

# Mapping the contours: Utopic and dystopic perspectives on the use of AI in higher education

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## Abstract

This paper explores the impact of artificial intelligence (AI) on education, with a focus on assessment and academic integrity in higher education. We conducted a thematic analysis of literature on AI and academic integrity, framed by possible utopic and dystopic scenarios. We found that AI can be used to generate text, summarize work, create outlines, and provide information and resources on a particular topic, saving time and money. We argue that effective institutional policies should be established around the use of AI technologies, such as ChatGPT, to better serve the fields of education and academic research. The paper also discusses the implications of AI for university students, including the potential for personalized learning, quick feedback on student work, and improved accessibility for students with disabilities. However, the use of AI in education raises concerns about academic integrity and the potential for cheating. We caution that ethical considerations under existing academic integrity frameworks must be considered when implementing AI in education. The article concludes by calling for further research on the impact of AI on education and the development of guidelines and policies to ensure that AI is used in a responsible and ethical manner.

## Keywords

academic integrity, generative artificial intelligence, GenAI, education, future

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## Introduction

Education is perpetually at the cusp of change. However, panic has set in ever since artificial intelligence (AI) or generative artificial intelligence (GenAI) has permeated education. Lee (2023) states:

Among the most notable of these AI-based tools is the Generative Pretrained Transformer (GPT) language model developed by OpenAI, and its variant, ChatGPT. Recently, ChatGPT has received considerable attention due to its ability to generate human-like text and engage users in interactive conversations. ... With its natural language processing capabilities and advanced algorithms, ChatGPT can efficiently automate time-intensive tasks, such as summarizing and evaluating research and medical literature. (p. 1)

It is noteworthy that there are other forms of GenAI beyond ChatGPT, such as the writing assistant QuillBot, the DeepL translator, and the PDF summarizer UPDF (Couturier, 2023). Moreover, GenAI is not just used to generate text; Midjourney, for instance, is a popular image generator. Although other AI tools are used within and beyond academia, ChatGPT is by far the most popular (Conte, 2024).

Relevant to education, ChatGPT can generate rubrics and

tests for teachers (Zhu et al., 2023) and it can write—and pass—these tests for students (Morreel et al., 2023). It also can help teachers provide quick feedback on student work (Kumar, 2023; Zhu et al., 2023). Such capabilities effectively change education as we have ever known it.

Our study focuses on university students because they represent a segment of the population that is most likely to not only use but also misuse GenAI (Rahman & Watanobe, 2023). Students also are an integral part of the “massification of education”—the global trend towards high enrollment rates due to neoliberal ideology in education (Mahabeer & Pirtheepal, 2019, p. 1). In fact, data reveals that postsecondary enrollment has steadily increased almost every year since 2016 in Canada (Statistics Canada, 2023). Mahabeer and Pirtheepal (2019) contend that class sizes increase under such massification, resulting in conventional teaching configurations that are unable to meet all students’ needs. Educators in such a system seek remedies when overwhelmed by the sheer volume of student work to assess (Kumar, 2023). Consequently, the overall quality of teaching, learning, and assessment is overshadowed by doubt, potentially creating a breeding ground for academic misconduct. Massification, combined with the rising use of technology, calls upon students, educators, and postsecondary institutions to uphold academic integrity if education is to be of any value. Under a futuristic framework, at least two broad

possible scenarios can occur with the introduction of GenAI in education:

- a dystopic future—if GenAI is used haphazardly and unwisely, or if institutions decide to do nothing to regulate GenAI use, and
- a utopic future—if institutions enact clear, transparent, and serviceable GenAI use policies and monitor and record misuse of GenAI.

Herein, we explore these two possibilities based on current research within the interconnected topics of academic integrity and AI.

## Methodology

This paper explores two possible scenarios for education in a world of AI ubiquity, both utopic and dystopic. This futuristic framework is influenced by the work of Phillip Dawson, a researcher of assessment in higher education who focuses on academic integrity and the e-learning context. Dawson (2023) proposes three principles: (a) AI can generate written work comparable to students' output that postsecondary educators currently assess, (b) institutions should not (and likely cannot) ban this technology, and (c) "assessment needs to prepare students for their future, not for our past" (15:11). Using these three principles, Dawson envisions three future scenarios: a techno-utopia, a techno-dystopia, and collapse/catastrophe. While this paper does not follow Dawson's framework, his future-oriented possibilities inspire us.

To propel our study, we searched academic databases in June 2023 using the following terms:

- "artificial intelligence + assessment/grading/marketing," which yielded over 30,000 results;
- "academic integrity + assessment/grading/marketing," which increased the found results to over 60,000; and
- "ChatGPT + education," which produced an additional 1,400 results.

Limiting the date range of our results from 2018 onwards—the year ChatGPT was introduced in its first iteration, GPT-1 (Marr, 2023)—produced 43 references. Excluding the grey references reduced our search results to 39 entries. Based on the findings, we conducted a thematic analysis and uncovered the following two overarching themes: (a) an overall optimistic and utopic outlook towards AI adoption, and (b) a pessimistic, dystopic outlook about academic integrity, along with concerns about academic integrity that are applicable to AI.

## Findings and discussion: Utopic perspective

The disruptive thrust of GenAI in education can be categorized into short-, medium-, and long-term perspectives. These

perspectives can be either utopic or dystopic.

### Utopic short-, medium-, and long-term perspectives

Literature favouring AI adoption in education reveals short-, medium-, and long-term implications. The major arguments are that GenAI is efficient, aids with clear expression of ideas, and can be used to learn skills that make graduates employable.

### Ethics-driven AI

Wayne Holmes (2023), a researcher who is cautious about the adoption of GenAI, argues that these tools can be implemented ethically if considerations such as transparency, accountability, and responsibility are embedded from the beginning:

Transparency enables understanding how AI decisions are made and data is used, bolstering trust. Privacy involves responsibly managing student data to maintain user trust and protect sensitive information. Addressing biases and promoting fairness prevents potential discrimination and inequities in educational settings. Maintaining human agency ensures AI supplements but does not replace human educators or decision-making. Constructivist pedagogies can be incorporated into AI systems, promoting active engagement and critical thinking. In essence, ethics by design might help harness the potential of AI while preserving human values and encouraging effective teaching and learning practices. (p. iv)

However, in the absence of these considerations, non-ethics driven AI will serve to perpetuate existing power imbalances, albeit inadvertently (Holmes, 2023).

### Efficiency

Proponents claim that AI can help students save time with some of the more laborious tasks of completing assignments, especially those involving written communication. Halaweh (2023) has pointed out that as a text generator, GenAI can be used to summarize work, create outlines, and help with preliminary research by providing students with information and resources on a particular topic—making writers block a thing of the past—or by suggesting new topics, thereby deepening students' understanding and evaluation of the topic. Being able to respond to prompts in a human-like fashion makes GenAI a time saver and affordable. And the quality is akin to bespoke essays that contract cheating had hitherto provided.

Similar sentiments are echoed by Yu (2023), who writes that AI provides knowledge, basic language, and text services throughout the academic writing process, thus

not only relieving users' time burden, but also improving learning experiences and increasing users' interest and motivation for continuous creation. Therefore, effective systems should be

established to regulate and promote the use of artificial intelligence technologies. (p. 5)

Yu (2023) is not particularly concerned about academic integrity and contends that AI regulation will spur research. Halaweh (2023) also takes an unbothered approach toward the ethics behind such practices:

The issue of writing and editing texts in English should not be a major concern, as the main focus of courses or academic programs is not to improve English writing. Most universities around the world enforce a minimum English level (e.g., IELTS score 6 or 6.5) to enroll in courses, so students have already met the requirements. On the other hand, students can still consult proofreaders even without using ChatGPT hence editing and phrasing texts are not a concern if they are completed using such tools. Universities and faculties should not be concerned with the use of ChatGPT to generate, edit, or paraphrase texts as this does not assess students' learning and competencies in fields such as computing, mathematics, art and design, medicine, or any other field. (p. 3)

Dawson (2023) refers to the use of AI for text-generating purposes as cognitive offloading, a term describing “the use of physical action to alter the information processing requirements of a task so as to reduce cognitive demand” (Risko & Gilbert, 2016, p. 677). This includes everything from soliciting a GenAI tool in writing to making a grocery list so as not to tax memory. One of the first known critics of cognitive offloading was Socrates, who argued that a dependence on aids (in his case, writing) that exempt memorization would make people forgetful and cause them to lose critical thinking skills. Another common example is using calculators to solve equations. To Dawson (2023), one way to approach cognitive offloading is to assess whether what is being offloaded is intrinsic to the learning task or merely busy work. If it is not intrinsic, educators should consider allowing GenAI use, and if it is intrinsic, assessment methods will need to be adjusted. However, cognitive offloading is not necessarily negative, as elementary students who were taught to do simple calculations mentally will have permission to use calculators in later years of schooling once what is being assessed has also become more complex—a reverse scaffolding approach. At this juncture of cognitive development, students can also evaluate where inputting errors have been made since they know how to do the tasks without using a calculator.

### Communication facilitation

Besides its efficiency, another pro-AI argument that spans short-, medium-, and long-term perspectives is that it helps with a clear expression of ideas. Although this argument also can be linked to efficiency—formulating the perfect sentence, let alone a paragraph or essay, to convey one's ideas can be time-consuming—it goes one step further, positing

that the communication aid that AI can provide is a benefit in itself. For instance, ChatGPT (and GenAI more broadly) can help medical students improve their diagnosis, by serving as a knowledge reference, helping students practice subjective expression, and role-playing as a virtual patient with whom students can practice their communication skills, which is particularly useful for non-native speakers of English (Seetharaman, 2023). Seetharaman also notes that ChatGPT is a “tool for practicing evidence-based medicine” because students can improve their abilities to interpret medical research to real-life cases as they can “input patient symptoms into ChatGPT and receive suggestions for possible diagnoses and treatment options based on the available medical literature” (p. 1). Seetharaman adds that GenAI can provide feedback on students' writing and help medical students prep for exams by creating mock case studies for them to use as practice, and he concludes that future doctors with GenAI would be better than doctors with mere Google at their disposal.

Cutri et al. (2021) recommend a different approach toward academic integrity policies than the current surveillance method that incorporates online plagiarism/AI checkers such as Turnitin. They argue that it is essential to consider how cultural differences and the imposter phenomenon (Parkman, 2016) among PhD candidates can contribute to academic integrity violation issues. Approximately half of PhD students suffer from imposter syndrome, worsened by the high-stakes, competitive environment of academia, “where a person's success is measured by the quantity and quality of their research output, commonly referred to as an environment of publish or perish” (Cutri et al., 2021, p. 4). This creates or sustains an environment un conducive to academic literacy skill development. Eaton et al. (2019) also recommend education, rather than punishment, to teach academic integrity, as academic misconduct is often inadvertent. Cutri et al. add that international students are often unfamiliar with their host institutions' research and writing practices, in addition to lacking and thereby struggling with language proficiency. In a landscape within which many students feel a lack of self-assurance with regards to their academic writing, Cutri et al. advocate reframing academic integrity from a set of rules to be enforced to a skill to be developed. The use of AI by such students will help them and elevate their performance.

### Job skill development

AI is a tool that can help develop skills—particularly those that are serviceable in a 21st-century labour market. In a world of online learning, there is a “necessity for lifelong learning in response to an evolving job market” in which “the imperative to bridge the skills gap in non-traditional educational environments” (Zhu et al., 2023, p. 143). Thus, there currently is a unique opportunity to capitalize on ChatGPT as a tool that can provide personalized support in both educational and workplace settings.

In a video titled *How to Use ChatGPT to Easily Learn Any Skill You Want*, popular YouTuber [bri does things](#) (2023) out-

lines how she struggled with autodidacticism until she began using ChatGPT to generate study plans, teach her the most important skills she will need to learn in her desired subject via the Pareto Principle, point her to resources, generate projects for her to work on to hone her skills, help her refine her knowledge through the Socratic method, and provide her with visualization exercises to further clarify points. She has used this strategy to learn to code and feels comfortable using ChatGPT because, unlike a human tutor, it has unlimited patience and never pokes fun at a silly question. Such a tool could be a valuable resource for workforce development.

Rahman and Watanobe (2023) conclude that despite challenges, AI overall is a force of good that will provide more opportunities than harm:

The model can be used to answer questions, write essays, solve problems, explain complex topics, provide virtual tutoring, practice languages, learn programming, teach, and support research. Furthermore, the ChatGPT model can be used to solve technical (e.g., engineering and computer programming) and non-technical (e.g., language and literature) problems. (p. 18)

Therefore, the supportive nature of AI can make it a valuable tool in future business or educational settings, and it can also help to support the workforce of tomorrow as they develop their skills in a digital world.

### Utopic short- to medium-term perspectives

We envision short to medium term in the context of AI as spanning 10 years from now. The developments described here refer to the shores the educational industry will reach after resistance, acceptance, learning, and growth toward post-plagiarism that Eaton (2023) articulates.

#### Provide faculty aid

As with being a student, being an educator also comes with its share of laborious tasks, some of which GenAI can help with. Zhu et al. (2023) conducted a strength, opportunity, weakness, and threat analysis to determine how to “harness [ChatGPT’s] potential in education” (p. 134). With assessment, they found that ChatGPT helps teachers provide feedback to students and create rubrics with greater speed and ease, and it can also create questions or even tests. Rahman and Watanobe (2023) conducted experiments with ChatGPT by asking it to generate programming quizzes and found that it was able to generate satisfactory quizzes for a variety of difficulty levels, grade these assignments and quizzes, and—interestingly—even check them for plagiarism, which Rahman and Watanobe conclude “can save educators a significant amount of valuable time” (p. 8).

In situations where contingent faculty’s workload continues to escalate, AI can be a boon. Kumar (2023) posits discretion, time savings, convenience, consistency in student feedback,

and adequate quality as possible merits of using such a technology.

#### Speed of AI evolution

OpenAI’s advancement in technology and user base subscriptions are unprecedented. OpenAI was founded in 2015, and the first version of ChatGPT was released in 2018. GPT-2 was released in 2019, and GPT-3 in 2020.

When GPT-3 launched, it marked a pivotal moment when the world started acknowledging this groundbreaking technology. Although the models had been in existence for a few years, it was with GPT-3 that individuals had the opportunity to interact with ChatGPT directly, ask it questions, and receive comprehensive and practical responses. When people were able to interact directly with the LLM [large language model] like this, it became clear just how impactful this technology would become. (Marr, 2023, para. 14)

Some of GPT-4’s exponential enhancements include the ability to follow user intention, factual accuracy, and real-time internet connectivity. Marr (2023) believes “each milestone brings us closer to a future where AI seamlessly integrates into our daily lives, enhancing our productivity, creativity, and communication” (para. 16) across various industries, including customer service (automated responses), education (personalized tutoring), journalism (content creation), business (email writing, coding), healthcare (clinical decision support), and entertainment (script writing, video game storylines). These advancements have been noted and validated by the users: OpenAI enrollment was over 100 million users in just 3 months. Halaweh (2023) asserts that ChatGPT may one day be as omnipresent as the smartphone.

Even at the rapid pace of development of GenAI, students are comfortable with its use in education. Strzelecki (2023) surveyed 534 university students and noted that “as early adopters and quick learners, students often find new technologies easy to use and quickly become skilled at using them” (p. 10). Rahman and Watanobe (2023) confirmed this finding with computer science students using ChatGPT: In response to the question “Have you taken help/support from ChatGPT for solving programming problems?” almost 80% of students answered “yes,” and to the question “Do ChatGPT’s suggestions help you in solving programming problems?” over 85% answered “yes” (pp. 15-16). Although less likely than students to use the chatbot, the majority of faculty are also not immune. In fact, when faculty in Rahman and Watanobe’s study were asked if they had ever used ChatGPT for help/support with teaching programming, about 6% answered “yes.” Yu (2023) also opines that as a modern tool, AI can help solve the issues of outdated teaching methods and content in education.

### Utopic medium- to long-term perspectives

Some turbulence caused by the ubiquity of GenAI will not be calmed in the short term. The scale of changes will take 3 to 10+ years. We see these as medium- to long-term time frames.

### AI as a teaching and learning tool in higher education

For reasons ranging from the rapid rate of development of the technology, enhancements in its capabilities, to its enthusiastic embrace by students (Rahman & Watanobe, 2023; Strzelecki, 2023), researchers like Dawson (2023) suggest that AI should be integrated into higher education as a teaching and learning tool. Doing so is preparing students for a reality in which AI is ever-present—teaching to students’ futures and not instructors’ pasts (Dawson, 2023).

The current university constellations of large classes comprising diverse aptitudes, learning styles, and prior expertise make the personalized support that many students require difficult to achieve, if not impossible. Zhu et al. (2023) believe that GenAI can help address issues in “educational equality, accessibility, and inclusivity” (p. 143) by providing personalized educational support. In a world of accelerated online learning in the aftermath of the COVID-19 pandemic, Uzair and Chen (2021) state that e-learning without AI is not a viable long-term solution, while

artificial intelligence-enabled next-generation improvements, on the other hand, have the potential to completely change the virtual experience. We must completely redefine the job of an educator to improve upon the current teaching model. . . . AI has already had a significant impact on online education, with AI-powered modules appearing in all areas of education. Course delivery online has already decreased expenses, reduced inequity, and increased graduation rates in education. As a result of the AI revolution, online education could become even smarter, faster, and cheaper. It has already begun. (p. 80)

### Institutional measures may address academic integrity concerns around AI

Although institutional policies around academic integrity are often murky, some researchers see the potential for improvement, and the rise of AI technology may provide the impetus to do so. Sefcik et al.’s (2020) review and survey of institutional policies found that academic integrity education programs can have a positive impact, but lack comprehensive information on values, risk, and pitfalls of academically dishonest practices. Post the launch of ChatGPT, academic institutional efforts to revise academic integrity policies are underway, but the question remains: Do they prevent cases of academic misconduct? Data within Canada is unavailable but data from the U.K. show a 42% increase in academic dishonesty cases involving technology from 2012-2016 (Sefcik et al., 2023). Although Sefcik et al. do not mention AI explicitly

in their study, future data will reveal how this number will change in the 2020s with the rise of AI. Still, Sefcik et al. do not blame technology, as “students’ lack of knowledge and changing attitudes towards academic integrity have been cited as factors influencing these increases,” particularly at a time where “higher education is undergoing transformative changes in response to globalisation, privatisation, and changes in communications technology and social media” (p. 31). Harris et al.’s (2020) findings also have revealed that students are no more likely to cheat online than in-person (according to self-reported data). Therefore, rather than seeing technology as the core issue, Sefcik et al. recommend moving from a rules-based towards a values-based approach to academic integrity education, which they have found to be underplayed or even absent in some of the programs of their study. Perhaps the AI revolution will help spur this change.

Dawson (2021) contends that “students don’t just find e-cheating; e-cheating finds students” (p. 39), and website bans cannot be effectively implemented. The first step in the life cycle of intentional cheating is developing the intent, which begins to spread once it takes root. This has dangerous implications regarding academic integrity in our digitized world because contract cheating sites are so commonplace that they often outrank legitimate tutoring sites through search engine optimization strategies and paid advertising, tempting students who do not set out to cheat. Such “services” are so widespread that Dawson (2021) suggests

Avoiding advertisements, media articles, social media and college parties is not enough to shelter a student from the campaigns of cheating websites. . . . The entire first page of my Google search of “help with my essay” was full of cheating sites: five advertisements for cheating sites (clearly in breach of Google’s policy) and every non-ad result also a cheating site. Three of those search results have star ratings presented alongside the search results, all of which are 4.9 out of 5 (p. 41).

However, institutions can take more practical measures to prevent e-cheating, which harness technology’s power, rather than work against it (e.g., lockdown browsers, surveillance, stylometrics, and text-matching technology).

Dawson (2021) advocates using AI in exam proctoring and taking an approach that promotes academic honesty rather than one dissuading dishonesty. By faculty openly and honestly discussing issues with e-cheating sites (e.g., quality, cost, and interactivity/support), students may be better equipped for the “next time they are bombarded with offers to cheat” (p. 43).

Perkins and Roe (2023) suggest a multifaceted approach to GenAI within academic integrity models that emphasizes “technological explicitness” (p. 11); universities mustn’t shy away from explicitly rather than vaguely defining acceptable

and unacceptable uses of emerging technologies. This might include GenAI, AI detectors, and even detector evasion tools. The authors believe this will not discourage new technology but instead “ensure students understand when and how such tools can be used ethically and responsibly in their academic work” (p. 11).

The measures discussed above—policy-governed spaces, moving from rules-based to value-based spaces to foster academic integrity, and use of AI technology to promote honesty rather than prevent dishonesty—are within universities’ means; however, they are not quick fixes. They involve changing the approach to academic integrity and using AI in education. Hence, they are medium- (3-10 years) to long-term (10+ years) initiatives.

### **Faculty will learn to navigate AI’s capabilities and limitations**

Dawson’s (2021) suggestions connect with a final, utopic assertion of pro-AI literature—that while administrators should allow it as a teaching and learning tool, it is also up to faculty to stay abreast of modern advances in technology, including AI, and how to incorporate them into education. LLMs, like ChatGPT, can serve as teaching assistants to faculty and lesson planners, and perhaps one day can be used to provide virtual lab simulations for students (Lee, 2023). While there are concerns, such as students’ over reliance on AI in lieu of critical thinking, students using it as a primary source of information even when it is inaccurate, or students using it to write an entire paper without fully understanding the material (academic dishonesty), Lee (2023) maintains the utopic view that

Educators can reduce the likelihood of this by providing clear guidelines and expectations for assignments and communicating the consequences of academic dishonesty. They can also incorporate assessments that require critical thinking, creativity, and the synthesis of information that cannot be easily completed with language models. Newer plagiarism detection technologies (e.g., Originality.ai, GPTZero, and Plagibot) can also be used to counter this unintended consequence of ChatGPT. (p. 4)

Halaweh (2023) also advocates for AI’s integration into education and examines strategies and techniques to ensure its responsible implementation in teaching. He suggests auditing students’ query trails (having students provide a record of their prompts and the chatbot’s responses), using AI detector tools, and “swapping roles” (having the instructor generate texts with AI and have students check its accuracy, search for more relevant texts, and build on its information). Halaweh concludes that educators should allow and initiate the use of AI, “as students are likely to use it regardless” (p. 9).

In sum, the utopic view of AI use in education relies heavily on faculty members to uphold values of academic integrity.

AI can be a useful and helpful ally in education if changes are made in expectations, instructions, and assessments. However, this effort relies heavily on all stakeholders—students, faculty, administrators, the public, and innovators (to provide the functions and features to harness enabling features)—to take us to the utopic shores.

## **Dystopic views on the future of academic integrity as it relates to AI**

The preceding section discussed the complexity of integrating AI into academia. The call to change the instruction, assessment, and culture is not quickly or easily accomplished. Dystopia is just as likely, and many scholars have cautioned as much. What follows is a discussion of the dystopic future.

### **Dystopic short- and medium-term perspectives**

#### **Lack of consistency and transparency in academic integrity policies**

Academic integrity policies are not always uniformly applied (Cutri et al., 2021; Eaton et al., 2019; McCabe, 2016), while the utopic view advocates a robust policy application. The first problem emerges if there are inconsistencies and murkiness with policies across the sector. The disparity would be immense, yet there is no coherent mechanism to create consistent policies across Canadian universities in the short term. Over time, more likely than not, the policies would anneal towards what is acceptable across universities and colleges.

A lack of policy uniformity is concerning to both students and faculty. According to an annotated bibliography on academic integrity in Canadian higher education compiled by Eaton et al. (2019), there is no standard national framework. The following institutional considerations were presented:

Inconsistencies between policies and their implementation between and within institutes are commonplace and contribute to a culture of academic dishonesty. . . . There are inconsistencies between the way student and faculty academic misconduct is handled, with faculty identification of misconduct allegedly being covered up or misconduct not penalized, . . . [and] there is a disconnect between the relatively low number of students reported for plagiarism (1.5% at one institution) and the high numbers of students who report engaging in academically dishonest behaviours. (p. 19)

There is no clear consensus in Canada on what constitutes academic dishonesty and how (or whether) to penalize it.

Eaton et al.’s (2019) findings that faculty misconduct cases allegedly have been covered up build upon McCabe’s (2016) research that uncovered a disaffected attitude towards academic integrity on the part of some students. Interestingly, “cheaters often tend to place some blame on faculty for their cheating” (McCabe, 2016, p. 193) and when asked about motivations to

cheat, two common reasons given are that professors have not made the rules clear and/or that the student feels the need to earn a high grade. Regarding academic integrity policy, one student stated:

Honestly, it is going to happen regardless. Students are smart enough to get around anything and everything that the University could do to regulate cheating. It is nearly impossible to regulate each and every single student. Realistically, no one is going to report someone cheating because no one cares. It is a serious issue but honestly all college students are in college for themselves. ... Students know which classes and which professors tend to keep the same tests year after year, and it just supports the circular idea of cheating. If I know that a friend of mine has answers to all of an online class's tests and assignments that have been passed down for a few semesters that haven't changed, I'm much more likely to take that class, especially if it counts for a requirement that doesn't fall within my major or interests. (McCabe, 2016, p. 197)

Stevenson et al. (2023) conducted a quantitative study on students' willingness to report peers for academic integrity violations. After surveying 442 baccalaureate students using McCabe's Academic Integrity Survey-Modified for Nursing Students, they uncovered that students are willing to cooperate when they feel supported by faculty, believe their reports will make a difference, clearly understand what constitutes a violation, and believe that program-wide strategies would prevent further violations. Basically, students will take academic integrity seriously if they feel that their school is doing the same.

In a Canadian study conducted between 2002 and 2003 by Christensen Hughes and McCabe (2006), university students who cheat were found not to be well versed in academic integrity issues or policies, and one reason for cheating was the perception of low risk of being caught. Even though most faculty (75%) and TAs (80%) in the study reported that they had a suspected case of cheating in their class over the past year, less than half agreed that cheating was a serious problem in their institution; many even reported ignoring the incidents of cheating, whether due to lack of proof (the dominant reason for other concerns). These include "lack of support from administration (20% faculty, 16% TAs); lack of time to pursue suspected cases (20% faculty, 13% TAs); and the trivial nature of the offence (20% faculty, 24% TAs)" Christensen Hughes & McCabe, 2006, p. 12. Fifteen years later, when another study was conducted at Canadian universities that focused explicitly on international students, researchers similarly found that students were unsure of academic integrity concepts, with particular difficulties comprehending the topics of self-plagiarism and contract cheating (Sanni-Anibire et al., 2021). Yet another study at a Canadian university found that approximately

half of students believed both that their instructors were more concerned with cheating, and that their peers committed more academic misconduct during the sudden shift to remote learning during the COVID-19 pandemic (Stoesz et al., 2023). Therefore, the concept of academic integrity has been blurred for a long time, and integrity standards have been difficult to maintain. With no clear policies regarding academic integrity in general, let alone academic integrity with respect to AI use, there is no reason to infer that universities are equipped for the storm about to ensue.

Another issue that is germane here are the lessons that have been learned and can be applied to the burgeoning use of AI in universities and colleges in Canada. First, the use of AI cannot be ignored; second, policy response must be swift and consistent; and finally, substantial resources must be deployed to identify unwarranted uses of AI, which need to be curbed through education that dissuades the indefensible use of AI in education.

### **AI is not reliably detected**

Even if clear policies for the permissible use of AI exist, their enforcement fails because the cases of breaches are not yet reliably detectable. For detection, two modalities are available: automated detection and human detection. Concerning automated detection, Rahman and Watanobe (2023) note that "existing plagiarism detection tools are finding it increasingly difficult to distinguish between AI- and human-generated texts" (p. 16). Weber-Wulff et al.'s (2023) comprehensive study of 14 GenAI detection tools found them unreliable, often resulting in false positives and false negatives. Halaweh (2023) also mentions an experiment in which plagiarism detectors were used on 50 essays written by ChatGPT, and 40 had a similarity score of 20% or less (i.e., they appeared original). Efforts to reliably detect AI-generated text are underway, but they are in their infancy (e.g., see Aaronson, 2022; Lancaster, 2023).

Human detection also is fallible. Kumar and Mindzak (2024) conducted a study in which participants were asked to guess the authorship of passages. While the success rate for human compositions was at 66%, AI-generated prose was only accurately detected 24% of the time.

Our contention is that the technology for automated detection will continue to evolve, but it will take some time, which is why we see it as a medium-term (3 to 10 years) challenge.

### **Dystopic short-, medium-, and long-term perspectives**

#### **Economic power implications beyond education and ChatGPT**

As Holmes (2023) points out, AI systems go beyond ChatGPT, and "underpin everything from mobile phones apps to online shopping, weather forecasts to medical diagnostics, financial and legal services to autonomous vehicles, and much more" (p. i). While there is great potential, there is also great concern to

be raised about security, perpetuating bias, job displacement, and more. For example, generative AI tools are designed to reproduce text most readily available on the internet, thus reproducing what is dominant and further marginalizing minority voices. Similar problems can be found in image, music, and code-related GenAI, as these outputs are based on what is dominant in web searches; this also has legal repercussions that have yet to be ironed out in the courts. Human artists, on whose original work these outputs are based, are not given any consideration of their intellectual property by these generators (Harris et al., 2020).

In fact, Holmes (2023) goes on to argue that many artificial intelligence in education (AIED) tools are also questionable, whether for ethical, pedagogical, or educational purposes, for similar reasons: its potential of reinforcing inequity, commercially exploiting student data, or embedding primitive approaches to pedagogy that disempower teachers and commodify education.

### Authentic assessment

Some researchers suggest that instructors must proactively alter their assessment and evaluation practices considering the tools students now have at their disposal in an e-learning environment, such as incorporating oral presentation assignments, making use of more sophisticated plagiarism detection software, or conducting more authentic assessments (Illingworth, 2023, January 19; Kumar et al., 2023; OConnor, 2023; Vellanki et al., 2023). Illingworth (2023) writes in an article for *The Conversation* that he sees the rise of ChatGPT as an opportunity to move towards more authentic assessments:

For me, the major challenge that ChatGPT presents is one I should be considering anyway: how can I make my assessments more authentic—meaning, useful and relevant. Authentic assessments are designed to measure students’ knowledge and skills in a way that is particularly tailored to their own lives and future careers. (para. 9)

However, as online courses become more commonplace and popular, an AI ban becomes even more impossible—if that ever was a viable solution. Like many other researchers, Dawson (2023) does not favour banning AI, stating “restrictions that don’t work are theatre” (23:17). It is neither practical nor desirable to ban a technology that is so quickly becoming a part of everyday life, but a *laissez-faire* approach is also ineffective since “what is easy in the short term probably won’t work in the long-term” (Dawson, 2023, 29:46). But authentic assignments in their current form should not be considered as panacea for the can of worms AI has unleashed. GenAI can already do several assignments that professors would consider authentic, such as writing a blog post on a given topic in a specific style/voice (an authentic, hands-on activity a student may be asked to do in a marketing or professional writing course), and it can also generate scripts for oral presentations. Dawson (2023) also posits that students are actually more likely to

cheat on reflective tasks, which is a common component of authentic assessments.

Some of Dawson’s (2023) suggestions for combating academic dishonesty in our techno-saturated world are to go back to invigilation of authentic tasks (e.g., blog writing, but in a supervised class environment, and with a pen and pencil), mixing the traditional way of assessment with the new; to create an unindexable university library that AI cannot access, thereby protecting certain resources from e-cheating; or to have benchmark points within university programs whereby students may have to complete an interview or other assessment to prove their competence in degree-level learning outcomes. These suggestions are akin to returning to the analog approaches that Kumar (2023) discussed. Such approaches are not authentic assessment but rather “future-authentic assessment”: preparing students for where they are going, not where we have been (Dawson, 2023).

The return to such measures will likely be met with tremendous resistance and require a culture change. This might be easily implemented in some places and disciplines while posing a more significant challenge in others. That is why we envision adopting authentic assessments to span short-, medium-, to long-term initiatives.

### Upholding standards or not meeting students’ needs

Authentic assessments are no cure-all; even returning to more traditional assessment methods to make them more AI-proof will encounter push-back. In Vellanki et al.’s (2023) interviews and questionnaires with teacher participants, the following suggestions were made: designing e-quizzes so that only one question can be seen at a time and randomizing the order, enabling a lockdown browser mode, disabling multiple logins at the same time, and setting an enforced time limit for tests. Furthermore, online invigilation should be done with one invigilator overseeing a small number of students to give them more focus, and students caught abusing the online learning environment should be made to take the test in person. According to feedback from Vellanki et al.’s (2023) research participants, there should also be “repercussions for students who do not follow reasonable directions from teachers” such as turning on their camera during assessments, they should be warned that “continued defiance will result in failing that exam” (p. 21). These measures may seem reasonable or even fair, but some institutions will resist them, and champions of accommodation for time will strenuously oppose reversing the gains they have made for persons with disabilities.

The foundations of accommodations begin early on. For instance, the Ontario Ministry of Education’s (Ontario Ministry of Education, 2010) policy document, *Growing Success: Assessment, Evaluation, and Reporting in Ontario Schools*, sets the guidelines for Ontario K-12 schools. It notes that experts recommend not penalizing students for late or missing work but instead assessing these as ungraded learning skills and work habits. This supports “non-performing students by help-



ing them develop these skills and habits, rather than using punitive measures,” and “is a matter of meeting individual students’ needs and should not be considered a form of unwarranted ‘special treatment’” (p. 46). The *Growing Success* document also recommends several alternatives to giving zeros for late or missing work (p. 43), implicitly stating that zeros should not be given. Many school boards have interpreted this to mean that students may: submit any and all coursework up to and including on the last day of school (and sometimes beyond) with no penalties; resubmit work multiple times until they pass (or get a grade they desire); and receive no punishment for academic dishonesty, aside from a chance to redo it if they are caught. Consequently, “teacher burnout” is a significant issue among Canadian teachers today, with 81% of teachers admitting to putting students’ needs above their own mental health, according to a special report by the Canadian Teachers’ Federation (2022). The report cites increased workload; job uncertainty (always having to be “on” due to increased expectations to be always at one’s own device); and inadequate support from school, board, and Ministry leadership as reasons for teachers’ poor mental health in the wake of the COVID-19 pandemic. K-12 schools’ interpretation of *Growing Success* not only encourages delinquent behaviour in students but also has led to teachers working around the clock to follow up with students and phone or email parents to offer multiple opportunities to failing students so the teacher can justify passing them. In today’s K-12 climate, the onus and stigma of failure is on the teachers, not the students.

The lesson learned in the context of accommodation is that misinterpretation of policies can lead to the erosion of quality. In the context of AI use, the challenge is to craft policies that are not prone to misinterpretation and practices that do not undermine the quality but elevate it.

Though the Ministry of Education’s policies do not apply after secondary school, they bleed into university expectations, leading to an overall disregard for academic rigour. For instance, in a recent Toronto Star article, Hurley (2022) reports that between 2007 and 2021, “the number of first-year students entering with a high school average of 95+% increased, for example, by 885 percent at Western” (para. 11). The article also includes an interview with an owner of an educational consulting firm, who admits schools adopt a customer-is-always-right model whenever a parent or advocate (such as herself) questions a teacher’s grading: “Sometimes when I’m advocating for a student, I’ll say (to a school) if you look at the expectations, you’re saying that they’ve met this and this and this . . . and then suddenly the student’s mark will go from a 55 to 78” (as cited in Hurley, 2022, para. 53). A professor from Western University adds “teachers without administrative support, professors without tenure and universities relying on . . . funding . . . create a situation where there is pressure to keep students and parents happy” (as cited in Hurley, 2022, para. 54). This was reflected in the case of a former Princeton professor and organic chemistry textbook author, who was

fired from NYU after students complained his course was too difficult. Students signed a petition claiming that Professor Maitland Jones “lacked empathy for those students faced with family or other personal problems” and “that his organic chemistry course workload amounted to two-and-a-half hours of lectures on top of up to four hours of lab work weekly” (Trager, 2022, para. 2)—a typical amount of work for an undergraduate science class with a laboratory component. The professor has responded that there is a notable decline in student capacity over recent years as administrators bend to their wishes and opt to coddle students for tuition payments, rather than give them tough love. He adds that “[Young professors’] entire careers are at the peril of complaining students and deans who seem willing to turn students into nothing more than tuition-paying clients (as cited in Griffin, 2022, para. 8). There is a certain level of irony insofar as what some consider inclusive assessment practices, others see as perpetuating a neoliberal, business/consumer relationship in which students are just a number, and their needs are not met at all. It is not surprising that in such an academic climate, cheating may be under-reported (Eaton, 2020).

While these concerns of quality and rigour pre-date the AI influx, the problems of suspicious authorship, resistance toward the kinds of suggestions made by Vellanki et al. (2023), and caution against relying on reflective assignments (Dawson, 2023) are bound to complicate issues of quality in the age of AI.

#### **Faculty concerns: “I am not a police officer”**

Dr. Maitland Jones’s case is not an isolated case that demonstrates wariness about anti-intellectualism and the lack of support some administrators demonstrate in handling student complaints. Obtaining input from nursing faculty through one-on-one, face-to-face, semi-structured interviews, Lynch et al. (2021) found that faculty resented having to take on the role of an investigator or police officer to detect and report instances of academic misconduct; while the faculty members felt that academic integrity was critical within their program, “sanctions for deliberate cheaters were considered weak, did not dissuade students who were not suitable to become nurses and, also undermined the implementation of policy” (p. 12). The researchers recommended that while individual faculty need to be vigilant, more support is needed at an institutional level, such as additional time for teachers to identify and escalate cases within their already considerable workload, smaller class sizes, and clear and transparent academic integrity policy (Lynch et al., 2021).

Mahabeer and Pirtheepal’s (2019) research on faculty members’ experiences and perceptions revealed that faculty felt overworked because of large class sizes, which are a symptom of massification of education. With large classes, one faculty member remarked that administering tests in-person could be a “nightmare” (Mahabeer & Pirtheepal, 2019, p. 4), but the educators found that moving to online assessments was also an imperfect solution that elicited academically dishonest

behaviours. Participants expressed feeling unsupported by the university to manage large-scale teaching and assessments. As the study found, “emphasis of equity and redress without support for students who come poorly prepared from the school system, has destructive repercussions for the quality of education and the quality of graduates produced in universities” (Mahabeer & Pirtheepal, 2019, p. 4). Therefore, while GenAI technology is not necessarily problematic, it may undermine educational standards if faculty members are not provided adequate support. Absent such support, faculty may proclaim, I am not a police officer, I am an educator—if students choose to perjure themselves, they are deprived of quality education, and that is my problem.

### Dystopic perspectives about institutions

According to Eaton (2020), instances of academic dishonesty are treated as one-offs by Canadian higher education institutions. The chief reason is that there is scant research conducted to truly probe into academic dishonesty on a macro level; no such study has been done since 2006, when findings showed that over half of undergraduate students had committed some form of academic misconduct. Even so, “there are currently no large-scale initiatives underway to monitor academic integrity in Canadian higher education nationally” (Eaton, 2020, para. 22). In keeping with Fredrick Taylor’s dictum of the need to eliminate guess work, which is what we have in absence of data, strict and systematic collection of data is what is needed (Owens & Valesky, 2015).

Many researchers argue that the disregard for academic integrity in higher education is a systemic issue steeped in neoliberalism (Crossman, 2022; Mahabeer & Pirtheepal, 2019). Crossman (2022) argues that while people are quick to point fingers at individual cheaters, “emerging and systemic issues in higher education and society as a whole have contributed to the ubiquity of academic misconduct and how it has shapeshifted in response to new pressures and technologies” (p. 218). That is, the expectation and desire to earn a postsecondary degree at any cost has driven students to engage in questionable behaviours that constitute academic misconduct. Crossman (2022) further explains that “neoliberalist pressures on postsecondary institutions have led to an academic landscape where knowledge is a commodity, transcripts and credentials are products, and students are consumers” (p. 218). Based on Crossman’s review of the literature, contract cheating is one manifestation of institutional attitudes of education as a farcical transaction, where lip service is paid to the quest for knowledge, but the reality is that time and money are exchanged for credentials, with the expectation that this will lead to job opportunities. The dystopic view of AI use holds that it will continue to put a strain on education and do little to preserve or uphold academic integrity.

Bretag (2019) argued that institutions, and not individuals, are responsible for building cultures of integrity, and the widely recognized ramifications of not upholding academic integrity include “students’ learning outcomes, institutional reputations,

educational standards and credibility, professional practice and public safety” (p. 9), yet researching and publicly speaking about academic misconduct is seen as controversial as it casts a shadow on the educational enterprise. It is particularly true when focusing on international students, which Bretag had often considered a highly controversial, overtly political, inappropriate field of inquiry. Paradoxically, post-secondary institutions are commercialized, internationalized, and under-funded (Bretag, 2019). This needs to change at the institutional level for these issues to be addressed for international and non-international students alike, who all may have had different K-12 experiences and understandings of academic integrity—particularly in cases where the policies are unclear. The evidence of this is apparent at present when different institutions are at different stages of developing policies for AI use. Given the discrepancy in policy development on other issues, such as bullying, social media use, *inter alia*, we envision this to span from now until well over a decade, and hence over a short-, medium-, and long-term time frame.

Bertram Gallant and Drinan (2006) have outlined their recommendations for organizational change strategies that can help improve academic integrity standards at an institutional level; one such strategy is “thinking nationally, acting locally” (p. 852). They recommend that as educational organizations exist within a localized political system that shares the same mediating forces, academic integrity policies should begin at the same jurisdictional level—say, national. They encourage national associations and accrediting bodies to join the dialogue to heighten public awareness of integrity breaches in education. In sum, we need an effective and practical top-down approach to maintaining academic integrity, or there will be disastrous effects on academia (Bertram Gallant & Drinan, 2006). This recommendation is more difficult than it seems because there is such difficulty achieving consensus at a local level, let alone coherent agreement at national levels. Failing to do so, however, will threaten the nature of higher education itself as it is a universal issue.

### Academic integrity frameworks: Where does AI fit in?

#### Academic integrity values and AI

One example of an institutional body that has attempted to unify and promote academic integrity is the International Center for Academic Integrity (ICAI), founded in 1992 by Don McCabe. The members of this non-profit are individuals, institutions, agencies, and corporations that care about combatting cheating and plagiarism in higher education. According to the ICAI (2021), the six values of academic integrity are honesty, fairness, trust, respect, responsibility, and courage. These values were confirmed in Lynch et al.’s (2022) research study focusing on faculty views, which revealed that the faculty perceived academic integrity as interlinked with professional conduct. They believed principles of integrity, such as trust and honesty, were fundamental to both. One participant remarked that these values transfer to real life and the workplace.

Faculty in Lynch et al.'s (2022) study were concerned that poor behaviour at a university would carry into the workplace and saw the importance of fostering honesty and integrity among student nurses because “they could clearly see actions and behavior demonstrated at university being emulated in clinical practice” (p. 467), and therefore suggested the need for a more explicit curricular link between academic and professional integrity.

Concerning AI use, establishing values of academic integrity is less straightforward. AI cannot be personified; unlike humans, AI cannot take responsibility (Singer, 2009). It also cannot understand the complexities of honesty, fairness, trust, respect, or courage, because the values of academic integrity require a human element that AI cannot possess. ChatGPT is not always honest—it was trained on human data and reflects the same values of inaccuracies, falsehood, and truth all intermingled. GenAI trained on human data from the internet has been found to misattribute quotes and make up facts to suit its prompts (Eaton et al., 2021). As Lynch et al. (2022) forewarned, this indeed has professional repercussions; in one instance, a lawyer was caught using GenAI in legal research and cited fabricated cases. In fact, when the lawyer prompted the chatbot to answer whether the cases were real, the chatbot responded affirmatively and claimed the fictitious cases were available in legal databases such as LexisNexis (Armstrong, 2023). The lawyer is now facing disciplinary action. Evidently, AI cannot take responsibility, but humans must. Using and failing to check AI output, they must also take responsibility for their AI minions.

### AI and the psychology of cheating

Certain factors contribute to students' propensity to cheat, and adding AI into the mix with unclear usage guidelines could heighten their current propensities. One theory, called “the fraud triangle,” which was based on Cressey's work of the psychology of embezzlers, has been found to apply to academic integrity as well (Choo & Tan, 2008, p. 205). Within this triangle, the three main effects of pressure, opportunities, and rationalization have been found to explain one's reasons for cheating, not only in financial but also academic settings. In a research survey, each independent variable was defined to participants by using examples: the pressure “to meet student loan or other financial obligations, to enhance future job prospects, to graduate on time, etc.”; opportunities to cheat, such as “lax controls in exam room, able to hide test answers in electronic devices, seats can be arranged to look at other students' exam papers, etc.”; and rationalization with one's personal level of integrity: “nothing to lose, everyone else has cheated, rules are meant to be broken, the exam is unfair, the instructor is a hard grader, the instructor does not seem to care, etc.” (Choo & Tan, 2008, p. 209).

Another similar framework used to conceptualize the concept of fraud is the “fraud diamond” (Wolfe & Hermanson, 2004, p. 38), which considers the elements of incentive, opportunity, rationalization, and capability. Choo and Tan's (2008)

study found that each of the three points of the fraud triangle was statistically significant, even on its own, and that students' cheating behaviour was also compounded by the interactive effect of multiple points of the triangle if they were present together—whether pressure, opportunities, and/or rationalization. The fraud triangle and the fraud diamond are useful frameworks that offer possible ideas for how undesired behaviours might be curbed in an educational setting when contemplating permissible AI use. The pressure of a neoliberal education system with ever-increasing tuition costs and class sizes, the opportunities provided by uninhibited AI use, and the rationalization that AI is ubiquitous and a part of the new normal in academia could lead to a very unfortunate landscape for academic integrity in higher education.

## Limitations

This review comes with its own set of limitations, which future articles may elucidate further. Firstly, as GenAI is such a new form of technology, there is not an abundance of research available on the topic. While numerous opinion and speculative pieces have been published since the launch of ChatGPT in November 2022, the paucity of empirical work in the field to date makes this review particularly challenging. Finding research studies, particularly quantitative studies, as well as peer reviewed articles posed a challenge, as many articles were based on authors' opinions and predictions about what the future of AI may bring; nobody knows for certain. Research about GenAI is still emerging, as is the technology itself.

Additionally, this research focused on higher education, but high school is an area for potential future research. This technology is most definitely being used in a K-12 context as well; however, there is sparse literature available on GenAI use in secondary school, as even the research within higher education is not yet very robust.

## Conclusion

This paper examined the potential repercussions of using AI in education and what this may entail for academic integrity in higher education institutions. Academic databases were searched based on key terms corresponding to AI and assessment, academic integrity and assessment, and ChatGPT and education, and a thematic analysis was conducted to identify intersections. Under a futuristic framework, possible utopic and dystopic scenarios were envisioned based on the literature, with an emphasis on articles from 2018 and later. These scenarios were further subdivided into short-, medium-, and long-term implications.

Some utopic perspectives included AI's efficiency, ability to facilitate communication, and potential use in job skill development or as a teaching and learning tool in higher education. Utopic views also included the belief that institutional measures may come to address academic integrity concerns

around AI in time and that faculty will learn to navigate AI's capabilities and limitations in a manner that also promotes academic integrity and responsible use.

Some dystopic perspectives were the lack of consistency and transparency in current academic integrity policies (which may worsen as AI is integrated into existing policies); that AI is not always detectable, and therefore enforcing any responsible use policy will be challenging if not impossible; authentic assessment on its own is not enough; upholding standards may be viewed as not being student friendly; faculty will resent having to enforce AI/academic integrity policies; and lastly, according to current academic integrity frameworks, there is ample room for AI to revolutionize postsecondary education.

Nobody precisely knows the future of GenAI and its role in academia. One certain thing is that AI is now being used within postsecondary settings and will continue to be used. How (and if) institutions choose to respond will shape the future of education in general and the meaning of academic integrity within higher education institutions. As Dawson (2023) mentions, this is not a matter of whether we can cross the bridge when we get to it; we need to prepare for the eventuality of AI in higher education before we are confronted with it. For better or worse, we are already on the bridge.

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