Undergraduate Student Perspectives on Generative Artificial Intelligence at McMaster

Engagement Summary and Recommendations Report

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Introduction

McMaster's teaching and learning community has little to no understanding of how students are using and interacting with generative AI tools. What evidence exists is anecdotal and does not provide enough insight into what kinds of support, if any, students may need from the University to use these tools effectively and ethically.

Over the Fall/Winter 2023-2024 academic year, the Office of the Vice-Provost (Teaching & Learning) (OVPTL) is engaged in a Student Partner Project to better understand effective student engagement strategies on teaching and learning. To achieve this and align with implementation efforts for the Digital Learning Strategy, a partnership with the University Library has been organized to use various engagement strategies and tools to understand student use and perceptions of generative artificial intelligence (AI). The project team was comprised of:

- Helen Kula, Associate University Librarian (Teaching & Learning)
- Christine Yachouh, Project Manager (Teaching & Learning Strategy) *
- Surbhi Rao, Student Partner *
- Samarah Maqbool, Student Partner *

As a large-scale, university-wide survey did not seem feasible at this time, a smaller, informal research project was proposed. The purpose of this project was to collect student perspectives on Generative AI to inform the development of resources and tools to increase Generative AI literacy for students as recommended in the Generative AI Taskforce recommendations.

* *Indicates co-author of the report*.

Engagement and Communications Summary

The target audience for this project are undergraduate students, with some effort to engage students participating in student government or clubs (e.g. McMaster Artificial Intelligence Society), other student partners, and those working as teaching assistants. Graduate students were out of scope.

The engagement objectives for this project included:

- Raise awareness of McMaster's Digital Learning Strategy.
- Create an opportunity for students to talk to their peers about how they use generative AI, and/or share their questions or concerns.
- Incentivize students to participate in the questionnaire on the spot or complete the survey in their own time.

Engagement tactics utilized in this project included pop-up events, an online survey, and focus groups. Opportunities to engage in the project were communicated using social media (McMaster Library Instagram account), an announcement on Avenue to Learn an email notification to students through Avenue to Learn, and physical postcards distributed at the Libraries and during pop-ups. A summary of engagement results can be found in the table on the following page.

Engagement Activity	Number of Activities	Number of Students
Pop-Up Events	3	285 reached 47 engaged
Online Survey	1	1308 responses
Focus Groups	2	18 RSVPs 14 engaged

Pop-Up Events

The project team partnered with the Library Ambassadors Program to host pop-up engagement sessions at University Libraries and Residence Buildings to engage students between their classes. Students were asked about their perception of generative AI and invited to complete the online survey in their own time or using laptops provided. Pop-ups also served as an opportunity for students to ask questions about generative AI use in academic and personal circumstances by student ambassadors and accompanying staff. Further details on the approach can be found in **Appendix A.**

A total of 285 students were reached through the pop-ups, with 47 students participating in the survey immediately on the laptops provided. A summary of engagement by pop-up event is outlined in the table below.

Pop-Up Date and Time	Location	Number of Students
Wednesday, January 31 from 1pm - 3pm	Mills Library	127 reached 25 engaged
Wednesday, February 7 from 1pm - 3pm	Thode Library	60 reached 10 engaged
Thursday, February 8 from 5pm - 7pm	Mary Keyes Lobby	98 reached 12 engaged

Online Survey

The project team collaborated to develop an online survey that was distributed to students. The survey was hosted on Microsoft Forms and was completely anonymous, unless students opted in to a prize draw or were interested in attending a focus group, in which case they provided an email address to be contacted. The survey was communicated through Avenue to Learn and through post-cards distributed to students during pop-up events and at the library service desks.

Focus Groups

Students who participated in the online survey were asked to indicate if they were interested in attending a focus group to elaborate on their responses in the survey. Two focus groups were facilitated that sought to engage students who have not used generative AI in one dedicated session and engage students who have used generative AI in another dedicated session.

The focus groups were scheduled for two hours and included 30 minutes for students to enjoy a meal as thanks for their time. The sessions took place at the Office of Community Engagement's Library, which fostered a relaxed, casual setting for students to share their thoughts and experiences.

Additionally, two of the project team members connected with the IT Student Advisory Committee (ITSAC) to host a focus group during one of their monthly meetings. A summary of the student engagement in the focus group sessions can be found below.

Focus Group Date and Time	Number of Students
Tuesday, February 27 from 5:00pm – 7:00pm (ITSAC Meeting)	5 participated
Wednesday, March 7 from 1:00pm - 3:00pm	10 registered 8 participated
Wednesday, March 7 from 5:30pm - 7:30pm	8 registered 4 participated

What We Heard

The following section provides a high-level summary of the key themes that emerged from the different engagement tactics.

Pop-Up Events and Response to Communications

Shortly after the promotional message was shared on A2L, some social media posts from students were made that questioned the purpose of the survey. Due to the nature of the association between generative AI and its use in a university context, some students may have felt hesitant to complete the survey. In students' perspectives, the University is not exactly clear on their stance on whether AI is permissible in and around the classroom, and students may have felt that sharing their experience using AI in coursework could lead to academic offense.

This concern was shared online by students on both Reddit and Instagram, with comments saying that the survey "seem[ed] like a trap" to catch students in an academic integrity violation despite the attempts in the opening of the survey to clarify that responses would not be associated with any consequences. This was also evident during pop-ups, with students visiting our table declining to share answers with a worry that their responses would be associated with their identity. Aside from the potential reduction in quantity of responses, students may have withheld the truth, or not have answered truthfully in their survey answers (for example, all students engaged in the focus group who had indicated "No" to the question about whether they plan to use AI in Winter 2024 or not, had in fact used generative AI). Less students may have also been inclined to share their email to learn more or get more involved due to fear of lack of confidentiality.

Online Survey

A total of 1308 students participated in the online survey. The online survey questions can be found in **Appendix B.**

Generally, there were mixed receptions to the survey within responses. Some students were concerned that this survey meant McMaster will be promoting generative AI use, especially with questions about workshops and resources. Others voiced feeling grateful that McMaster seemed to be asking for students' opinions.

The survey was designed to ask students different questions based on their experience with generative AI. The first question asked students whether or not they had used generative AI during the fall 2023 semester (Figure 1). Most participants indicated that they had used generative AI (61%), followed by students who indicated they did not (34%). Some students (4%) indicated that they were unsure whether or not they had used generative AI. Given the broad and on-going integration of generative AI technology into common tools (e.g. Google, Microsoft Word, etc.), we wanted to make sure students had a way to respond that represented the lack of clarity around what is/is not generative AI.

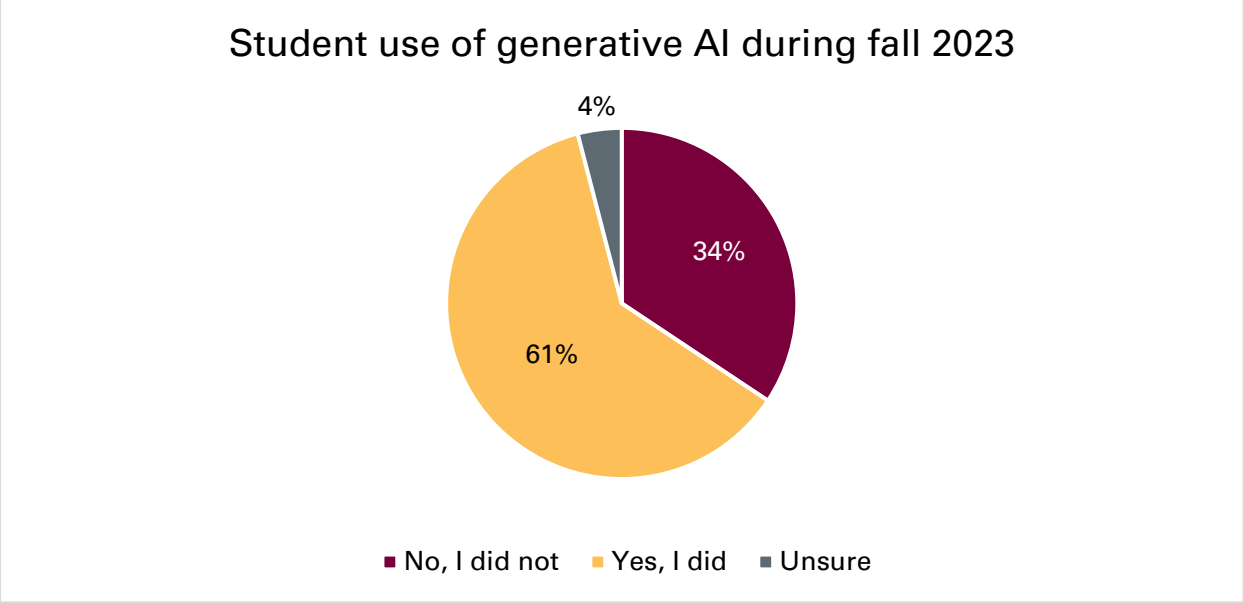

Figure 1: Student use of generative AI during fall 2023

Students who indicated that they had used generative AI during the fall were asked what they used it for. The results of this question can be found in Figure 2. Most students indicated that they used it for personal use (79%). Three-quarters of students indicated they used generative AI for school, followed by approximately one-third of students (33%) who used it at work. A total of 21% of students selected that they used generative AI for all three of these reasons.

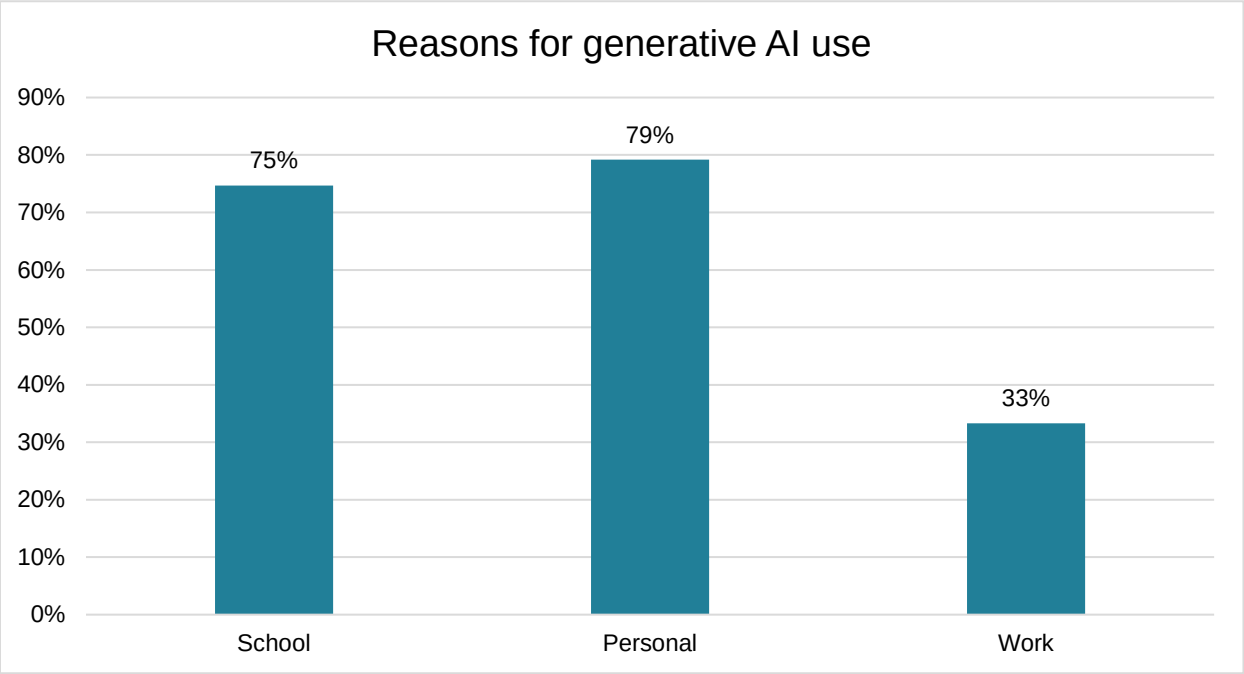

Figure 2: Reasons for generative AI use. N=802

Students who utilized generative AI were asked what tools they were using (Figure 3). It was clear that ChatGPT was the most popular tool amongst respondents, with 96% of

students using it. There was a significant difference in the popularity of other tools used by students. 12% of students used Bing, followed by DALL-E (8%), Midjourney (2%) and Codex (1%). Some students indicated they used other tools (9%) with the most common tools listed being Grammarly, Canva and Perplexity.

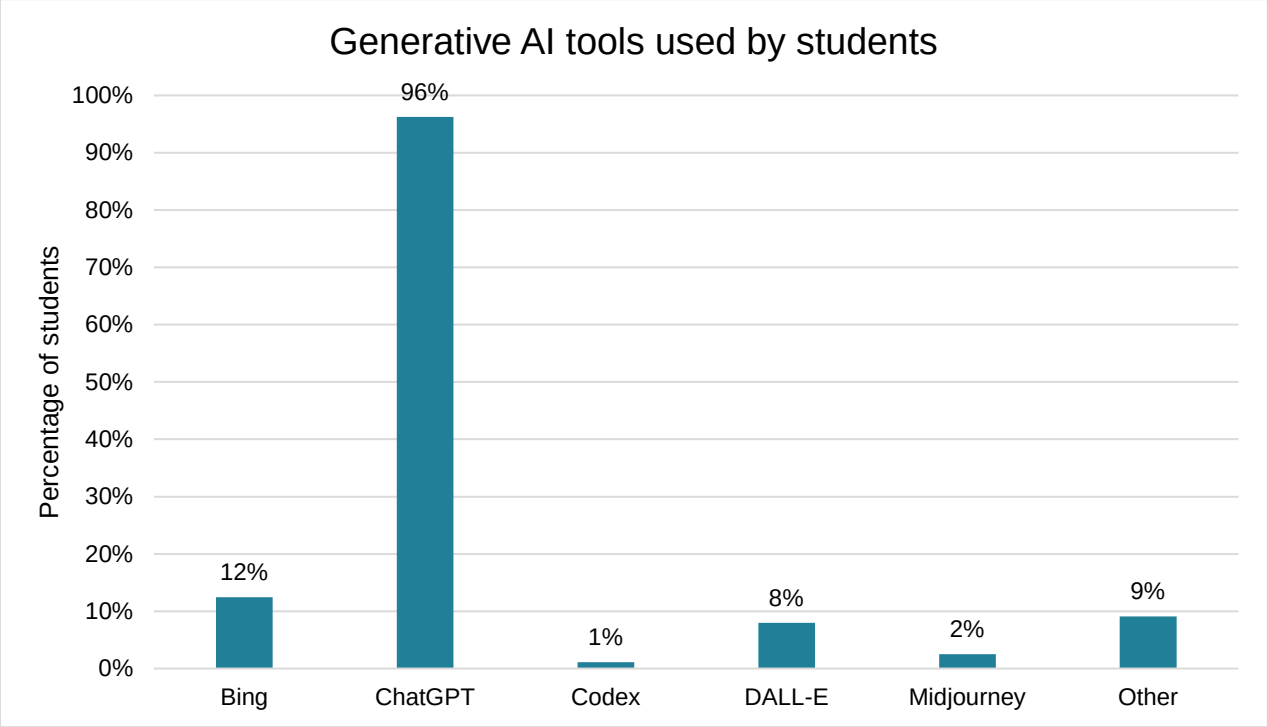

Figure 3: Generative AI tools used by respondents. N=802

Participants who had used generative AI were asked what they liked, and what they did not like about using generative AI tools. Their responses are summarized by the key themes below.

What students liked about generative AI tools

- Fast and easy to use, convenient
- Answers were better and more convenient than typing questions into a Google search
- Helpful to organize thoughts, format written work, and other writing support (e.g. grammar, spelling, punctuation, sentence structure, thesaurus, dictionary, proof reading, emails)
- Useful to generate ideas, brainstorm, and ask for feedback
- Helpful to support with job-hunting, such as writing resumes, cover letters
- Students who used it at work indicated they liked how it supported efficiency, especially with repetitive tasks
- Supportive for study tasks, such as summarizing articles, creating practice questions, and explaining concepts, even if it is not always fully accurate, students still found this helpful
- Effectiveness with coding work

What students did not like about generative AI tools

- Inaccuracy and misinformation
- Unable to use ChatGPT for math or research, especially since there are no sources provided to analyze the claims or answers
- ChatGPT sounds robotic
- Privacy concerns
- It can be difficult to frame the question to get the answer students are looking for
- Some students reflected on their dependance on AI and considered using it less so as to continue fostering their own creativity and writing skills
- Concerns over ethics with creative / art works, especially with Dall-e
- Some students were forced to use generative AI tools for course work and shared that they disliked the tools
- Lack of clarity on whether or not generative AI tools were permitted for students use

Students who indicated they have not used generative AI during the fall term were asked to share why not (Figure 4). Almost half of respondents indicated that they were concerned about using generative AI (49%), and that they had no use for it (49%). Many students had indicated that they were uninterested in using generative AI (38%), with a quarter of respondents sharing that they were not sure how to use it. Interestingly, 16% of students shared that they have previously used generative AI but did not find it helpful.

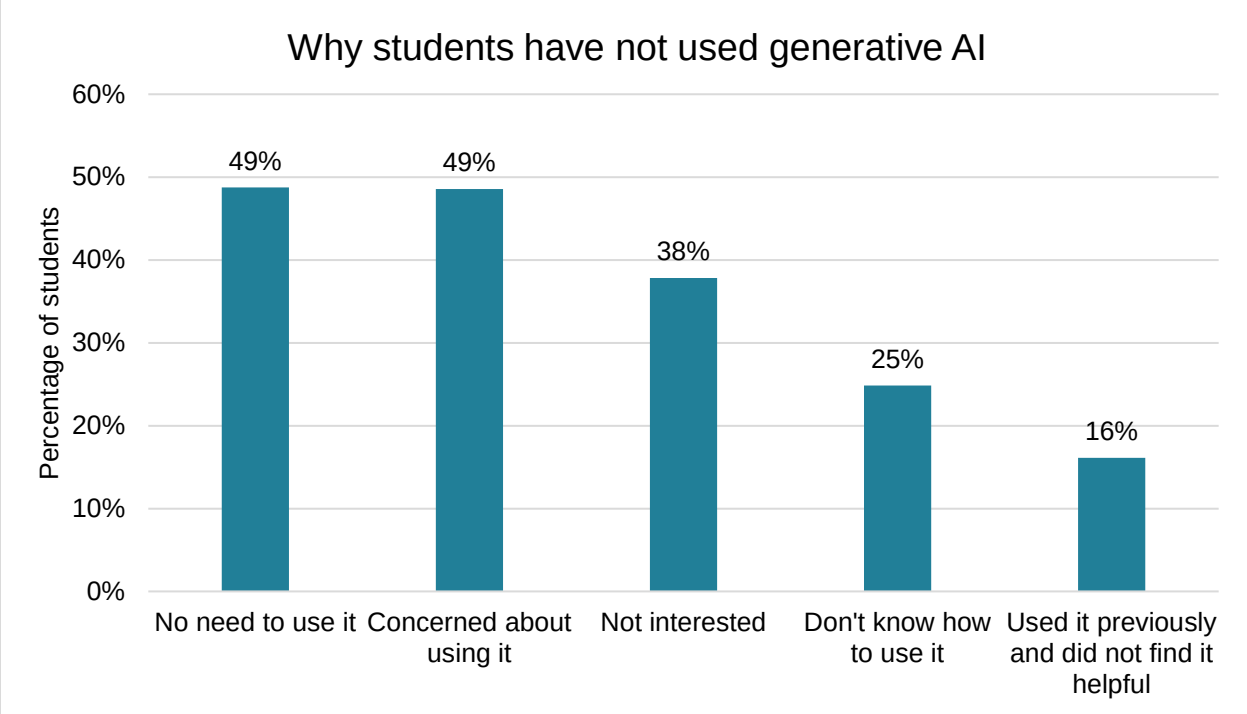

Figure 4: Why students did not use generative AI during the fall 2023 term. N=802

When the same students were asked whether or not they would be using generative AI during the winter semester, 74% of them said no, followed by 17% who were unsure, and 9% who anticipated they would (Figure 5).

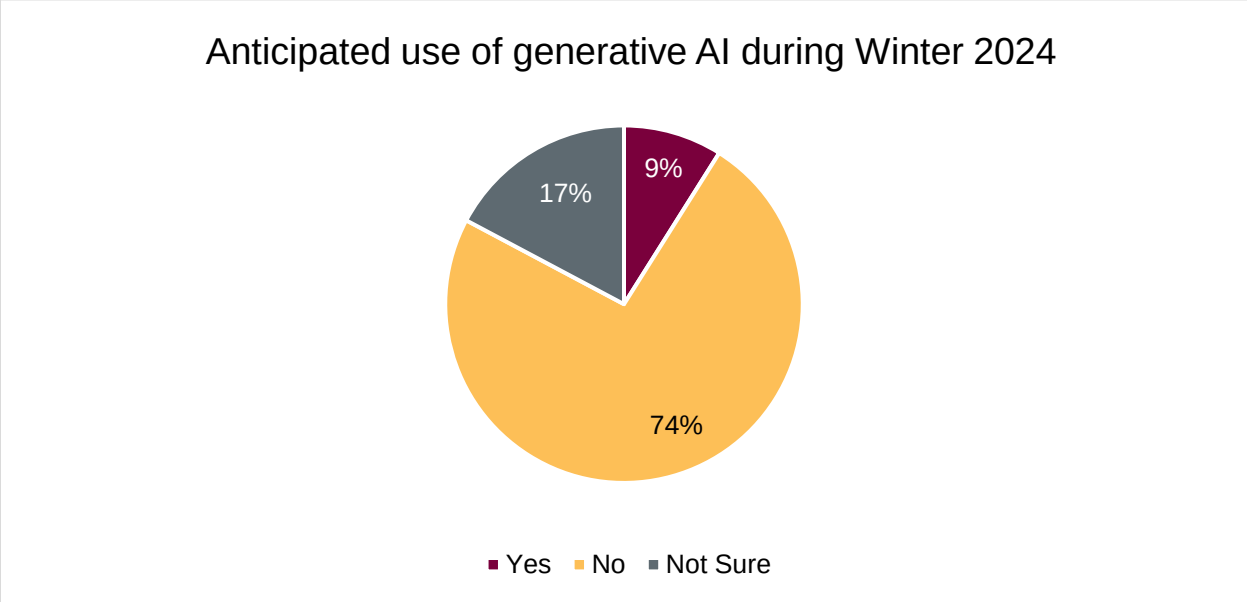

Figure 5: Anticipated use of generative AI during Winter 2024. N=447

All survey participants were asked how they felt about generative AI (Figure 6). Almost half of the participants indicated that they were skeptical about generative AI (48%), followed by curious (47%), and excited (39%). Most students who did not use generative AI felt skeptical (60%), followed by suspicious (45%). Other feelings that students used to describe their feelings about generative AI included: angry, worried, scared, frustrated, unsatisfied, and mixed feelings.

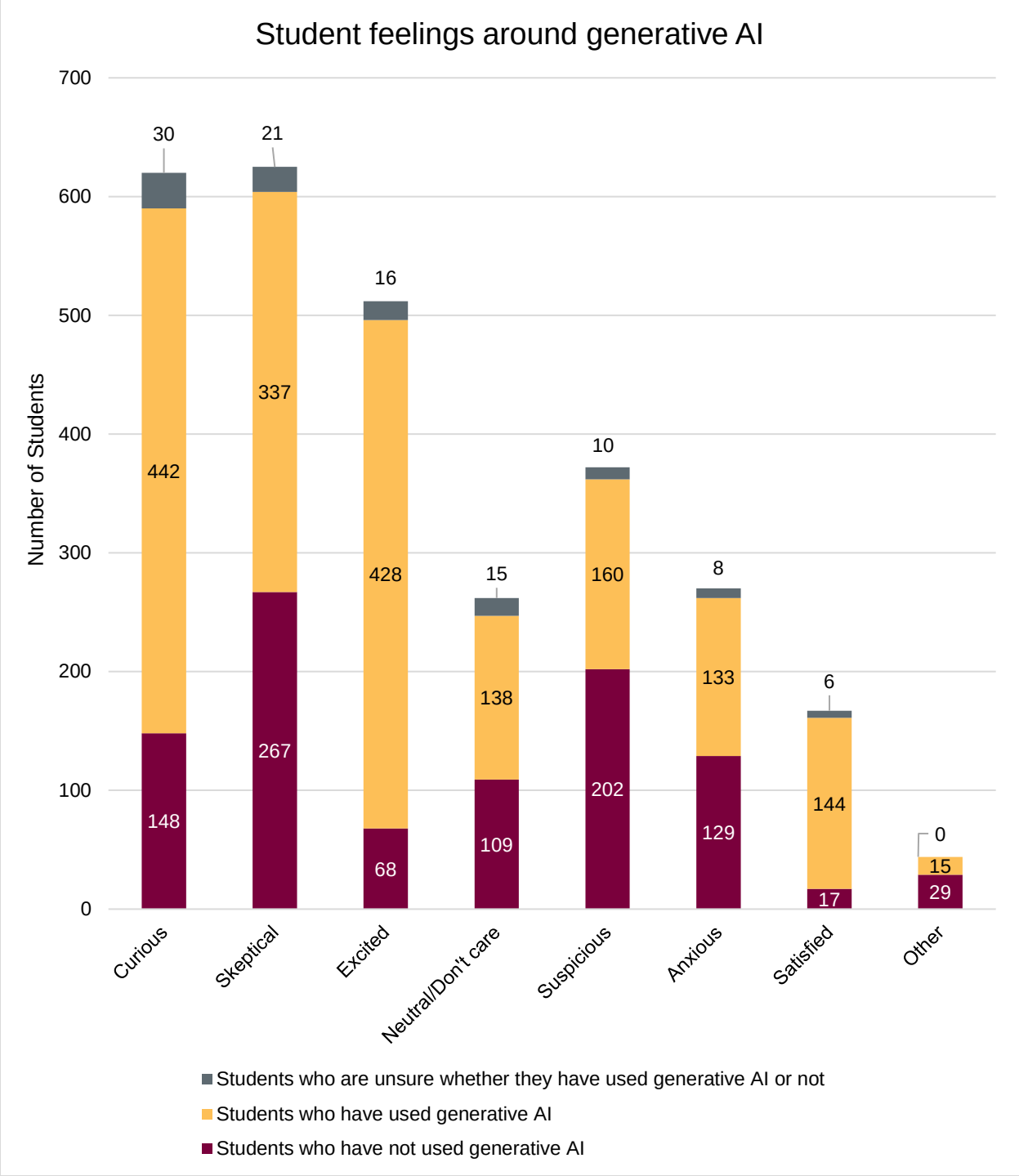

Figure 6: Student feelings around generative AI. N=1306

After indicating their feelings on generative AI, students were asked to expand on their feelings in a short, written response. Their responses are summarized into six key themes: (1) fear of job market implications, (2) ethics concerns, (3) academic integrity/dishonesty, (4) neutral/don't care, (5) excitement, and (6) other.

1) Fear of job market implications

The majority of students expressed both interest in and caution regarding generative AI. Many saw how it could aid learning but were worried about its impact on creativity and the job market. These concerns were prominent amongst students who felt anxious, skeptical, and suspicious. Some voiced that they "fear the skills [they] have spent so long perfecting in an academic setting will soon become useless because AI will be able to do it better and faster." In contrast, a few students highlighted the potential of generative AI to reduce repetitive tasks and allow them to give more attention to creative tasks. Some students also are concerned that the proliferation of generative AI could worsen wealth inequality as corporations replace tasks using AI, writing, "generative AI will end up replacing workers."

2) Ethics concerns

Many students raised ethical issues around generative AI being trained on stolen and not credited work, especially AI art. Some students also mentioned generative AI's potential to make it easier to create believable misinformation, such as deepfakes. These concerns were prominent amongst students who felt anxious, skeptical, suspicious, and angry.

No responses mentioned ethics concerns about workers who code images or flag issues in large language models, often being paid below minimum wage and encountering traumatic content. This may be due to the influence of social media on views on generative AI; this project's Student Partners have seen ethical concerns online about AI-generated art or text that steals from others' work but not about the 'hidden labour' behind text generators.

3) Academic integrity / dishonestly

Students felt the use of generative AI is unfair to students who do not use AI, especially when students using generative AI to complete assignments receive higher marks than those not using AI. Some wrote they do not use generative AI because "it feels like cheating" or they're scared to get caught. Some were also concerned that they could be incorrectly penalized for academic dishonesty if generative AI detectors were to become commonly used as AI detectors often flag non-AI-generated text as AI generated. These concerns were prominent amongst students who felt anxious, skeptical, and suspicious.

4) Neutral / don't care

Those who said they were neutral or didn't care wrote they were not convinced of generative AI's abilities. One respondent wrote, "I think it is beneficial for small tasks but has its limitations with regards to creativity." Some wrote they do not care simply because they do not think about generative AI often. Some wrote they were neutral because they think generative AI has potential to be useful but still needs work.

5) Excitement

Most students who selected feeling excited also expressed feeling anxious, skeptical, or suspicious for varying reasons including GenAI's potential harms to learning, ethics concerns, and labour concerns. Those selected only feeling excited (or excited and satisfied) felt this way because they found generative AI useful in studying or work and felt it will positively change the workplace.

6) Other comments

Some students were extremely suspicious of generative of AI, fearing that AI could "somehow learn how to hack into my system" or that "AI could be working properly for years and suddenly behave in extremely illogical ways". Students also highlighted that generative AI can be more helpful in some areas of study than others; for example, AI can be helpful for coding-heavy tasks but not helpful for critical essays.

Students were prompted to indicate where they currently hear about generative AI (Figure 7). The majority of participants (64%). indicated that they heard about it through classmates or friends. This was followed by students who heard about generative AI in class or from instructors (43%), Instagram (38%), and news outlets (35%). It is important to note that students who heard about this in class or from instructors did not always indicate this was positive, but rather enforcement of academic integrity, as indicated by focus group participants. Those who selected "other" shared that they hear about generative AI from their family members, LinkedIn, workplaces, Reddit, and that it is generally reference on the internet.

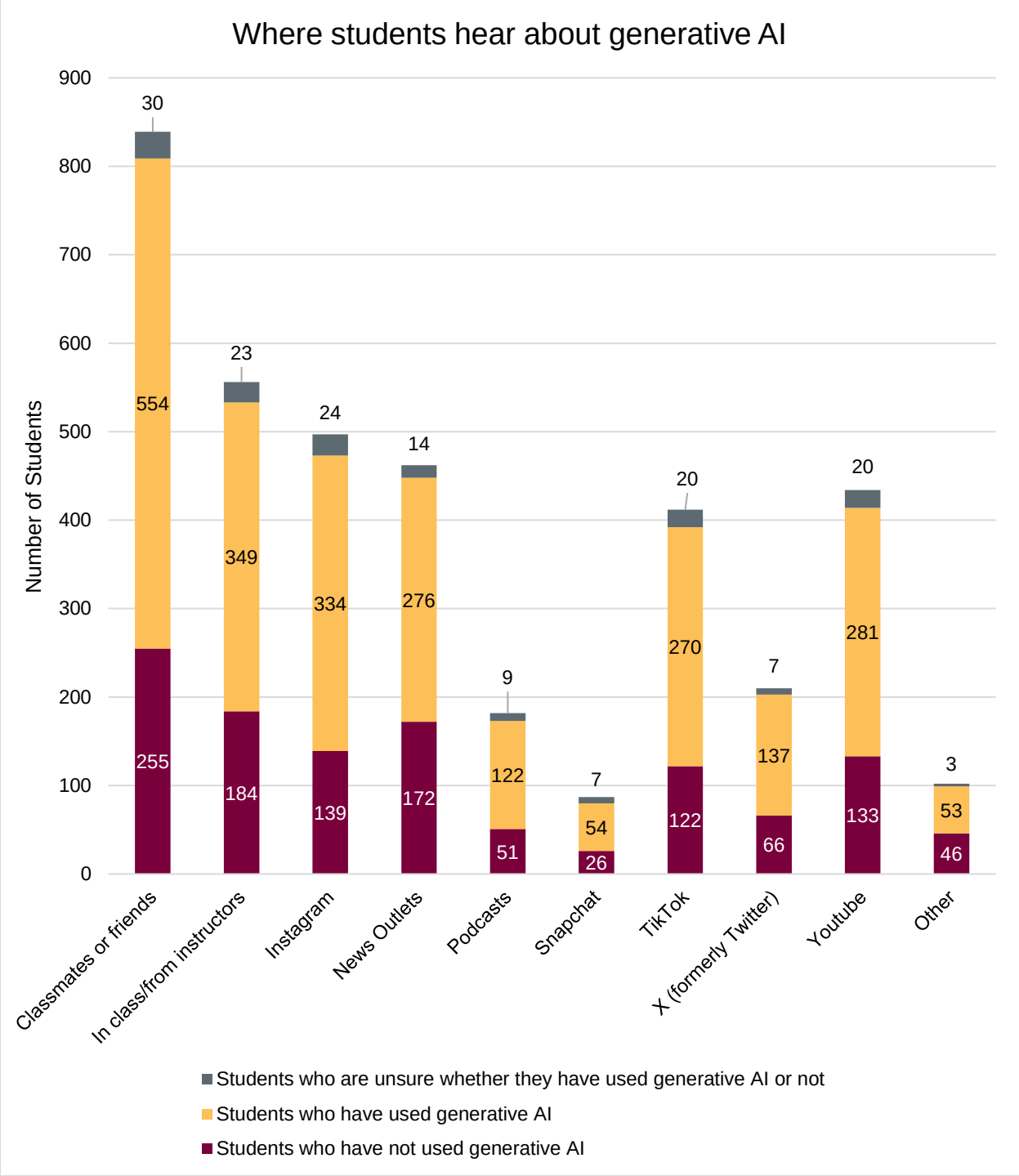

Figure 7: Where students currently hear about generative AI. N=1306

Participants were provided with a list of possible resources or programming examples that the University Libraries might develop to support their understanding of generative AI. Their responses are represented in Figure 8. More than half of the respondents indicated that short, online workshops (54%) or online video tutorials (51%) would be the most helpful to them.

Some of the “other” responses suggested creating discipline-specific resources, facilitating conversations between students and faculty around ethics. Students also requested diverse avenues for engagement, such having the flexibility to choose different ways to engage with the informational content, and having a mix of peer-to-peer learning and resources from experts. Additionally, there were respondents who have only heard of generative AI from this survey and the pop-up engagements, who suggested these efforts continue (pop-ups and emails / A2L announcements).

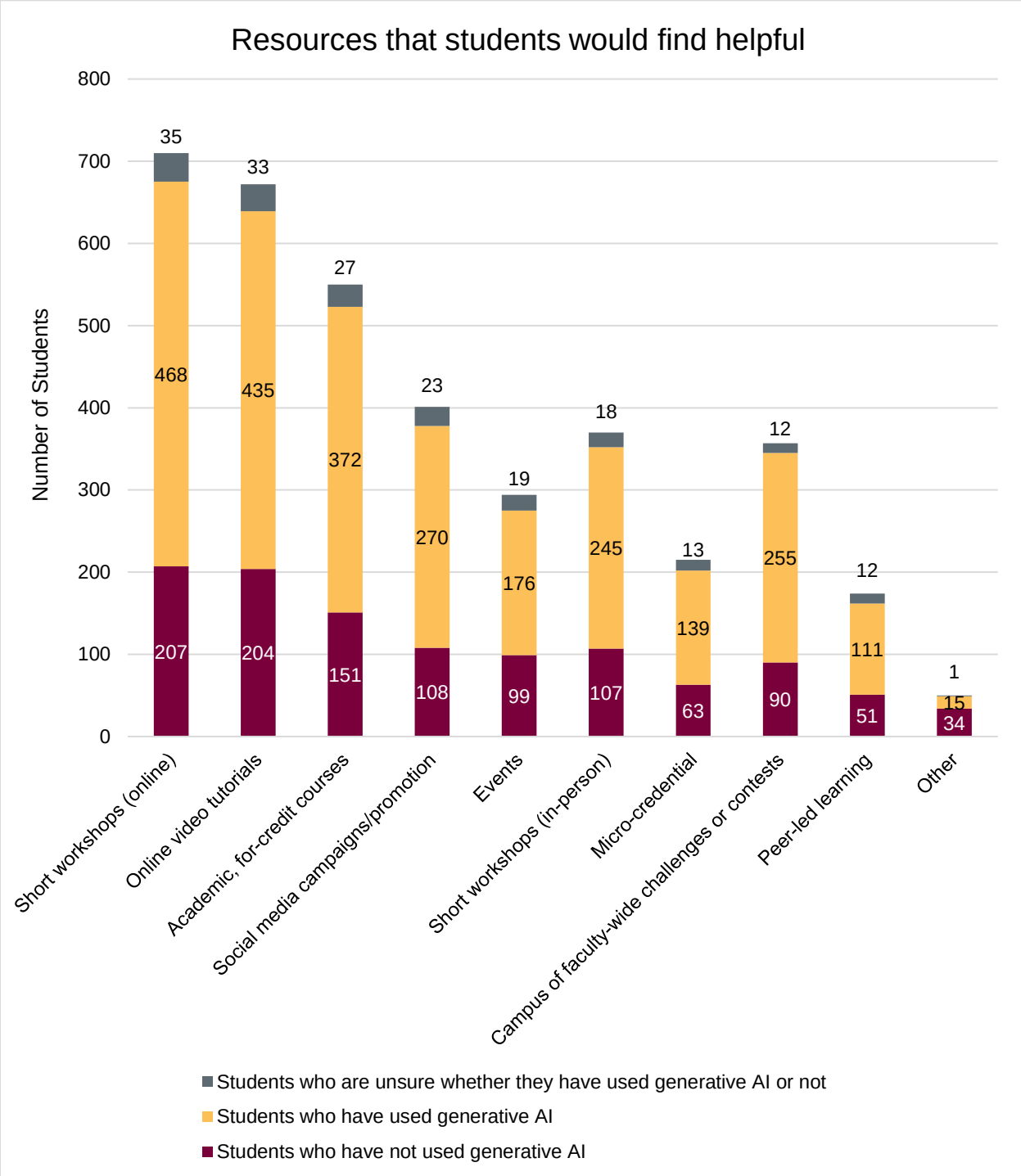

Figure 8: Resources and / or programming that students would find helpful to learn about generative AI. N=1306

Students were asked whether there was anything else they think is important for the University to know about their use of or attitudes about generative AI. Their responses are summarized into three key themes: (1) embrace & adapt vs. reject & ban (2) generative AI's potential as a tutor, and (3) academic integrity concerns.

1) *Embrace & adapt vs. reject & ban*

Students had mixed views on the approach to generative AI in learning McMaster should take. 63 students (out of the 258 who responded to this question) said the University should embrace and/or adapt to generative AI. 18 said generative AI has no place in the University.

Those who supported AI in the classroom said there is **"**no point resisting progress," especially since AI is becoming "a necessary work skill." Many wrote that generative AI is here to stay, both within and outside of the University, and banning generative AI would not be effective as students would continue to use it. They suggested it would be best to learn how to plan courses with the impacts of gen AI in mind – either integrating gen AI into learning or modifying courses/assignments so that they could not be completed by GenAI. One student wrote, "While I think limiting the use of generative AI is good, outright banning its use feels very similar to schools banning calculators - eventually it will most likely have it at our fingertips or be using it every day. (...)"

Those who feel generative AI has no place in the University should be banned from the University cited concerns for learning, critical thinking, and creativity. Many students wrote that generative AI is a threat to learning as students use it to complete coursework. Some students interpreted the survey the possibility of workshops and resources on AI as an indication that the University is promoting generative AI and felt uncomfortable that the University seems to be taking a "technotopian" stance. One respondent wrote that promoting gen AI use within learning would go against the university's values of "the learning and safety of its students." Many also voiced serious ethics concerns, with one writing, "It does nothing but steal from real work made by real people. Don't continue to fund this idea."

2) *Generative AI's potential as a tutor*

Over a third of respondents highlighted that tools like ChatGPT can be useful when used as a tool rather than wholly depended on to do coursework. One student explained they use ChatGPT using prompts such as, "can you explain ____ in the simplest terms?", "can you give an example of ____ where ____?", and "can you explain this part more in depth?" rather than asking it to complete homework questions as its answers are often wrong or flawed" Some students also wrote they use AI for feedback on their work or grammar edits. Many wrote that it is important that students know how to use gen AI responsibly (ex. to explain concepts) but should not use it to cheat.

3) *Academic integrity concerns*

Some students wrote that banning generative AI won't reduce plagiarism, not only because students may continue to use generative AI even if it is banned, but because,

as one respondent wrote, "LLMs have revolutionized plagiarism, but plagiarism isn't new" (i.e. students who use generative AI to plagiarize will use other modes of plagiarism.)

Similarly to the previous question, some students were concerned about being wrongfully penalized for academic dishonesty due to inaccurate AI detection tools. Some wrote they avoid using generative AI altogether since they are afraid of getting caught. Many survey respondents emphasized a need for clearer guidelines and communication from the University on what AI use is acceptable in coursework.

As one student put it, "I think the university needs to come up with a clearer policy against students using it to generate their assignments. Some faculties are encouraging its use whereas others are strongly against it - this is confusing for students."

Another student echoed the confusion by stating "Be clearer on if you encourage its use in terms of studying or learning content or if that would also be considered plagiarism."

Additionally, another student criticized the current university response to generative AI by sharing "It should be stated clearer in each course a student takes for what the protocols are for using generative AI. It is weakly stated in course outlines, and there should be more emphasis to the answer in the classroom setting."

Focus Groups

The focus groups offered survey participants an opportunity to elaborate on their responses to the online survey. An outline of the questions asked can be found in **Appendix C.**

The focus groups were limited to a capacity of 8-10 participants for each of the two sessions. Given that survey participants were completely anonymous and there was so much interest to participate in a focus group, the project team opened the registration to be first come, first served. As such, there was no targeted communication or strategy to balance the participants' affiliation to the different Faculties at McMaster (Figure 9) or their year of study (Figure 10). Additionally, the project team had no control over the ITSAC membership or meeting participants.

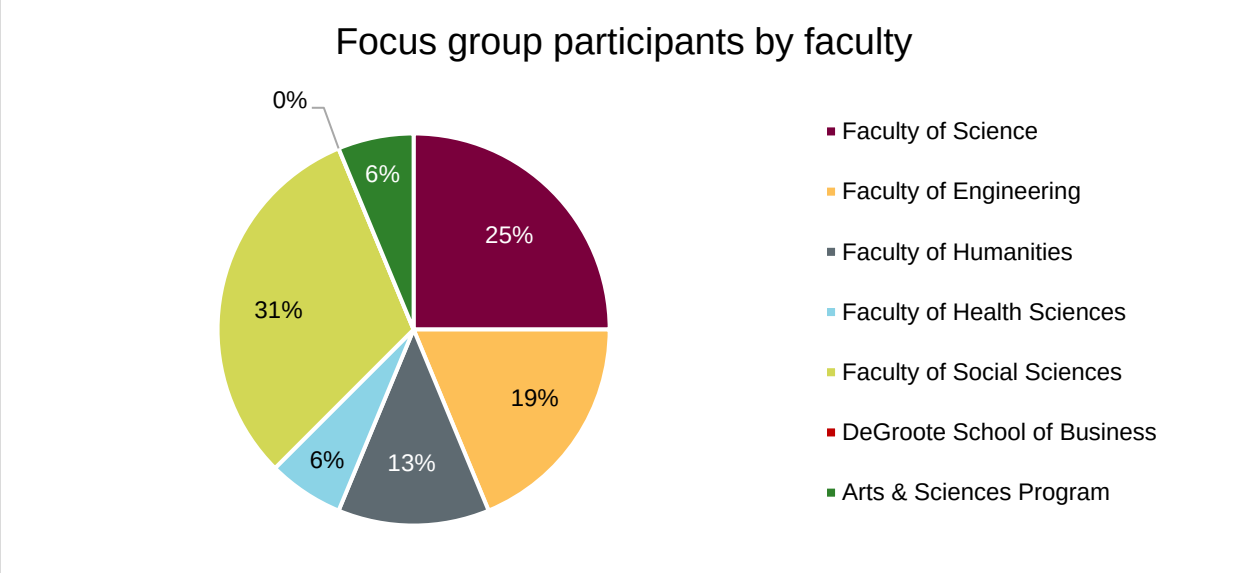

Figure 9: Faculties represented by focus group participants. N=16

As depicted in Figure 9, most attendees were enrolled in the Faculty of Social Sciences (31%), followed by the Faculty of Science (25%) and Faculty of Engineering (19%). Unfortunately, no students who participated in the focus groups represented the DeGroote School of Business.

Although not all Faculties were represented, there was good participation across all levels of study (Figure 10), with most students who were in levels two and four (31%), followed by students in levels one and three (19%).

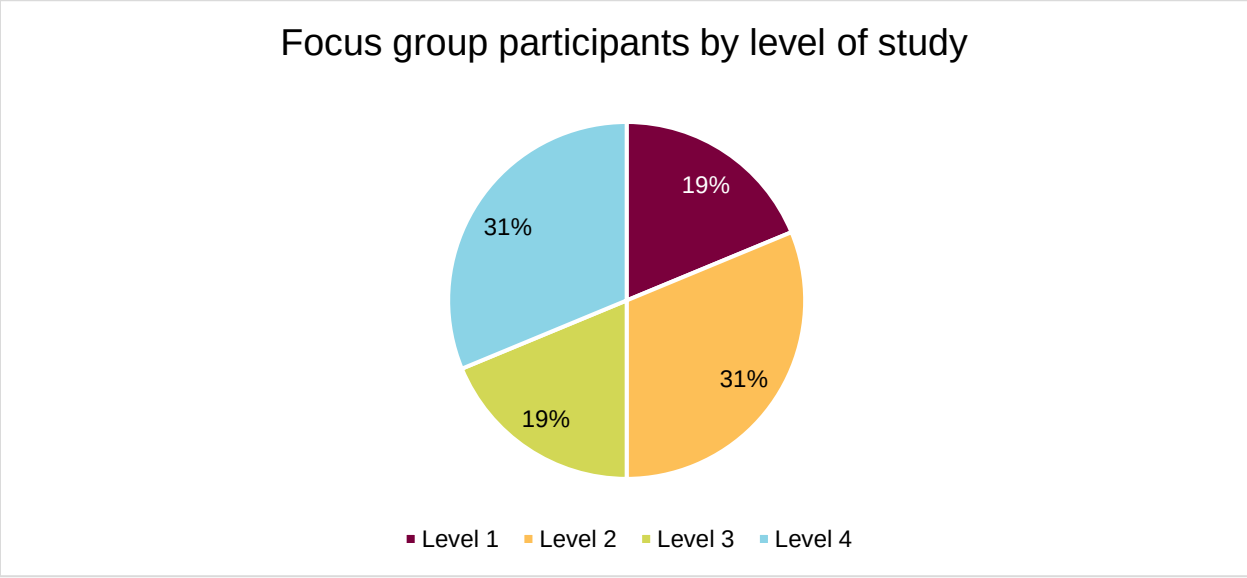

Figure 10: Focus group participants level of study. N=16

Reasons for using GenAI

Students were asked why they use AI. Consistent with survey responses, students shared using generative AI for studying, coursework, professional use, and personal use.

Studying

Students spoke about using ChatGPT to summarize readings and make them easier to understand as a personal tutor. Some also used ChatGPT to create study materials (ex. flashcards) based on lectures and study notes. They shared that they prompt ChatGPT to make specific types of study questions, like knowledge and application questions. They said these questions are better quality than if they were to write them themselves. One student noticed an increase in their grades since using generative AI to create study materials. Students also noted that ChatGPT is often wrong about complicated calculation questions so it cannot be used as a personal tutor for math or physics courses. One mentioned using AI to look for articles and journals on the McMaster Library's search because it makes searching easier.

Schoolwork

Students whose first language was not English said they use text generators to edit their English. A student in a coding-heavy program shared that students use ChatGPT for coding help when students do not know how to do something and neither do others around them, saying, "No one wants to cheat, but sometimes you feel like you have to."

Professional use

Students expressed that they used text generators to write emails, reword their resumes, and write cover letters. They did so to lessen their workload and because text generators can write formal text well.

Personal use

Students shared that they used image generators for photos since it's easier to get unique elements from image generators than finding existing images. Students used these for graphics for posters or as reference photos for personal art generation. Some others mentioned they experimented with image generators but did not find them useful.

Concerns about generative AI

A lot of the main concerns surrounding generative AI and its use were in relation to privacy. Questions around where the data used by the machine is stored and how the data provided can influence things such as social media and advertisement marketing were especially prevalent. This also led students to use AI less in an academic context as it relates to assignments and non-public information.

Students also expressed concern around dependence on AI. To elaborate, once familiar with how to use AI, there is a worry that it will act as a crutch and daily work cannot be completed without it. This can especially be a problem since AI can sometimes produce incorrect results, such as with calculation questions in ChatGPT, or requesting source citations when the machine is unable to provide them appropriately. These models can

also make mistakes when not up to date, leading to students feeling wary. On the other hand, students may be accused of using AI in their assignments and are unsure on how to prove they haven't used it.

Lastly, a large concern raised was the potential of individuals using AI for malicious purposes. Deepfakes have become more and more of an emerging concern and GenAI becoming more freely available means more potential for inappropriate content to be generated against others.

Future use of generative AI

When asked if they planned to use GenAI in the future, those who planned to use GenAI said they planned to keep using it for same reasons they use it currently (studying, editing English, writing emails, personal use) because, as students, they have heavy workloads.

Those who said they do not plan to use GenAI said they worried about becoming dependent on it and might only use it for minor tasks like writing emails. They were not interested in using it to study or for assignments because they fear it will harm their learning. One said, "I don't want to be too comfortable with it (...). In the future, maybe, but I'm keeping my distance."

Where students currently learn about generative AI

Many participants indicated that they primarily learn about GenAI from social media. TikTok often has advertisements displaying how AI is used, encouraging students to try it themselves. Content creators often share how they use it themselves as well for more light use. Other platforms, like LinkedIn and Instagram, similarly have AI demo-type features, where either content creators have videos or the apps themselves have AI learning tools. Most students were first exposed to ChatGPT either by social media or the news.

Additionally, participants indicated that oftentimes they are inspired by their peers to use AI. They typically won't experiment much on their own and are more likely to attempt it if their friends have demonstrated use. Some students had also referenced the machine learning course in the Engineering department relating to AI (i.e., INNOVATE 1Z03), which a number of them had taken.

Student interest in learning about generative AI

When asked if they were interested in learning about generative AI, most agreed that students need guidance on how to use generative AI responsibly because everyone wants to use it. They shared that, without guidance, students will use it irresponsibly (i.e. to complete coursework entirely). However, all participants said their interest would depend on the topic.

When asked what they would want to learn about, participants shared different areas of interest. Some said they would be interested in learning about applications of generative AI to learning (e.g. creating flashcards) and job searching (e.g. rewording resumes). These participants highlighted that they would only be interested in AI's applications to learning if it was tailored to specific areas of study. Similarly, some were interested in

learning how to use AI to make informed decisions in an unfamiliar field, using AI to break down complicated language and understand new terms, for example, in making stock-market decisions. Overall, these participants were not interested in generic workshops on AI (ex. how AI works), as most of those topics could be explored asynchronously.

Contrastingly, other participants were more interested in the technology's ethics, privacy, and how GenAI models work. These students were hesitant to learn about applications because of privacy concerns and its implications on learning. Participants were curious about what data large language models are trained on and the ethical implications of AI art on artists. Participants with privacy concerns were interested in knowing where data is being stored, how it is being used, and regulations around AI in different contexts.

Participants who were not interested in learning more about generative AI at all felt that it would hinder their personal development. One student shared that they anticipate that using and becoming dependent on ChatGPT would harm developing skills such as time management. Participants were skeptical that generative AI could help them learn.

Trust

Participants said they trust various official sources, including McMaster & other prestigious educational institutions because these sources seem credible. They also trust sources brought up in class, AI experts, and trusted sources such as newsletters that have been carefully vetted before subscribing and the MacPherson Institutes AI Dialogues podcast.

Participants also raised the importance of believing information when it is common across multiple sources rather than unconditionally trusting certain sources, saying assessing the information itself is more important than assessing the source.

Participants had mixed views on trusting social media. Some said they trust AI information on social media if the information seems useful (ex. If it has a useful application for studying) but are also wary since "if it bleeds, it leads" (how alarming a story is impacting how quickly a story spreads more than how factual it is) mentioning how quickly the discussions such as, 'are the robots taking over?' spread online.

Generative AI workshops

Similar to the interest in learning about generative AI generally, most participants were only interested in GenAI workshops if they were specific to disciplines or to applications.

Some of the topics they suggested included:

- Career exploration, such as listing interests on ChatGPT and prompting it to suggest careers to research, or writing cover letters
- Using ChatGPT to generate a list of terms/specific descriptors to use in searches
- Ways AI (generative or non-generative) is used in various professional fields, such as medicine

Participants indicated that they would like to know the qualifications/areas of expertise of those running workshops. They would be interested in learning from someone who:

- Is a professional and has a level of expertise but not a professor as because they wouldn't want it to "feel like another lecture"
- Upper-year or grad students who are AI experts to hear from someone who is still a student but has some level of expertise, and
- People in the workforce who use GenAI.

Participants agreed that one-hour was a good length for a workshop. If an event were to be longer, they said there would have to be food/refreshments available and potentially a chance to win in an interactive activity near the end to incentivize their attendance.

Additionally, participants said they would be more interested in attending workshops that are part of a **series** where topics and facilitators/speakers are announced in advance, as students could be aware of events in advance and choose sessions that interest them. They suggested that online, asynchronous modules or videos could also be an effective way to convey information and should be considered as an alternative to in-person events that are less interactive. Generally, participants shared that they were most likely to attend an in-person learning opportunity if it was framed as an event with food, discussion, activities, and/or prizes.

A few participants were not interested in workshops, specifically application-focused workshops. Similarly to those who said they were not interested in learning about generative AI overall, this is because they did not feel generative AI could benefit their learning (especially in writing-based projects) or viewed generative AI as harmful to learning. One participant was not interested as they didn't expect any available workshops to be relevant to their context as an engineer.

Generative AI video tutorials

Regarding videos that would explain an application of GenAI (ex. "How to use Copilot to Improve your Resume"), participants said they would watch the videos depending on the topic and length of the video. Participants highlighted that many video tutorials already exist online. They suggested that the Library might consider contacting content creators who have already made relevant videos about using their videos and possibly providing compensation.

Overwhelmingly, participants suggested short content (i.e. something 10-15 seconds long to get their attention) with an option to learn more at an external link, in another video, or in the same video if the initial clip is framed as a preview. Having short previews would allow students to get a taste of the resources available so they could visit longer resources at a later time when they want to learn. Many participants agreed that videos shared on social media need to capture attention quickly and that students are unlikely to watch videos longer than 1 minute. Participants suggested that longer (>1 minute) videos could be posted on a McMaster website or YouTube and should have timestamps.

Communication

Participants expressed that social media is a surefire way to communicate GenAI-related resources to them. Instagram and TikTok pages affiliated with McMaster (@macssc, @maclibraries) are accessible and centralized.

Some specific communications tactics that were suggested include:

- Q&As and “A Day in the life”-style story posts. One participant mentioned @mcmasterpsa on Instagram as an example of an account that had done so.
- Snippets/previews or sneak peeks of AI tool use to gain traction, leading interested students to longer, more in-depth resources.
- Students who were not too familiar with AI use mentioned interest in an online forum or student network to share AI use, events or program. A recommended platform to support this was Discord.

Participants had mixed views on communications from the University or instructors. Instructor announcements on Avenue2Learn (from a trusted source) will typically catch student attention. Some participants mentioned a preference for resources to be shared on the library website as opposed to A2L to differentiate academic material from other learning materials. Finally, when sharing resources or programs, promotion of the “face” of the program facilitation was a topic of consideration. Students would like to learn from someone who has expertise/knowledgeable, but it can be intimidating to approach and talk to a professor about these topics).

Other thoughts or ideas shared

Participants said they don't trust information generated by AI since their responses vary depending on the model. They were also concerned that people find ways to get around AI's safeguards to get ridiculous answers. They were also concerned about being penalized for academic dishonesty if using AI. For example, participants were worried that using generative AI on a school computer could get traced back to them.

When asked this question, many students echoed views shared in the survey:

- Worry about the ethical implications of AI.
- Desire to learn how to use it responsibly for learning.
- Generally uncomfortable with gen AI and not wanting to use it at all.
- Need for clearer guidelines from McMaster.
- Find it unfair that AI could be used to mark assignments by instructional teams when students cannot use AI.

Some raised additional points:

- What does the university want to do with this? Are they promoting Generative AI use?
- A student who had taken many coding classes said, “ChatGPT is used when you just don’t know how to do something and no one around you knows how. No one wants to cheat, but sometimes you feel like you have to.”
- Some mentioned generally not knowing how to navigate the McMaster Library and wanted clear promotion of AI resources that will be available (e.g. a large banner outside of Mills Library).

Limitations

A major limitation of the survey was the fear of students getting caught using generative AI. While this survey had a good response rate and had responses from people who had used AI, the survey's purpose may have discouraged participants who heavily use GenAI from answering. We may also not have gotten as many responses from undergraduate students who did not use Generative AI since the survey was promoted with the phrase, 'Tell us how you use Generative AI,' which is more relevant for those who use generative AI than a more neutral phrase, such as, 'Tell us how you feel about Generative AI.' Some who don't use generative AI may not have responded because they thought this survey was not relevant to them.

Secondly, we (the authors) are not AI experts and have our own perspectives on generative AI. While we aimed to represent all perspectives as objectively as possible, we are navigating generative AI in learning for the first time alongside this survey's respondents. The themes we highlighted are likely not wholly representative of respondents' and focus group attendees' views.

Additionally, during our ITSAC focus group, the staff leads for ITSAC were present, as well as a graduate student member. While undergraduate students shared about how they used generative AI for studying, the presence of the staff leads and being in a more formal group may have made students less comfortable sharing ways they had used generative AI or influenced their responses.

Our focus groups had small issues generally: the focus groups were unpaid and there were no DeGroote School of Business students in any focus groups. All focus groups were also in person, and while there were some commuter students at our focus groups, we may have had more with online options to engage. Finally, we did not collect demographic information as we wanted the survey to be easy and anonymous which has limited the amount of analysis that can be done, especially the lack of Faculty and program information.

Recommendations

Following the completion of the engagement activities and data analysis, our team would like to recommend the following next steps for the McMaster Library to action and/or raise to Senior University Leaders:

- Prioritize the development of short videos (~1 minute) on social media that link to a website / YouTube channel with longer video tutorials
- Prioritize resources and programming to support students with job-searches (perhaps in collaboration with Faculty coop and careers offices), and discipline-specific challenges with ethics, tools, and more.
- Strongly consider hiring students to support peer-to-peer learning.
- Consider student user-testing of any resources and programs developed for a student audience to ensure that the format and themes align with student needs. User-testers should be compensated for their time.
- Incorporate evaluation mechanisms and success metrics for resources and programs developed for students (e.g. feedback surveys, satisfaction surveys, number of students engaged, etc.)
- Continue to promote opportunities for students to engage using Avenue to Learn.
- Continue to engage with graduate students to understand how their needs may align or diverge from those of undergraduate students.
- Share students' stories of how they use Generative AI, either with the information collected through this survey or through other means, with McMaster Faculty members to try and change the narrative that all students who use generative AI are cheating.
- Address the fear students are experiencing related to academic integrity by engaging with generative AI by clarifying the generative AI guidelines for Faculty and addressing inconsistencies across courses, programs, and Faculties.
- Provide more information to students on academic integrity, generally.
- Share the findings of the survey to undergraduate students and other interested groups during the Fall semester of 2024.

Appendix A: Pop-Up Approach

Background

Over the Fall/Winter 2023-2024 academic year, the Office of the Vice-Provost (Teaching & Learning) (OVPTL) is engaged in a Student Partner Project to better understand effective student engagement strategies on teaching and learning. To achieve this and align with implementation efforts for the Digital Learning Strategy, a partnership with the University Library has been organized to use various engagement strategies and tools to understand student use and perceptions of Generative AI.

The Project Team will work with the Library Ambassadors to host pop-up engagement sessions at various McMaster University Libraries to engage students between their classes. Students will be asked what their perception of Generative AI is, invited to complete the questionnaire or online survey, and will have the opportunity to have questions about Generative AI use in academic and personal circumstances answered.

The purpose of this document is to outline the details of the pop-up engagements planned for students in the winter term.

Engagement Objectives

The objectives of this engagement activity is to:

- Raise awareness of McMaster's Digital Learning Strategy.
- Create an opportunity for students to talk to their peers about how they use generative AI, and/or share their questions or concerns.
- Incentivize students to participate in the questionnaire on the spot or complete the survey in their own time.

Key Messages

The primary audience of the pop-up engagement sessions are current McMaster students, with a focus on undergraduate students. The following key messages will be shared by the engagement team with students:

- McMaster wants to enable learners to experience their education in the ways that are most effective for them.
- As part of the Digital Learning Strategy, the University strives to provide learners and educators with robust support to make seamless and informed choices for digital learning.
- With the increasing use of generative artificial intelligence in society, we wish to better understand how students are using this technology in their lives for personal or academic use.
- Generative AI is a type of artificial intelligence that uses machine learning to generate new content by analyzing and processing vast amounts of data from diverse sources. Generative AI tools can generate text, images, video, sound, and code. Different tools are trained on different datasets and with different training methods.

- We want to hear from you to better understand if and how McMaster students are currently using Generative AI, and how they feel about Generative AI in general so that McMaster's Libraries and Office of the Vice-Provost (Teaching & Learning) can best support students.

From McMaster's Generative AI website:

- While the innovation and creativity of generative AI is exciting, these systems do not come without limitations or ethical challenges.
- With many of the available generative AI tools the tools may produce incorrect or biased responses.
- There are also considerations around privacy and the use of personal data when utilizing generative AI tools. In all cases we encourage members of the campus community to use these tools with caution and care.
- Share McMaster's provisional guidelines for using generative AI

Engagement Materials

The pop-up engagement sessions will take place in various University Library locations. The materials will be stored in the Library (locations TBC – see schedule). The following materials will be required:

- Table & 2 chairs
- Roll-up banner
- Printed Generative AI Tip Sheets
- Printed questionnaires
- Sticker nametags
- Markers
- Pens
- Printed poster with QR code to online survey
- Participant tracking sheet
- Extension cord
- Laptops
- Tablet
- Library Tablecloth
- Snacks for incentives

Appendix B: Survey Questions

Survey Introduction

The purpose of this survey is to better understand if and how McMaster students are currently using Generative AI, and how they feel about Generative AI in general so that McMaster's Libraries and Office of the Vice-Provost (Teaching & Learning) can best support students moving forward.

Generative AI is a type of artificial intelligence that uses machine learning to generate new content by analyzing and processing vast amounts of data from diverse sources. Generative AI tools can generate text, images, video, sound, and code. Different tools are trained on different datasets and with different training methods.

This survey is divided into two parts – understanding student use of Generative AI, and understanding student perceptions of Generative AI. Depending on your responses, it can take between 5-10 minutes.

The survey is anonymous, however, if you'd like to be entered to win one of two $50 Campus Store gift cards or a Stanley The IceFlow Flip Straw Tumbler and/or participate in further focus groups to provide additional context and information to the project team, there will be a place to provide your contact information.

For more information on this project, please contact tlstrat@mcmaster.ca

Survey Questions

Part 1 – Student Use of Generative AI

1. **Did you use generative AI during the Fall 2023 semester?**

- Yes, I did
- No, I did not
- Unsure

Students who indicate "Yes, I have" will be directed to questions 2-5 .

Students who indicate "No, I have not" will be directed to questions 6-7.

Students who indicate "Unsure" will jump to Part 2.

2. **What did you use it for? (select all that apply)**

- school
- work
- personal

3. **What tools did you use? (select all that apply)**

- ChatGPT (includes scholarAI)
- DALL-E
- Midjourney

- Bing
- Codex
- Other (please specify)

4. **What did you like about using these tools?**

5. **What did you not like about using these tools?**

6. **Why have you not used it? (select all that apply)**
- Used it previously and did not find it helpful
- Don't know how to use it
- Not interested
- No need to use it
- Concerned about using it
- Other

7. **Are you planning on using Generative AI during the Winter 2024 semester?**
- Yes
- No
- Not sure

Part 2 – Student Perceptions of Generative AI

8. **In general, how do you feel about generative AI? (select all that apply)**
- Excited
- Skeptical
- Neutral/don't care
- Anxious
- Suspicious
- Curious
- Other (please specify)

9. **Please expand on your feelings about generative AI. (optional)**

10. **Where do you currently learn or hear about generative AI?**
- Instagram
- TikTok
- YouTube
- X (formerly Twitter)
- News outlets

- Podcasts
- Classmates or friends
- Class/instructors
- Other (please specify)

11. The University is interested in providing workshops, programming or other support to help students learn about, explore and critically engage with generative AI. What would be most helpful to you? Please select all that apply:

- Short workshops
    - Online
    - In-person
    - Hybrid
- Online tutorials
- Micro-credential
- Peer-led learning
- Social media campaigns / promotion
- Academic, for-credit courses
- Events, e.g. panels, speakers
- Other (please specify)

12. Is there anything else that you think it's important for the University to know about your use of or attitudes about generative AI? (optional)

Part 3 – Contest Contact Information and Follow-Up

Thank you for participating in this survey! A reminder that your responses are anonymous unless you wish to be entered into a draw to win a prize.

13. Please select one.

- I want to provide my contact information for a chance to win the prize.
- I want to keep my responses anonymous.

If students select the prize answer, they'll be directed to questions 13 and 14.

14. Please provide us with your email address.

15. Would you be interested in participating in a focus group to elaborate on your responses to this survey?

- Yes
- No

Appendix C: Focus Group Questions

Session 1 Focus Group Questions

1. Why have you been using Generative AI?
    a. Do you have any concerns about using GenAI? If so, what are they?
        i. Examples: privacy, security, etc.
    b. Are you planning on using Generative AI in the future? Why, or why not?

2. Where do you currently learn about generative AI?

3. Would you be interested in learning more about Generative AI?
    a. What would you be interested in learning about?
    b. Who do you trust to learn about Generative AI?
    c. It may be helpful to consider the opposite – who don't you trust?

4. If McMaster hosted workshops for students to learn about GenAI...
    a. How likely would you be to attend these workshops?
    b. What is the right length of time for a workshop? (scale of 1-2 hours)
    c. Would you prefer to attend an in-person workshop or an online workshop?

5. If McMaster offered online/asynchronous video tutorials for students to learn about Gen AI...
    a. How likely would you be to view these tutorials?
    b. What is the right length of time for these tutorials? (scale of 10 seconds to 30 minutes)

6. What other kinds of resources or programs could McMaster offer to help students learn about Generative AI?
    a. Where would you look for information about these resources or events?

7. Do you have any other thoughts or ideas you'd like to share with us about using Generative AI at McMaster?

Session 2 Focus Group Questions

1. Why haven't you been using Generative AI?
    a. Do you have any concerns about using GenAI? If so, what are they?
        i. Examples: privacy, security, etc.
    b. Are you planning on using Generative AI in the future? Why, or why not?

2. Where do you currently learn about generative AI?

3. Would you be interested in learning more about Generative AI?
    a. What would you be interested in learning about?
    b. Who do you trust to learn about Generative AI?
    c. It may be helpful to consider the opposite – who don't you trust?

4. If McMaster hosted workshops for students to learn about GenAI...
    a. How likely would you be to attend these workshops?
    b. What is the right length of time for a workshop? (scale of 1-2 hours)
    c. Would you prefer to attend an in-person workshop or an online workshop?

5. If McMaster offered online/asynchronous video tutorials for students to learn about Gen AI...
    a. How likely would you be to view these tutorials?
    b. What is the right length of time for these tutorials? (scale of 10 seconds to 30 minutes)

6. What other kinds of resources or programs could McMaster offer to help students learn about Generative AI?
    a. Where would you look for information about these resources or events?

7. Do you have any other thoughts or ideas you'd like to share with us about using Generative AI at McMaster?