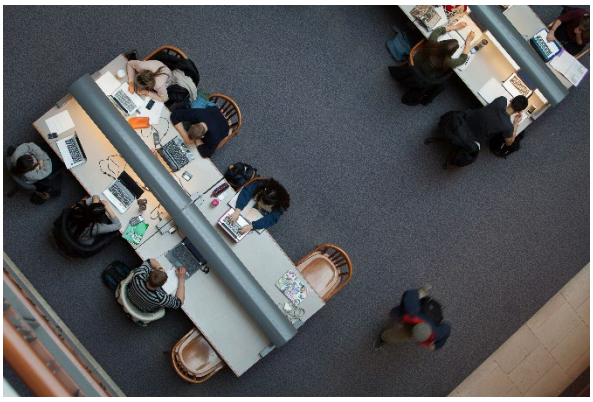
Guidance on the use of generative artificial intelligence in assessment

Last updated: October 15, 2024

Background



Assessment is a fundamental component of the learning process. Beyond strict evaluative purposes, assessment provides a structured mechanism for providing feedback, enabling instructors to identify student strengths and areas for improvement. Through assessments, educators can also gauge the effectiveness of their instructional methods and adjust instructional strategies to better meet the needs of their students.

Recent advancements in generative AI, particularly in the domain of text generation, have introduced both opportunities and challenges in the practice of education. While tools like ChatGPT have the potential to democratize access to sophisticated writing aids, they also pose significant risks to academic integrity and core principles of teaching and learning. As highlighted in the U.S. Department of Education's 2023 report on *Artificial Intelligence and the Future of Teaching and Learning*, maintaining a "human in the loop" is crucial to ensure that educators, learners, and other stakeholders retain their agency in educational processes. Moreover, concerns around privacy, intellectual property, and the quality of AI-generated feedback[1] underscore the necessity of clear guidelines.

A recent (2024) Privacy Complaint Report (PI21-00001) by the Information and Privacy Commissioner of Ontario further underscores the need for guardrails when utilizing AI technologies. The report recommends that institutions adopting AI tools must ensure these tools are privacy protective, transparent, accountable, and human rights affirming.

Given these complexities, Queen's University is committed to ensuring that the use of Generative AI in student assessment aligns with our values of privacy, academic integrity, and high-quality, human-centred education.

Guidance

The purpose of this guidance is to recommend the conditions under which the use of generative AI tools by instructors and teaching assistants (TAs) for assessing student work may be appropriate. These recommendations aim to ensure the integrity of student assessment, protection of student privacy, and to maintain a human-centred approach to education.

In teaching teams (e.g., an instructor and teaching assistants), the instructor of record has oversight and responsibility for other graders, including determining if generative AI tools can be used for assessment.

[1] Research by Sharples (2022) emphasizes that while AI systems can provide students initial feedback on written work, these systems often lack the contextual understanding and ethical grounding necessary for nuanced educational interactions. Additionally, Kumar (2023) highlights the ethical and practical dilemmas faced by educators considering AI for grading, pointing out the potential pitfalls such as biases in AI-generated feedback and the legal implications of using such tools without explicit consent and oversight.

Recommendations

Human-centred decision making

Assessment is a crucial element of student learning and instructor feedback. It is essential that human judgement and interaction remain central to this process. Any final assessment and interpretation related to the evaluation of student work needs to involve human judgment and engagement. AI-generated assessment outputs should be critically reviewed and interpreted by humans, with final decisions resting with human evaluators. Throughout the assessment process, humans retain responsibility, ensuring that generative AI serves as a tool and not as a substitute for human oversight.

Manage risks to do no harm

Instructors will need to manage the known risks of generative AI tools, such as the introduction of unintended bias from the generative AI tool's training data and the lack of transparency in how decisions are made by these tools (the "black box" problem). Due to of our emergent understanding of how best to manage these risks, and the significance of grades for students' future opportunities, it is strongly recommended that generative AI tools not be used for summative assessment at this time. These tools, however, may be used to enhance the formative assessment processes, providing support for student learning.

Protect privacy

It is an instructor's responsibility to manage students' right to privacy. It is recommended that any generative AI tool used for the purposed of student assessment has undergone Queen's security assessment process (SAP). See Appendix A for a list of AI tools that have undergone Queen's SAP.

Respect intellectual property

Student's intellectual property must be respected. Current University policies, such as the Intellectual Property Commercialization Policy, state that students retain the intellectual property (IP) of what they create at Queen's. The terms of service for many third-party generative AI tools may contravene the retention of IP.

Seek informed consent

Given the university's IP and privacy policies, it is recommended that students are informed of, and that consent is sought for the planned use of a generative AI tool for any assessment purposes. In cases where a student chooses to opt out, instructors or TAs should evaluate the student's work without the use of generative AI tools.

Review and updates

This guidance will be reviewed at least annually by the Vice-Provost, Teaching and Learning and updated as necessary to reflect changes in technology, risk, pedagogy, and institutional needs.

Example Situations for the Use of Generative AI Tools in Student Work Assessment

Situation 1: Formative Feedback on Draft Assignments

Generative AI Tool: Text Analysis Tool

Request: Instructor plans to use a Text Analysis Tool to provide formative feedback on student draft essays. The tool will highlight areas where students could improve their clarity, structure, and argumentation before final submission.

Rationale:

✅ **Security Assessment:** The Text Analysis Tool has successfully undergone the Queen's security assessment process.
✅ **Student Consent:** Instructor has developed a plan to inform students of use and how consent will be collected for their drafts to be evaluated using the Text Analysis Tool.
✅ **Alternative Options:** Instructor confirms that students who do not consent will receive feedback directly from the instructor.
✅ **Human in the Loop:** Instructor will review all AI-generated feedback and provide additional comments, ensuring that the final judgment is human-made.

Decision: ✅ proceed

Situation 2: Summarizing Peer Review Comments

Generative AI Tool: Peer Review Summary Tool

Request: Instructor proposes to use a Peer Review Summary Tool to synthesize comments from multiple peer reviewers on student research proposals. The AI will compile the comments into a cohesive summary, which the instructor will then review and finalize before sharing with students.

Rationale:

✅ **Security Assessment:** The Peer Review Summary Tool has passed the Queen's security assessment.
✅ **Student Consent:** Instructor has developed a plan to inform of use and collect student consent.
✅ **Alternative Options:** Students who do not consent are allowed to receive the original peer review comments without AI synthesis.
✅ **Human in the Loop:** Instructor will ensure human oversight by reviewing and finalizing the AI-generated summaries, maintaining the integrity and accuracy of the feedback process.

Decision: ✅ proceed

Situation 3: Grading and Feedback on Final Research Papers

Generative AI Tool: Automated Essay Grader

Request: Instructor plans to use an AI-powered Automated Essay Grader to grade final research papers and provide feedback directly to students, aiming to reduce the workload during the final grading period.

Rationale

✅ **Security Assessment:** The Automated Essay Grader has passed the Queen's security assessment process.
✅ **Student Consent:** Instructor has a plan to seek consent and details how students can withdraw consent.
⛔ **Alternative Options:** No clear alternative is planned for students who withdraw consent.
⛔ **Human in the Loop:** The proposal lacks adequate human oversight, as instructor intends for the Automated Essay Grader to handle grading and feedback entirely, which does not align with the guideline that final judgment and interpretation should be human made.

Decision: ⛔ do not proceed

References

Kumar, R. (2023). Faculty members' use of artificial intelligence to grade student papers: a case of implications. *International Journal for Educational Integrity*, *19*(1), 9. https://doi.org/10.1007/s40979-023-00130-7

Office of the Information and Privacy Commissioner of Ontario. (2024). Privacy complaint report: McMaster University and use of AI in exam proctoring. https://decisions.ipc.on.ca/ipc-cipvp/privacy/en/item/521580/index.do

Sharples, M. (2022). Automated Essay Writing: An AIED Opinion. *International Journal of Artificial Intelligence in Education*, *32*(4), 1119–1126. https://doi.org/10.1007/s40593-022-00300-7

Swiecki, Z., Khosravi, H., Chen, G., Martinez-Maldonado, R., Lodge, J. M., Milligan, S., Selwyn, N. & Gašević, D. (2022). Assessment in the age of artificial intelligence. *Computers and Education: Artificial Intelligence*, 3, 100075. https://doi.org/10.1016/j.caeai.2022.100075

U.S. Department of Education, Office of Educational Technology. (2023). *Artificial intelligence and future of teaching and learning: Insights and recommendations*. https://tech.ed.gov/ai-future-of-teaching-and-learning/

Ontario's Freedom of Information and Protection of Privacy Act (FIPPA), Link.

Queen's University Intellectual Property Commercialization Policy, Link.

Queen's University Security Assessment Process, Link.

Appendix A: AI applications assessed using the Queen's University Security Assessment Process

These listed AI applications were assessed internally by the University's own Security Assessment Process that measures the risks involved with the University's data security and privacy protection. Under those parameters, these listed applications are to be considered "safe to use." Regarding the AI functionalities for these and other AI applications, however, users (faculty, staff, and students) should exercise critical judgement in the use of the outputs of these AI tools.

For more information, please refer to the Guidance for AI at Queen's | Artificial Intelligence (queensu.ca) web page.

Name	Vendor
GPT-4o - Decision-Making Research - 07/2024	Open-AI (ChatGPT)
ChatGPT 4 - OpenAI - 04/2004	Open-AI (ChatGPT)
Microsoft Co-Pilot - Generative AI Text Chatbot - 01/2024	Microsoft Corporation
Otter.AI - Interview Transcription - 11/2023	Otter.AI
captions.ai - 10/2023	Captions.ai
Ad Auris.ai - 10/2023	Adauris.ai
ChatGPT Plus - Paid version - 09/2023	Open-AI (ChatGPT)
ChatGPT - Free version - 09/2023	Open-AI (ChatGPT)
Deepgram - 09/2023	Deepgram
VoiceGain - Glean transcription add-on - 09/2023	Voicegain.ai
Glean for Education - Note-taking tool - 09/2023	Sonocent.com
Wordly.ai - Zoom translation integration - 03/2022	Wordly.ai

Some tools in the list are neither centrally supported nor available via an institution-wide license.

New security assessment must be requested by a risk owner, as defined by ITS' security assessment process.