students reported using it most or all the time.[3]

Chart 1
Generative AI use is widespread among students
Q: Over the past year, how often have you used generative AI? (n = 503)
(per cent)

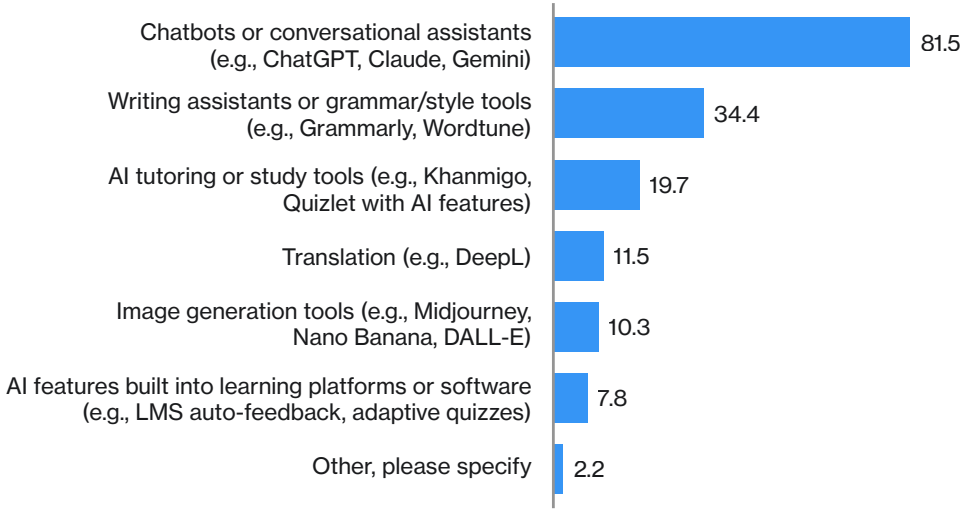


Source: Signal49 Research.

Perceived learning benefits remain limited

While many students are using AI regularly, use is heavily concentrated in chatbots or conversational assistants and relatively few report meaningful improvements to their learning experience. (See Chart 2.)

Chart 2
Students most commonly use chatbots
Q: Which types of generative AI tools have you used in your coursework over the past year? Select all that apply.
(per cent)



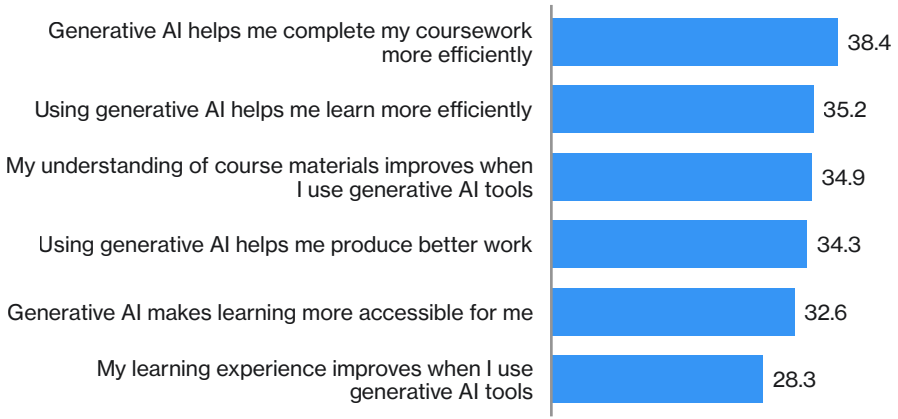
Source: Signal49 Research.

3 Signal49 Research, *Who Is Using Generative AI in Higher Education?*

Across all measures examined, positive learning impacts were reported by a minority of students. Fewer than four in 10 students agree that generative AI improves their learning experience, understanding of course material, work quality, accessibility, or efficiency. (See Chart 3.)

We found that for many students, AI is valued more as a productivity tool than as a tool that fundamentally improves learning. This interpretation is reinforced by students' open-ended responses, which often emphasized convenience and speed rather than unique learning outcomes. When asked to describe a situation where generative AI helped them learn something in a way that would not otherwise have been possible, several students instead noted that AI provided an alternative route to information rather than a distinctly different learning experience.

Chart 3
Students report limited learning benefits from generative AI
Q: Please indicate your level of agreement with the following statements.
(percentage agreeing or strongly agreeing)



Source: Signal49 Research.



In their own words

"AI helps to find information and learn some concepts in an easier and faster mode, but all things I learned through the use of AI I could learn in other ways or using other tools."
Science student

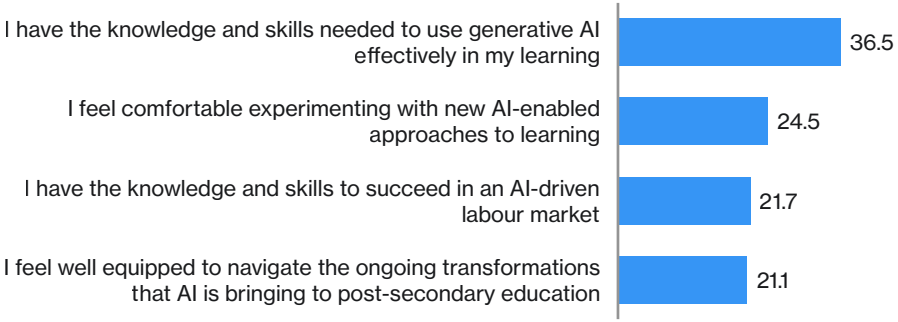
"I genuinely can't think of a situation where I learned something from AI that I couldn't have learned on my own."
Science student

"It didn't help me learn anything specific; it just gives preliminary findings that I need to verify after."
Health student

Students report low AI confidence and readiness

The limited benefits students report are accompanied by similarly low levels of perceived preparedness. Less than 40 per cent of students report having the knowledge and skills needed to use generative AI effectively in their learning, while only around one in five feel equipped to navigate ongoing AI-related changes in their post-secondary educational journey or succeed in an AI-driven labour market. (See Chart 4.)

Chart 4
Students report low confidence and preparedness
Q: Please indicate your level of agreement with the following statements.
(percentage agreeing or strongly agreeing)

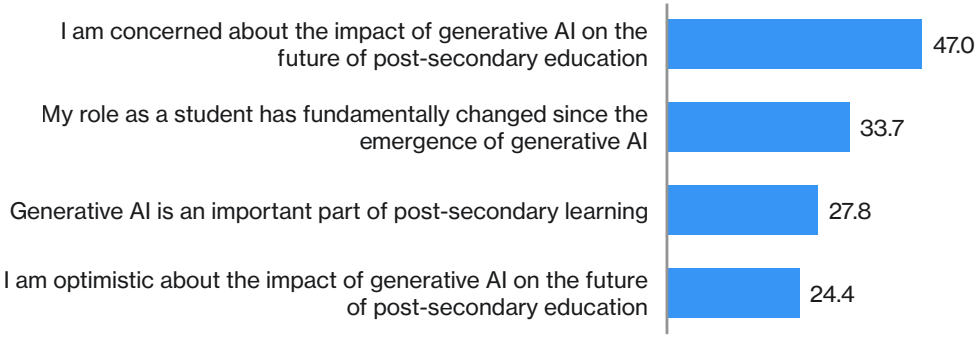


Source: Signal49 Research.

Concern about AI outweighs optimism

Nearly half of students expressed concern about the impact of generative AI on the future of PSE, while only one-quarter reported feeling optimistic. Fewer than one-third view generative AI as an important part of post-secondary learning. (See Chart 5).

Chart 5
Few students are optimistic about AI
Q: Please indicate your level of agreement with the following statements.
(percentage agreeing or strongly agreeing)

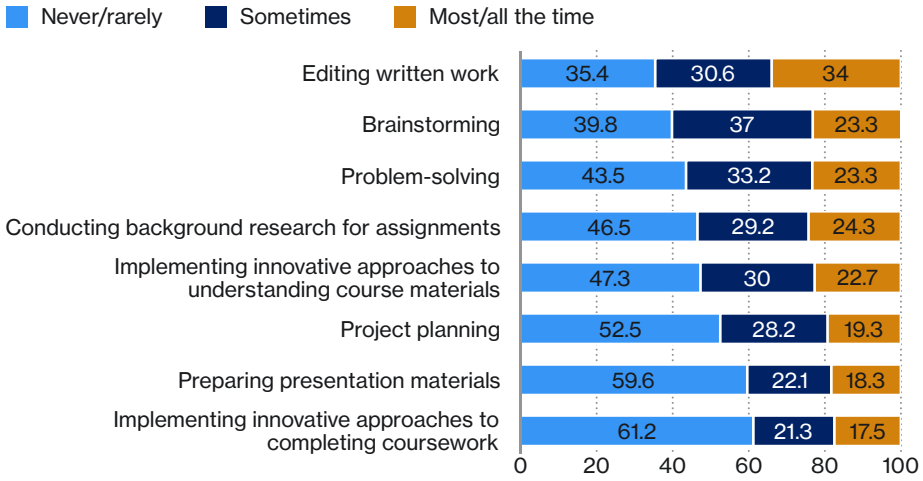


Source: Signal49 Research.

Students primarily use AI in basic ways

Editing written work is the most common usage among students, followed by brainstorming and problem-solving. In contrast, students are much less likely to use AI for innovative approaches to completing coursework, which had the highest level of non-use among all activities surveyed. (See Chart 6.)

Chart 6
Students primarily use generative AI for editing and brainstorming
Q: Over the past year, how often have you used generative AI tools for the following purposes? (n = 503)
(per cent)



Note: The original scale ranges from 1 (never) to 5 (all the time).
Source: Signal49 Research.

This usage pattern suggests that students are primarily using AI to support existing ways of working rather than to deepen learning, explore new ideas, or solve complex problems.

This distinction may become increasingly important as AI becomes more embedded in workplaces. The value of AI will depend not only on whether people use these tools but on whether they can apply them strategically, creatively, and in ways that complement human judgment and expertise.[4]

Open-ended responses provide a clearer picture of what innovative AI use looks like in practice. Examples included using it as an interactive learning partner, using AI to work through complex ideas, engaging with course material in new ways, and using it to simulate collaborative learning experiences.

In their own words

"Being able to explain my thought process ... and have it integrate multiple topics and approaches and work through it together."
Health student

"Turned 200 pages of notes into a podcast ... helped me digest it."
Social sciences student

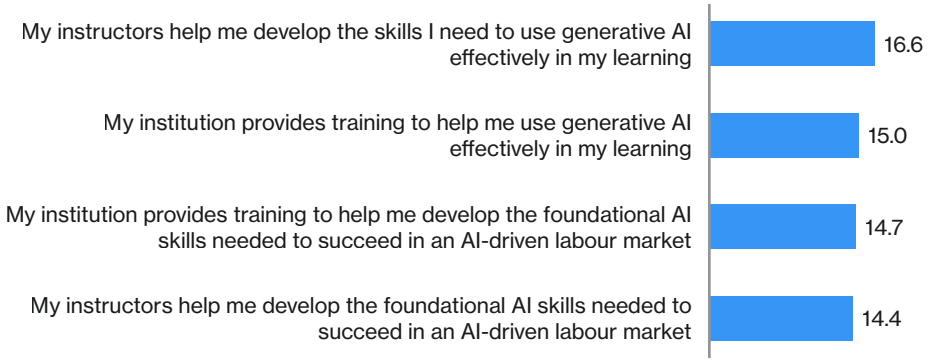
"Simulate having a study partner ... increased my motivation and retention."
Science student

4 Signal49 Research, *Human Judgment Skill Trends*.

Students are largely navigating AI on their own

Post-secondary institutions are increasingly expected to prepare students for an AI-enabled workforce, yet few students report receiving meaningful support to develop AI-related skills. Only 14.4 to 16.6 per cent of students report receiving support from instructors or institutions to develop AI-related skills or prepare for an AI-driven labour market.[5] (See Chart 7.)

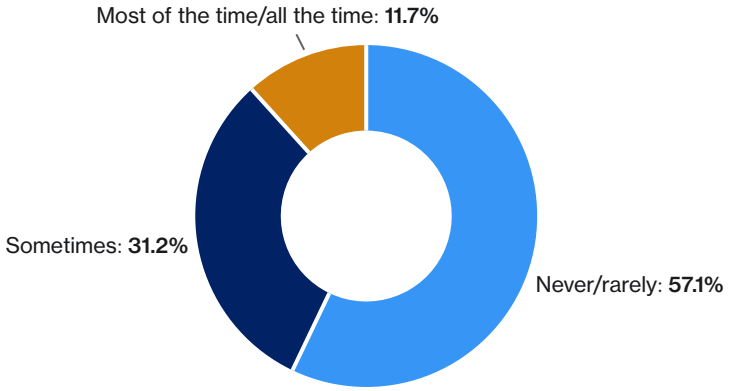
Chart 7
Few students report instructor or institutional support
Q: Please indicate your level of agreement with the following statements.
(percentage agreeing or strongly agreeing)



Source: Signal49 Research.

Additionally, despite growing institutional attention to AI readiness initiatives and mandates,[6] a majority of students report that instructors rarely or never allow or encourage the use of generative AI in coursework, while only a small minority report that its use is encouraged regularly. (See Chart 8.) Many students are therefore navigating generative AI independently, with limited guidance on how these tools can be used effectively, responsibly, and strategically.

Chart 8
Instructor encouragement of generative AI use remains limited
Q: Over the past year, how often have your instructors formally allowed or encouraged the use of generative AI for coursework? (n = 503)
(per cent)



Source: Signal49 Research.

5 Signal49 Research, *Preparing an AI-Ready Workforce: Strategies for Canadian Post-secondary Leaders*.

6 KPMG, "Canada's national artificial intelligence strategy: AI for All: Key takeaways for Canadian organizations."



Institutional support is linked to higher AI use

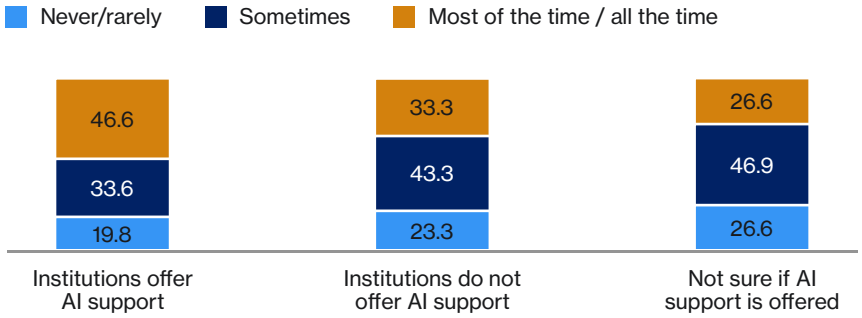
Nearly half of students who reported that their institutions offer AI-related supports use generative AI most or all the time compared to one-third of students without institutional support. Students who are unsure whether supports exist report the lowest levels of frequent use (26.6 per cent). (See Chart 9.)

Chart 9

Frequent use is more common with institutional support

Q: Over the past year, how often have you used generative AI? (n = 503)

(percentage of respondents, by whether they report that their institution offers institution-wide AI supports)



Note: Chi-square test is statistically significant ($p < 0.05$).
Source: Signal49 Research.

Institutional support was associated not only with students' use of AI but also with their views on its role in higher education. Students at institutions that offer AI-related supports tend to view the integration of generative AI into teaching and learning more positively. At the same time, they express greater concern about AI's future implications. (See Chart 10.) Rather than reflecting a contradiction, this pattern suggests that institutional supports may help students engage more critically with both the opportunities and challenges associated with AI in addition to using it more frequently.

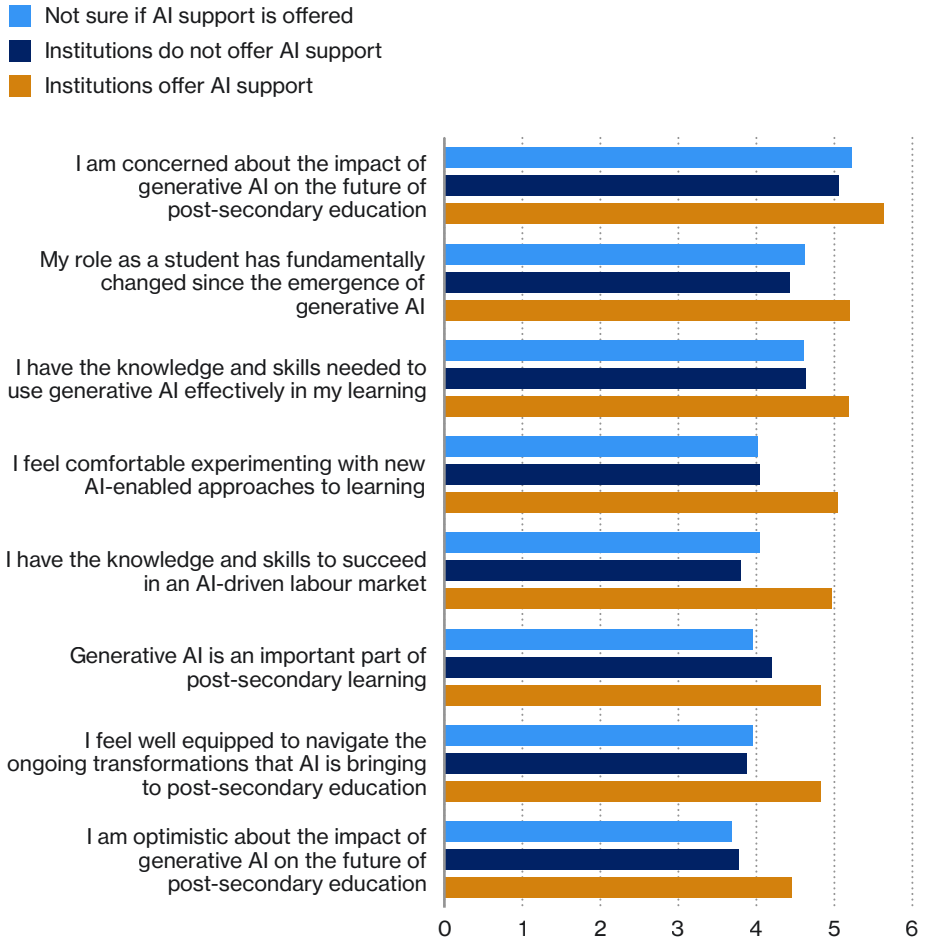


Chart 10

Institutional supports are linked to stronger opinions about AI's role in education

Q: Please indicate your level of agreement with the following statements.

(average score on a scale from 1 (strongly disagree) to 7 (strongly agree), by whether students report their institution offers AI supports)



Notes: "Not applicable" responses are recorded as missing. One-way ANOVA tests are statistically significant ($p < 0.05$).

Source: Signal49 Research.

From widespread use to meaningful adoption

AI literacy and workforce readiness are increasingly important to ensuring that Canadians can participate in, shape, and benefit from an AI-enabled economy. Post-secondary education has made significant progress toward the first part of that objective: adoption. Generative AI is now a mainstream part of the student experience, and many students are already incorporating these tools into their learning.

Progress toward AI readiness, however, appears less certain.

Few students report meaningful improvements in learning outcomes or feel prepared to navigate AI-related changes in education and work. At the same time, students are using AI regularly while expressing uncertainty about its value, impact, and future role in their education. These findings suggest that the challenge facing post-secondary institutions is not simply whether students are using AI but whether they are developing the knowledge, skills, and judgment needed to use these technologies effectively, critically, and responsibly.

Our findings also highlight the importance of learning context. Students with access to institutional supports are more likely to engage with AI regularly. However, effective AI use is not necessarily about using AI more often. Rather, it is about understanding when AI can support learning, when human judgment is required, and when AI may not be the most appropriate tool. As generative AI becomes more embedded in education and work, helping students make these distinctions may become as important as technical proficiency itself.

The findings point to an opportunity for post-secondary institutions to move beyond informal experimentation and ensure that all students have opportunities to develop AI literacy and workforce readiness. This does not require integrating AI into every course or encouraging its use in all learning activities. Instead, it requires creating intentional opportunities for students to understand the capabilities, limitations, risks, and appropriate applications of AI within their disciplines and future careers.

Developing AI literacy and readiness may require:

- Clearer expectations for how AI should and should not be used across courses and programs
- Opportunities for students to critically evaluate AI-generated outputs and understand their limitations
- Development of higher-order skills such as critical thinking, judgment, creativity, problem-solving, and ethical decision-making in AI-enabled environments
- Improved visibility and access to institutional supports, guidance, and training
- Greater consistency across learning pathways to ensure that all students have opportunities to develop foundational AI literacy

Canada's AI for All strategy recognizes that the benefits of AI will depend not only on access to technology but on people's ability to use it effectively and responsibly. Post-secondary institutions have an important role to play in helping students develop these capabilities. The goal is not simply to create more AI users but to prepare graduates who can thoughtfully evaluate, adapt to, and shape the role of AI in their learning, work, and communities.

Appendix A

Methodology

About the research

We examined how post-secondary students are using generative AI and whether widespread adoption is translating into AI literacy and workforce readiness. Specifically, we examined:

- changes in student attitudes, proficiency, and patterns of AI use,
- students' readiness for AI-driven changes in teaching and learning,
- innovative approaches and concerns related to the integration of AI in post-secondary education.

To find out, we surveyed 503 post-secondary students across Canada. This data briefing presents findings related to students' use of generative AI, perceived impacts on learning, AI literacy and workforce readiness, and the role instructors and institutions play in supporting AI-related knowledge and skills.

Ethics

Veritas, an independent research ethics board, reviewed this research project and approved all instruments. The survey collected responses anonymously, and we guaranteed participant confidentiality.

Survey data

To achieve a national sample, we worked with Leger, a Canadian market research firm, which administered the survey in May 2026. Leger recruits participants through its online panel, targeting pre-profiled respondents across Canada. To qualify for the survey, participants had to be currently enrolled at a post-secondary institution in Canada and at least 18 years of age. Table A1 summarizes the sociodemographic and educational characteristics of survey respondents.

The survey included multiple-choice, Likert-scale, and open-ended questions examining students' familiarity with and use of generative AI, perceived impacts on learning, AI-related skills and preparedness, instructor encouragement, institutional supports, and attitudes toward the role of AI in post-secondary education. The survey also collected demographic and contextual information, including age, gender, population group, field of study, and institution type.

Data analysis

We conducted univariate analyses to examine the distribution of key variables related to generative AI use. These included frequency of generative AI use, types of generative AI tools used, experiences with and perspectives on generative AI for learning, types of learning activities supported by AI, perceived impacts on learning, and levels of instructor encouragement. To examine bivariate relationships between variables, we conducted chi-square and one-way ANOVA tests.

We analyzed survey data using SPSS and RStudio.

For open-ended questions, researchers conducted AI-assisted qualitative coding, engaging with Microsoft Copilot to identify patterns and themes from participant responses.

Table 1
Sample characteristics

Gender	n	percentage
Women	351	69.8
Men	140	27.8
Non-binary and additional identities	12	2.4

Age	n	percentage
Under 25	252	50.2
25–35	175	34.9
Above 35	75	14.9

Institution type	n	percentage
University	350	69.6
College, polytechnic, or other	153	30.4

Population group	n	percentage
White	284	56.5
South Asian	65	12.9
Chinese	37	7.4
Black	54	10.7
Filipino	10	2.0
Arab	24	4.8
Latin American	18	3.6
Southeast Asian	14	2.8
West Asian	8	1.6
Korean	3	0.6
Other	18	3.6

Province	n	percentage
Alberta	53	10.5
British Columbia	41	8.2
Saskatchewan	7	1.4
Manitoba	11	2.2
Ontario	194	38.6
Quebec	173	34.4
New Brunswick	9	1.8
Newfoundland and Labrador	4	0.8
Nova Scotia	9	1.8
Northwest Territories	1	0.2
Yukon	1	0.2

Field of study	n	percentage
Arts and communication technologies	24	4.8
Business	67	13.3
Education	42	8.3
Engineering	53	10.5
Health	102	20.3
Humanities	36	7.2
Sciences	71	14.1
Social sciences	52	10.3

Notes: For gender, the non-binary category includes genderqueer, Two-Spirit, and additional identifications.
No data for Prince Edward Island and Nunavut.
Source: Signal49 Research.

Appendix B

Bibliography

Innovation, Science, and Economic Development Canada. “Canada’s National Artificial Intelligence Strategy: AI for All.” Government of Canada, last modified June 8, 2026. https://ised-isde.canada.ca/site/ised/en/canadas-national-artificial-intelligence-strategy-ai-all.

Innovation, Science, and Economic Development Canada. “Government of Canada Launches National AI Literacy Initiative.” News release, September 9, 2026. https://www.canada.ca/en/innovation-science-economic-development/news/2026/09/government-of-canada-launches-national-ai-literacy-initiative.html.

KPMG. “Canada’s national artificial intelligence strategy: AI for All: Key takeaways for Canadian organizations.” KPMG, June 5, 2026. https://kpmg.com/ca/en/insights/2026/06/canadian-national-ai-strategy-ai-for-all.html.

Signal49 Research. *Human Judgment Skills Trends*. Ottawa: Signal49 Research, April 15, 2026. https://www.signal49.ca/product/human-judgment-skills-trends_apr2026/.

Signal49 Research. *Preparing an AI-Ready Workforce: Strategies for Canadian Post-secondary Leaders.* Ottawa, Signal49 Research, May 14, 2026. https://www.signal49.ca/in-fact/how-pse-can-prepare-an-ai-ready-workforce_may2026/.

Signal49 Research (formerly operating as The Conference Board of Canada). *Who Is Using Generative AI in Higher Education?* Ottawa: Signal49 Research, July 8, 2024. https://www.signal49.ca/product/generative-ai-higher-education_2024/.

Acknowledgements

This research was prepared with financial support provided through the Government of Canada's Future Skills Program. We are proud to serve as a research partner in the Future Skills Centre consortium.

Many colleagues helped to bring this research to life.

Jessica Rizk, Senior Research Associate, PhD, conceived of this research project and led the writing of this report. Liana Giacoboni, Research Associate, MEd, and Adam Vanzella Yang, Senior Research Associate, PhD, supported analysis and report writing. Research support was provided by Jane Hutchison, Senior Manager, PhD, and Janine Knight-Grofe, PhD, Director.

This output was designed by the Design Services team at Signal49 Research.

We also thank members of the Research Advisory Board who supported this research and provided feedback on the first draft of this report:

- **Aaron Hunter**, Associate Dean, Computing Graduate Studies, British Columbia Institute of Technology
- **Dugan O'Neil**, Vice President, Research and Innovation, Simon Fraser University
- **Elissa Strome**, Executive Director, Pan-Canadian AI strategy, CIFAR
- **Graham Taylor**, Professor and Canada Research Chair in Machine Learning and Canada CIFAR AI Chair, University of Guelph/Vector Institute
- **Panos Panagiotakopoulos**, AI thought leader, Seneca Polytechnic

AI Adoption Outpaces Readiness: Student Experiences With Generative AI in Canadian Post-Secondary Education
Jessica Rizk

To cite this research: Rizk, Jessica. *AI Adoption Outpaces Readiness: Student Experiences With Generative AI in Canadian Post-Secondary Education.* Ottawa: Signal49 Research, 2026.

Forecasts and research often involve numerous assumptions and data sources, and are subject to inherent risks and uncertainties. This information is not intended as specific investment, accounting, legal, or tax advice. The responsibility for the findings and conclusions of this research rests entirely with Signal49 Research.

An accessible version of this document for the visually impaired is available upon request.

Accessibility Officer, Signal49 Research
Tel.: 613-526-3280 or 1-866-711-2262 | Email: accessibility@signal49.ca

Published in Canada | All rights reserved | Agreement No. 40063028
AERIC Inc. is an independent Canadian registered charity operating as Signal49 Research.

Where knowledge inspires action

Signal49
RESEARCH

PUBLICATION P-02268-S6Q9Q5
PRICE: Complimentary

signal49.ca