



Beyond plagiarism: Cognitive dependency and the risk of knowledge collapse in Canadian higher education

Sam Bodunrin*

Abstract

The rapid and eager adoption of GenAI in Canadian higher education is having a profound effect on discussions about academic honesty. Almost all current discourse centers on issues of plagiarism and detection. This reflection, however, argues that a more significant and dangerous development is emerging: knowledge collapse and cognitive dependence- the gradual and insidious erosion of the learner's capacity to produce, acquire, analyze, and integrate knowledge through their own faculties, on account of the uncritical embrace of sophisticated technologies. Unlike academic integrity concerns, knowledge collapse may be occurring without violation of any institutional AI policy. This reflection, drawing on the literature on cognitive offloading, AI literacy, and academic integrity, discusses how students' critical faculties may be harmed by generative AI and the learning that happens from them, and offers the following proactive solution: The THINK Framework. I provide suggestions on how human cognition and technological progress can be brought into balance.

Keywords

academic integrity, AI literacy, cognitive dependency, critical thinking, generative AI, higher education, knowledge collapse, THINK Framework

Algoma University

*Corresponding author: sam.bodunrin@algomau.ca

Introduction

Generative artificial intelligence (GenAI) technologies, such as ChatGPT, Gemini, and Copilot, have already rapidly and extensively reshaped Canadian higher education. The focus, as expected, has been on plagiarism. The introduction of GenAI has prompted educators and institutions to provide students with specific instructions, instructors to devise methods for detecting inappropriate usage, and academic institutions to update regulations for academic misconduct. This seems logical as honesty, trust, fairness, respect, responsibility and courage form the basis of academic integrity (International Center for Academic Integrity [ICAI], 2021) and require protection. The fact that humanization technologies make it increasingly difficult for educators to detect the use of GenAI by students strongly indicates the limitations of a plagiarism-centred focus. Could plagiarism now be secondary? Is learning still occurring if sophisticated technology can perform much of the cognition for students?

From Academic Misconduct to Academic Dependency

It seems that the traditional discourse on academic honesty revolved around cheating, fabrication, plagiarism, and contract cheating (Bretag, 2013). Although these arguments acknowledge anxieties about devalued degrees and inequitable learning environments, the central conflict lies in GenAI's dual nature: It can both facilitate and substitute for student learning, often without making its role visible. The cognitive functions substituted into the learning environment through Gen AI systems are argumentation and analytical skills. As examined above, until recently, the fundamentals of higher education were deployed to generate accurate results that do not enhance students' learning. This condition is called "cognitive dependency" or over-reliance on intelligent assistive technology for cognitive tasks that humans are traditionally expected to perform (Carter, 2018). The body of cognitive offloading research, in the first place, presumes that the human will consult technology to offload cognitive demands upon the cognitive system (Risko & Gilbert, 2016); the benefits of mental offloading are a detriment of sorts, as working memory is taken away, and possibly with it, consolidation, detailed

analysis, and perseverance for solving difficult problems.

Understanding Knowledge Collapse

Knowledge collapse occurs when consistent use of an external intelligent system results in a person's learning, processing, assessing, and utilization of knowledge decreasing over time (Peterson, 2025). It is an act of introspection, the process through which excessive reliance on an AI leads to a degeneration of the intellect.

Knowledge collapse differs from academic misconduct. For instance, students may engage in academic misconduct through plagiarism. In contrast, students are able to utilize GenAI fully according to directives while still undergoing cognitive degeneration. The issue in this case is learning, not using.

Several factors contribute to knowledge collapse. To begin with, generative AI may lead to a decline in productive struggle. Learning involves an experience of wrestling with uncertainty and ambiguity. Due to the way GenAI directly answers learner queries, there are few opportunities for learners to productively struggle with tasks (Kasneci et al., 2023).

Next, students may be encouraged to act more like passive consumers than active knowledge builders. According to constructivism, individuals construct knowledge through active experiences (Bruner, 1966). Students may readily accept GenAI output without critically examining it, thereby becoming consumers rather than producers of information.

Furthermore, the ability to analyze and assess knowledge may be negatively affected by GenAI use. GenAI often displays unreliable information confidently. Over-reliance on GenAI may weaken students' habit of cross-referencing and critically evaluating evidence (Tlili et al., 2023).

Finally, excessive use of GenAI may weaken metacognitive development (Flavell, 1979). On the contrary, transferring cognitive functions to GenAI diminishes activities of contemplation.

Why Knowledge Collapse Matters More Than Plagiarism

Although plagiarism should be avoided, knowledge collapse is more insidious than even that (see Table 1).

The implications extend beyond just higher education. Several of the key employee skills for 2025 identified by the World Economic Forum (2025) were critical thinking, analytical reasoning, creativity, and problem-solving. Students who study prompt engineering and logic and iterative practice cultivate critical thinking better by verifying and validating outputs. They can identify hallucinations, refine prompts strategically, and produce better output. A pressing concern remains the passive acceptance of unverified GenAI responses by students, educators and policymakers. Rigorous verification and human validation must be instituted for quality knowledge retention.

Reflections from Canadian Higher Education

GenAI adoption within the Canadian higher education context is proliferating and the dilemmas that faculty are facing include GenAI-generated lecture summaries replacing readings, GenAI-generated forum discussions, GenAI-generated literature reviews and GenAI-facilitated assignments that do not require any critical thinking. Many students and educators discuss using GenAI to increase their productivity and reduce the amount of work they are required to do to achieve more with less; this should not be disregarded.

GenAI is beneficial to multilingual and English as a Second Language learners. It offers wider access to intelligent tools, translated learning resources, curated technologies, and learning opportunities. The tension between optimization and learning requires more scrutiny. My concern is not why students are using GenAI, but the observable regression in critical thinking associated with its use. Students seem to utilise limited intelligence when engaging with GenAI than would otherwise be the case. Digital literacy will need to be elevated to GenAI literacy or the capacity for humans to engage with GenAI technologies as separate and autonomous beings, with separate beliefs and evaluations (Moya et al., 2023).

Reimagining Academic Integrity in the Age of GenAI

With the concept of cognitive dependence, present concepts of academic integrity must be reassessed. While core ICAI

Table 1. Contrasting Plagiarism and Knowledge Collapse.

Dimension	Plagiarism	Knowledge Collapse
Primary concern	Misrepresentation of authorship	Erosion of independent thinking
Visibility	Easier to identify	Difficult to detect
Time horizon	Discrete incident	Gradual, cumulative process
Policy status	Clearly prohibited	Can occur within policy
Educational impact	Compromises assessment	Compromises learning
Student outcome	Inflated performance	Reduced cognitive development
Institutional response	Detection and sanctions	Pedagogical redesign

Note. It can be noted from Table 1 that assessment is at risk via plagiarism, and learning is at risk via knowledge collapse. A student may stick exactly to the AI policies, but learning may gradually be eroded via loss of analytical and critical thinking skills.

principles (?) still remain in place, GenAI increases the significance of honesty and thinking, intellectual effort, thoughtfulness, learning and appropriate use of AI. Students may claim that GenAI has been used with honesty when completing assessment, but when minimal or no cognitive effort has been applied, adherence to the use of AI is no longer a guarantee of academic integrity. The detection of the presence of AI-generated material is not an effective countermeasure, and tasks should be designed to involve thinking, thought processes, and judgement.

The THINK Framework

In an effort to prevent knowledge collapse proactively, this reflection introduces the THINK Framework—a practical approach for maintaining a sense of presence in relation to the use of generative GenAI (see Figure 1).

T Transparency

Students must be asked to explain when and how they have used GenAI. Transparency will provide a mechanism through which applications can be examined, and appropriate balances of student use and GenAI-generated content can be determined.

H Human Judgment

GenAI output should never be treated as factual, but as a starting point which needs human evaluation. Students must engage in human judgment when verifying, critiquing, and contextualising GenAI output. The highest form of judgment is human reason.

I Intellectual Engagement

Assignments should measure the student's learning process, not the final outcome. Questions which assess the learning-oriented experiences (e.g., drafts, reflections, rationalizations for changes, oral defences) demonstrate how much learning has taken place.

N Navigation of Evidence

Students must be responsible for backing up GenAI-generated facts and details with verified evidence and should be tasked with searching for original sources as proof that a GenAI-produced claim is supportable. Fact-checking the viability of GenAI citations is also important, including fact-checking for hallucinations.

K Knowledge Construction

Students should be encouraged to construct their own understanding, not use GenAI-generated knowledge as their own. They may use GenAI output as a starting point for the process of construction, but the student must make final decisions and assertions, draw their own conclusions and own the constructed knowledge.

Moving Forward

The THINK Framework is designed to encourage reflection on the following types of questions:

- What should institutions be thinking about?
- How can assignments be focused more on reasoning than memorization?
- How can students evaluate and fact-check the products that GenAI generates?
- How can educators design tasks that incorporate productive struggle with GenAI-driven systems?
- How can the THINK framework be implemented across all fields of study?

There are no simple answers to these questions. Banning students' use of GenAI while they complete academic assessments is probably not going to be effective or help prepare students for a future where they need to be adept at using these types of technologies. The goal is, therefore, to encourage students to continue thinking, questioning, evaluating, and creating while using GenAI tools.

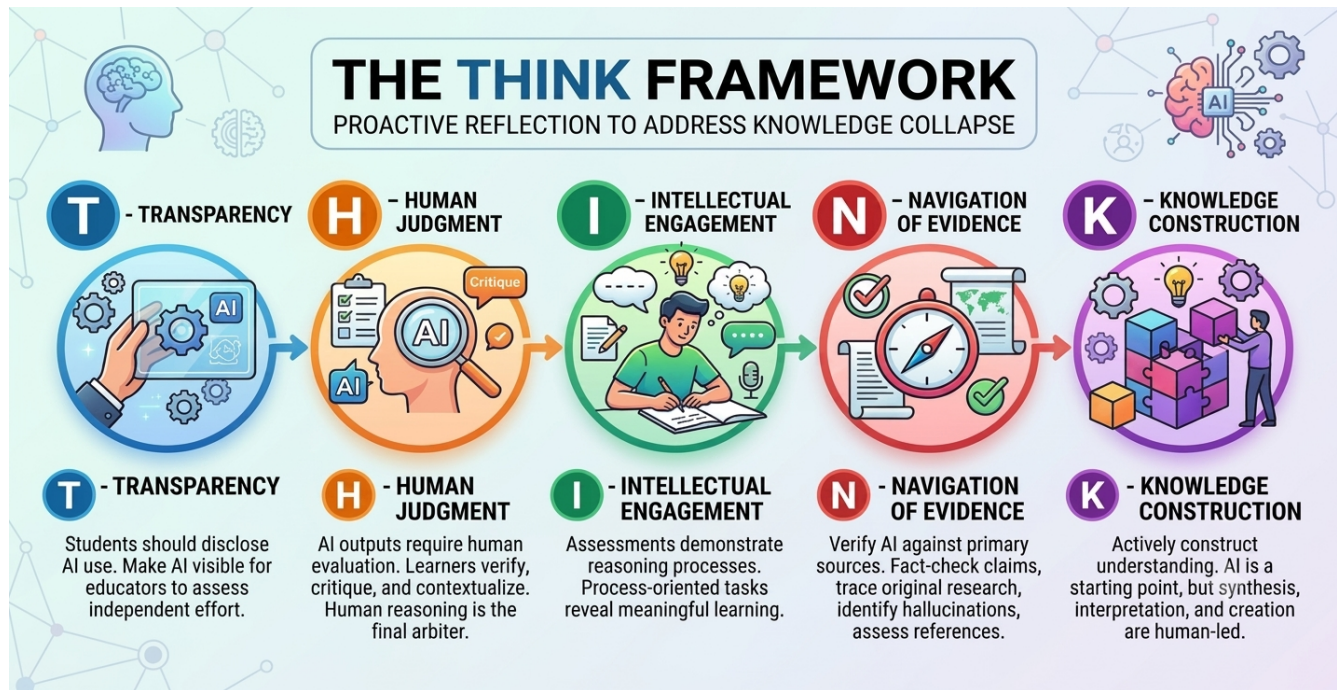
Conclusion

Academic honesty policies and practices are the conventional bedrocks and academic expectations that students must submit original work. This remains the same in the age of GenAI but is ineffective in reality. My central concern is not the introduction of GenAI to learning, but how students can improve their cognitive and critical thinking skills, including how institutions can continuously cultivate scholarly culture. Students must build capacity by independently researching, rigorously analyzing, and producing logical judgment on their own. If educational institutions' responses to GenAI focus narrowly on GenAI detection, prevention, and deterrence, they may successfully record academic honesty statistically but still experience knowledge erosion in the quality of their products.

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Figure 1. The THINK Framework



Note. The THINK Framework is proposed as a conceptual approach, not an empirically validated intervention. Future research should examine the Framework's generalizability to different disciplines and environments.

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Open Access

Received
June 9, 2026

Accepted
July 26,

Published online
July 30, 2026

Citation
Bodunrin, S. (2026). Beyond plagiarism: Cognitive dependency and the risk of knowledge collapse in Canadian higher education. *Canadian Perspectives on Academic Integrity*, 9(3), 1–5. <https://doi.org/10.55016/sqeqh082>

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