Impressions of ChatGPT: Using Survey Results to Inform AI Policy in Education

Emily Ma

Marc Garneau Collegiate Institute, Canada

Abstract

ChatGPT is a powerful artificial intelligence chatbot developed by OpenAI. Because of the public availability and unprecedented writing capabilities of ChatGPT, it presents a unique policy obstacle for schools. On the one hand, ChatGPT and similar chatbots have the potential to be revolutionary learning tools, helping students to learn, study, and understand material. On the other hand, ChatGPT provides students with the means to cheat with unprecedented ease and competence, producing quality work in seconds with minimal understanding of the material required. In this paper, I examine the results of a survey I sent out to students, parents, and teachers in order to gauge policy opinions with regards to ChatGPT. The hope is that public opinion in this space can be used to inform policy making. I find that students are currently using ChatGPT at high rates, and that there is broad support for policy changes that can prevent AI cheating. Ultimately, I suggest that schools should minimize the use of take home assignments as a middle ground response to the growing risks of AI cheating.

Part 1: ChatGPT

ChatGPT is a chatbot, which is "a computer program designed to simulate conversation with human users, especially over the internet, that was designed to interact with users in a more conversational way" (Adamopoulou, 2020). It is similar to InstructGPT and was trained in a similar way. OpenAI used Reinforcement Learning from Human Feedback (RLHF) to train ChatGPT. First, ChatGPT was shown desired outputs to various prompts, which ChatGPT learned from. Then, several responses to prompts were ranked from best to worst, which helped fine-tune ChatGPT (OpenAI, 2022). Using this, along with a method called Proximal Policy Optimization, OpenAI was able to optimally fine-tune the model.

When the user gives ChatGPT a question, or prompt, the AI predicts an output on the basis of the text it has been trained on. (Woods, 2023) "It's just always predicting the next word. You give it some context, it can predict the next word. But it can predict, you know, many next words," said Paul Cook, a University of New Brunswick professor who researches artificial intelligence (Harrison, 2023).

With the rise of GPT as an extremely powerful chatbot, it is important to consider how such AI programs will change commerce, society, and—for our purposes—education.

In terms of education, AI is a valuable tool as it can provide personalized instruction by adapting to student's learning styles, creating lesson plans, and helping students by providing information and answering questions. ChatGPT is especially helpful as it is designed to provide a more detailed response and can write paragraphs that are easy to read. When students are having trouble doing math or physics homework, for example, ChatGPT can clearly explain how to do it. It can also adapt to students and identify areas where they're struggling. ChatGPT is also good at summarizing information, so it could be a valuable tool for studying for tests and completing homework. Also, according to George Veletsianos, a professor at Royal Roads University in Victoria, B.C., ChatGPT could help students whose first language isn't the language their school uses, since ChatGPT can explain assignments, help expand their vocabulary, and improve their grammar (CBC, 2023).

Here's what ChatGPT said about itself and its uses in education:

> ChatGPT, or Generative Pre-trained Transformer, is a cutting-edge language model developed by OpenAI that uses machine learning to generate human-like responses to natural language input. It works by pre-training on large datasets to develop a rich representation of language that can be fine-tuned on specific tasks or domains. While ChatGPT has the potential to positively influence education, by serving as a tool for language learning or writing and research assistance, there are also concerns that it could be used for cheating and ethical considerations around its use in the classroom. It will be important to carefully consider the potential impacts of ChatGPT in educational settings (ChatGPT response).

Part 2: Implications for Education

Since ChatGPT is able to write about nearly any topic, many students have been using ChatGPT in their education. Some use it for help with homework problems or to proofread essays, while others use ChatGPT to complete entire assignments. Accordingly, it is important to consider how schools should adapt to this new powerful learning tool. On one hand, students using ChatGPT to write significant parts of their homework are not doing the work that they have been assigned, so they aren't learning the skills they are being taught (Wong, 2023). On the other hand, ChatGPT can help students learn on their own and can provide personalized support (Chan & Hu, 2023).

Another question is who should be attributed when considering ChatGPT responses. Should it be OpenAI, as they created ChatGPT, or should it be the user of ChatGPT? Alternatively, it could be the authors of the sources used to train ChatGPT, but there were so much data used that it would be nearly impossible to cite everyone. As a result, institutions may need to revise their definitions of plagiarism to adapt to this new technology (Dehouche, 2021).

Some schools in New York City and Los Angeles have already started cracking down on AI usage by banning the use of ChatGPT (D'Andrea, 2023). Similarly, Hamilton's public school board blocked ChatGPT on all Wi-Fi networks and Board devices, meaning that students and staff have a harder time accessing ChatGPT (Hristova, 2023). On the other hand, the Seattle Public Schools district initially blocked ChatGPT on all school devices but then allowed educators to use it as a teaching tool (O'brien & Gecker, 2023). Some teachers have gone back to paper assignments and assessments instead of digital, says Shana Ramin, a technology integration specialist with Oakland Schools in Michigan (Claybourn, 2023).

Many Canadian universities such as UNB are still considering school wide policies on ChatGPT and academic dishonesty in order to decide what counts as a legitimate use of ChatGPT and similar tools, with no plans yet to necessarily ban ChatGPT. Others, such as Jeffrey Carleton at STU, have decided that any issues will be dealt with at a classroom level and that if the use of ChatGPT becomes a prevalent issue, professors would consider policies targeting the tool (Harrison, 2023).

Part 3: Prior Literature

Regardless, AI will likely play a greater role in education in the future, so students, parents, and teachers will need to adapt. This is new territory and it's a very powerful tool; thus, schools need to think carefully about how to adapt/respond to it. Precisely *how* we adapt to it is going to depend on whether we think of ChatGPT and other similar AI programs as useful tools to help students learn or a software that allows students to outsource their work and bypass learning altogether.

Some prior literature already exists in this space. For instance, Chan & Hu (2023) find that students and staff thought that ChatGPT was useful for writing assistance, generating ideas, summarizing information, and editing writing. However, there were concerns about plagiarism and academic honesty, since AI generated text cannot necessarily be detected by plagiarism detectors.

In terms of adapting to the existence of ChatGPT, Amani et al. (2023) found that some faculty said that schools would have to determine how to evaluate students differently. Additionally, many noted that ChatGPT would only have a positive impact if used correctly, as there were worries of students not understanding the limitations of ChatGPT or relying on it too much. Students had similar perspectives, and also said that ChatGPT could have a positive or negative impact depending on how it was used. In that survey, 64% of faculty/staff and 73% of students stated that they had an account and had used ChatGPT, which indicates there may already be a widespread awareness of ChatGPT within schools.

Also, it seemed that students were more distrustful of their classmates. 11% of students believed that their peers had used ChatGPT to complete homework, and 11% thought that their peers had used ChatGPT to write essays. In addition, 55% of faculty/staff responded that it was somewhat or extremely likely that students would engage in academic dishonesty, and 63% believed that ChatGPT would enable these behaviours (Amani et al., 2023). This indicates that both students and staff may be concerned about the academic dishonesty that may occur as a result of the use of ChatGPT.

Part 4: Methods

I designed a survey to address something that I believe has been under addressed by existing literature. Namely: what are the opinions of students, parents, and teachers about the particular policies that schools should be enacting in order to adapt to new, powerful AI chatbots like ChatGPT.

Any policy approach to this problem, I believe, will depend critically on the attitudes of teachers, parents, and students. In order to gauge these attitudes, I designed a survey and sent it to parents, teachers, and students. Our intention was to get a sense of the current attitudes people have towards ChatGPT in an educational setting, as well as what policy options people consider reasonable and prudent. I was also interested in the correlations between different responses. In particular, I was interested in how attitudes towards the use of AI chatbots in an educational setting differ between students, teachers and parents. Additionally, I was curious if more strictness regarding non-AI cheating would translate to a more negative attitude about the use of AI in school settings. I asked the following questions:

1. Which of the following best describes you?
   a. Student
   b. Parent
   c. Teacher
   d. None of the Above
2. Where do you live?
   a. North America
   b. South America
   c. Europe
   d. Africa
   e. Asia
   f. Oceania
3. What is your level of education?
   a. High school student
   b. High school graduate
   c. University student
   d. University Graduate
4. Have you ever used ChatGPT or a similar AI chatbot?
   a. Yes
   b. No

5. How often do you use ChatGPT for educational purposes?
    a. Never
    b. Rarely
    c. Sometimes
    d. Often
6. If you have used ChatGPT for educational purposes, how did you use it? (Select all that apply)
    a. To ask for explanations or clarification on a concept or topic
    b. To brainstorm ideas for a homework assignment or project
    c. To complete a homework assignment or project (e.g. giving ChatGPT a prompt and having it write an essay)
    d. To get feedback on writing assignments (e.g. grammar, structure, content)
    e. To practice answering questions or solving problems
    f. To practice language skills (e.g. speaking, listening, reading, writing)
    g. I haven't used ChatGPT for educational purposes
    h. Other (Please specify)
7. Overall, how do you feel about the use of AI in a school setting?
    a. Very positive
    b. Somewhat positive
    c. Neutral
    d. Somewhat negative
    e. Very negative
8. What do you think are the main benefits of using Chat GPT or a similar AI chatbot in school? (Select all that apply)
    a. It can provide quick and accurate answers to questions
    b. It can help students learn new concepts and ideas
    c. It can provide a more engaging and interactive learning experience
    d. It can free up time for teachers to focus on other tasks
    e. It can facilitate online or remote learning
    f. Other (Please specify)
9. What are the potential dangers or risks of using Chat GPT or a similar AI chatbot in school? (Select all that apply)
    a. It may not always provide accurate or reliable information
    b. It may not fully understand the context or nuances of a conversation
    c. It may not be able to fully replace the role of a human teacher or mentor
    d. It may lead to students relying too heavily on AI rather than developing their own critical thinking skills
    e. It may facilitate plagiarism or cheating if students copy and paste answers or content from the chat-bot
    f. Other (Please specify)
10. Would you feel dishonest using ChatGPT to edit a for-credit take home assignment?
    a. Yes
    b. No
    c. Unsure
11. Do you think teachers should restrict or ban the use of ChatGPT or similar AI chatbots (e.g. by making more in-class assignments, or by running students' essays through AI-detection sites)?
    a. Yes, I think it should be banned
    b. No, it should be allowed

12. Suppose the use of ChatGPT is permitted for students, how should school assignments be changed?
   a. Assignments should stay the same
   b. The difficulty of assignments should increase
   c. Take home tests/essays should be eliminated
   d. Other
13. ChatGPT is a predictive artificial intelligence trained on material from the internet. When you ask ChatGPT a question, it combs through its data and tries to predict what an answer might look like on the basis of what it has read on the internet. Do you think ChatGPT is plagiarizing the original authors of the material it is trained on?
   a. Yes
   b. No
   c. Unsure/it depends
14. Suppose a student cheats or plagiarizes (in an old-school way—not by using ChatGPT) on a major assignment, like an exam or essay. It is the student's first offense. Which of the following is the most appropriate punishment?
   a. No punishment
   b. Redo the assignment
   c. A 0% on the assignment
   d. A 0% in the course
   e. Suspension
   f. Expulsion

Part 5: Results

Below is a list of interesting and relevant results from the survey:

Result 1:

We predicted that teachers would have the most strict attitude towards non-AI cheating, followed by parents, followed by students (correlation between q1 and q14). What I found was that parents were in fact the strictest, with 5 parents saying that students who cheat should redo the assignment (27.8 percent), 10 saying they should receive a zero on the assignment (55.6 percent), 2 saying that they should receive a zero in the course (11.1 percent), and 1 recommending suspension (5.6 percent).

The next strictest were the teachers, with 1 teacher supporting no punishment (6.7 percent), 4 saying that students who cheat should redo the assignment (26.7 percent), 9 saying they should receive a zero on the assignment (60 percent), and 1 saying that they should receive a zero in the course (6.7 percent).

Students had the least strict attitudes toward cheating, with 2 students supporting no punishment (5.6 percent), 16 saying that students should redo the assignment (44.4 percent), 17 saying that they should receive a zero on the assignment (47.2 percent), and 1 recommending expulsion (2.8 percent).

Overall, 36 respondents selected the student receiving a zero on the assignment (52.2 percent), 25 selected having the student redo the assignment (36.2 percent), and 3 people supporting each of no punishment and a zero in the course (4.3 percent), and only 1 person supporting each of suspension and expulsion (1.5 percent).

Result 2:

We predicted that parents will have the most negative attitude towards AI in education, followed by teachers, followed by students (Correlation between q1 and q7).

Among the 37 students surveyed, 20 felt very or somewhat positive (54.1 percent), 9 felt neutral (24.3 percent), and 8 felt very or somewhat negative (21.6 percent). Among the 15 teachers surveyed, 5 felt very or somewhat positive (33.3 percent), 4 felt neutral (26.7 percent), and 6 felt very or somewhat negative (40 percent). Among the 19 parents surveyed, 9 felt very or somewhat positive (47.4 percent), 5 felt neutral (26.3 percent), and 5 felt very or somewhat negative (26.3 percent).

Overall, 34 respondents felt very or somewhat positive (47.9 percent), 18 felt neutral (25.4 percent), and 19 felt very or somewhat negative (26.8 percent).

The data suggests that students may have the most positive attitudes toward AI in education, followed by parents, and then teachers, and that overall, around 50% may feel positive, while roughly 25% may feel neutral and 25% may feel negative.

Result 3:

We predicted that those who feel more strictly about non-AI cheating would have less permissive attitudes towards the use of AI for educational purposes (correlation between q14 and q7/11).

Out of the 3 respondents that preferred no punishment for non-AI cheating, 2 felt positive about AI in a school setting (66.7 percent), and 1 felt neutral (33.3 percent). All 3 felt that ChatGPT should be allowed.

Out of the 25 respondents that preferred that students redo the assignment as a punishment for non-AI cheating, 12 felt positive about AI in a school setting (48 percent), 6 felt neutral (24 percent), and 7 felt negative (28 percent). 8 felt that ChatGPT should be banned (32 percent), and 12 felt that ChatGPT should be allowed (48 percent).

Out of the 37 respondents that preferred that students receive a 0% on the assignment as a punishment for non-AI cheating, 17 felt positive about AI in a school setting (45.9 percent), 9 felt neutral (24.3 percent), and 11 felt negative (29.7 percent). 19 felt that ChatGPT should be banned (51.4 percent), and 9 felt that ChatGPT should be allowed (24.3 percent).

Out of the 5 respondents that preferred students receiving a 0% in the course, suspension, or expulsion, 3 felt positive (60 percent) and 2 felt negative (40 percent). 4 felt that ChatGPT should be banned (80 percent).

It appears that there is a slight correlation between how severely respondents believed non-AI cheating should be punished and negativity they felt about the use of AI in schools.

Result 4:

Out of 71 responses, 37 (52%) said they would feel dishonest using ChatGPT for a take home assignment. 14 (20%) said they would not feel dishonest, and 20 (28%) said they were unsure. Interestingly, "dishonest" was a strong plurality here, suggesting that pre-existing anti-cheating norms have generalized to include AI chatbots.

Result 5:

We had 70 responses to question 11. Of those, 31 (44%) said that ChatGPT should be banned. 24 (34%) said that ChatGPT should not be banned. The remaining responses were suggestions of middle ground policies and partial restrictions on the use of ChatGPT. This is a very important result. A plurality, but not a majority, believes that ChatGPT should be banned outright. This suggests both that people are not very open to the use of ChatGPT for schoolwork and also that finding popular policy options may prove quite difficult.

Result 6:

We predicted that those who have used ChatGPT or a similar chatbot will be more likely to report that they would feel dishonest using it for a school assignment (correlation between q4 and q10).

Out of the 44 respondents that have used ChatGPT, 21 stated that they would feel dishonest (47.7 percent), 13 were unsure (29.5 percent), and 10 stated that they would not feel dishonest (22.7 percent). Out of the 27 respondents that haven't used ChatGPT, 16 stated that they would feel dishonest (59.3 percent), 7 were unsure (25.9 percent), and 4 stated that they would not feel dishonest (14.8 percent).

Contrary to our prediction, the data suggests that those that haven't used ChatGPT may be more likely to feel dishonest using it for a school assignment.

Result 7:

We predicted that the attitude people have towards the use of AI in a school setting will have an inverse correlation with level of education (i.e. more education=worse opinion of AI) (correlation between q3 and q7).

Of the 31 high school students who responded to this question, 15 had a positive or very positive attitude towards the use of AI in a school setting (48%), 7 had a negative or very negative attitude towards the use of AI in a school setting (23%), and 9 had a neutral attitude (29%).

Of the 40 high school graduates who responded to this question (university students + university graduates), 18 had a positive or very positive attitude towards the use of AI in a school setting, (45%), 13 had a negative or very negative attitude towards the use of AI in a school setting (32.5%), and 9 had a neutral attitude (22.5%).

Of the 34 university graduates who responded to this question, 14 had a positive or very positive attitude (41%), 12 had a negative or very negative attitude (35%), and 8 had a neutral attitude (24%).

Overall, there did not appear to be a strong relationship between respondents' level of education and their attitude towards the use of AI in an educational setting.

Result 8:

Out of 65 responses to question 8, 35 respondents (54%) said that helping students learn new concepts and ideas was a main benefit of AI chatbots. After that, 32 respondents (49%) said that one of the main benefits was providing a more engaging learning experience. 24 (37%) thought that one of the main benefits was AIs ability to provide quick answers to questions, and 20 respondents (31%) said that AI will help free up teachers' time. Finally, 18% said that one of the main benefits was the fact that AI will help facilitate online learning.

Result 9:

We predicted that people's major concerns with regard to the use of chatbots in educational settings would be plagiarism and cheating and students relying too heavily on AI (q9). I was correct. Of our 71 responses to this question, 61 were concerned about plagiarism and 61 were concerned about students relying too heavily on AI (86% each). 47 respondents (66%) were concerned about AI not providing accurate or reliable information. 40 respondents (56%) worried that AI might not be able to replace the role of teacher or mentor and 36 respondents (51%) worried that AI might not fully understand the nuances of conversation. These data show that, while there are a broad range of concerns, the most salient overall concerns involve the potential for AI to enable cheating and the risk that AI will diminish learning outcomes by creating over-reliance.

Result 10:

We predicted the most common policy recommendation would be to get rid of take home tests (q12). More specifically, I predicted that students will be most partial to assignments staying the same (q12 and q1) and that teachers will be most partial to eliminating take-home tests (q12 and q1).

Of the 69 responses to question 12, 27 said that schools should get rid of take home tests and essays (39%), 16 said that assignments should stay the same (23%), and 14 said that the difficulty of assignments should increase (20%). The remaining 12 responses were suggestions for alternative policy options. These suggestions fell into two camps. Some respondents had suggestions for how assignments could be changed to accommodate powerful chatbots, by, for example, making the assignments more creative or opinion-based. Other respondents suggested that we should change the nature of assessments at school to focus more on class participation.

Students, more than any other group by far, were partial towards assignments staying the same, which was in line with our predictions. Even so, however, a plurality of students suggested getting rid of take home assignments and essays. In total, of 33 student responses, 12 said that assignments should stay the same (36%), 5 said that assignments should become more difficult (15%), and 16 said that take home tests and essays should be eliminated (48%).

Of the 9 responses to this question given by teachers, 6 suggested getting rid of take home tests and essays (67%), 2 said that assignments should be made more difficult (22%), and 1 said that assignments should stay the same (11%).

Overall, these results suggest that there is a broad understanding between parents, teachers, and students that policies do need to change to accommodate this new technology, with only 23% of respondents saying that assignments should stay the same.

Result 11:

We predicted that respondents will by and large not consider ChatGPT to be plagiarism. (q13). Of the 70 responses to question 13, 9 people said that ChatGPT does count as plagiarism (13%), 25 said that ChatGPT does *not* count as plagiarism (36%), and 36 said they were unsure or it depends (51%).

Result 12:

We wondered how many current high school and university students are regularly using ChatGPT for educational purposes already (q4 and q5). Of the 37 current high school or university students who responded to the survey, 29 have used ChatGPT before (78%). 22 of them have used ChatGPT for educational purposes (59%), and 16 reported to be using ChatGPT for educational purposes *sometimes* or *often* (43%). What this shows is that the use of ChatGPT for educational purposes is already quite prevalent, and therefore there is a pressing need for schools and educators to make corresponding policies.

Part 6: Discussion

Overall, respondents felt mostly positive or neutral about the use of AI in a school setting, with around half of respondents feeling positive and around a quarter feeling neutral. The students were the most positive about AI, followed by parents, and then teachers. I also found that the more negative respondents were about AI in a school setting, the more likely they were to recommend stricter punishments and believe that AI should be banned. However, surprisingly, more respondents said that ChatGPT should be banned (44%) than not (34%), with other respondents in between. This disconnect between the overall positivity towards AI that respondents expressed and their particular policy

attitudes towards ChatGPT might be explained in a few different ways. Perhaps respondents dislike ChatGPT in particular, but feel optimistic about other AI tools. Perhaps respondents feel optimistic about AI in the abstract, but conflicted when they are confronted with AI is concretely being used right now. More research would help to figure out exactly which AI tools people have positive attitudes towards and how people think they should be used.

However, a majority of people did not think that the use of ChatGPT should be considered plagiarism of the original authors the program trains on, so they may have been more concerned about the other possible consequences of AI chatbots. The most common concerns were about cheating, students relying too heavily on AI, and AI not providing accurate or reliable information.

On the other hand, some of the most cited benefits of ChatGPT were that it could help students learn new concepts and ideas and could provide a more engaging learning experience. This indicates that if chatbots are to be used, people would likely support applications that use it as a learning tool. In general, people are attracted to the idea of AI as a learning tool that can help students explore and understand the material, but worried about the possibility of AI simply doing students' work for them.

The majority of respondents, no matter if they were parent, teacher, or student, agreed that policies should change in order to adapt to chatbots. The most popular suggestion was to get rid of take home tests and essays (39%), and some respondents also supported increasing the difficulty of assignments (20%). Other suggestions included making assignments more creative or opinion-based, or changing what assessments measure to focus more on class participation. Additionally, since nearly half of the current high school and university students use ChatGPT sometimes or often, it is crucial to determine a policy that will best address the needs of students, teachers and parents.

While students, teachers, and parents generally agree that change is needed, there are differences between their thoughts on what to do. For instance, students were more likely to believe that assignments should stay the same than parents or teachers. They also had the most positive attitudes towards AI, and the least strict attitudes towards cheating.

Given these results, I think that one very natural policy option is for schools to get rid of take-home tests and short answer assignments. This suggestion is generally popular, and addresses the primary fears about AI (cheating, overreliance) while still enabling chatbots to be a valuable learning tool. I think that an ideal outcome involves students using ChatGPT as another way to learn, understand, and study the material without outsourcing *all* of the learning, understanding, and studying to ChatGPT. A majority of our respondents cited the learning benefits of ChatGPT as a primary potential benefit and cheating and over-reliance as a primary potential drawback. Getting rid of take-home assignments seems like a natural start towards this end.

The reality is that—in the status quo—take-home assignments are compromised. Students *will* be using ChatGPT to cheat on them. Per result 12, most students have used ChatGPT for educational purposes and nearly half of students regularly do so. A critical mass of students are or soon will be using chatbots to help them complete their assignments. This is a threat both to their own education and also disproportionately harms those honest students unwilling to cheat.

Certain chatbot detection mechanisms that are commonly used by teachers, such as Turnitin, are much too fallible to use as a basis for any kind of decisive action. (Fowler, 2023) It is also extremely difficult to have a very effective chatbot detector as chatbots are continuously getting more and more advanced (Heikkilä, 2022). In addition, as there is such a strong incentive for using chatbots, I think the simplest solution is to get rid of the efficacy of chatbots for unethical purposes by simply getting rid of take-home assignments. Some people might imagine a middle ground approach where take-home assignments are still assigned and students are simply instructed not to use ChatGPT, but with weak detection and the overwhelming utility of ChatGPT, I think these policies will be largely ignored, which—again—serves to punish the most honest students for not cheating.

Although the use of AI for cheating is a very real threat, I think that banning ChatGPT on campus (particularly for boarding schools) would be an overcautious approach that risks missing out on the educational benefits of AI. There is a consensus among respondents that AI chatbots have the potential to teach students new material as well as make learning more engaging and fun. I believe that ChatGPT offers students an engaging and positive way to learn

and study the material which can positively supplement their education: for instance, ChatGPT can be used to instead help exercise students' critical thinking, by asking students to evaluate ChatGPT's responses to prompts. (Roose, 2023). I also believe that teachers should have the latitude to involve ChatGPT in their classrooms to enhance engagement with their teaching if they so wish.

Conclusion

In Section 1, I explained what ChatGPT is and how it works, and outlined some of the possible benefits and harms of using AI in education. In Section 2, I examined how schools and teachers have been reacting to ChatGPT to get an idea about how people overall seem to feel about it. In Section 3, I outlined the survey that I created to get a more precise idea of how people felt toward AI in education, ChatGPT specifically, and their opinions on various other issues such as plagiarism and how they thought policies in schools should change. The results and correlations found from the survey were detailed in Section 4, and I discussed the results and what they mean in Section 5. Using these results, I made a few policy recommendations that would satisfy most of the parties involved.

The takeaways from this report are threefold. (1) I believe that there is currently a pressing need to improve AI policy at academic institutions in order to adapt to the new status quo. AI chatbots are powerful learning tools that are already being used by a large chunk of the student population. With good policy, we can ensure that these powerful tools are enhancing the learning experience rather than frustrating or replacing it. To this end, successful AI policy needs to recognize that AI both has a great potential to be positively incorporated into education, but also that if it is *not* positively incorporated, it will be used to cheat and plagiarize, at the expense of the students who cheat, the students who do not cheat, and academic integrity as a whole. (2) I believe that outright bans do not serve this end because they eliminate all of the positive use cases of AI chatbots. Such bans are unpopular, likely to be circumvented, and prevent teachers from finding positive ways to incorporate AI tools into their classroom and curriculum. (3) Finally, I believe that take-home assignments and tests are compromised and should be de-emphasized. AI chatbots like ChatGPT are already powerful enough to do students' work for them, and such a tool is irresistible to many students. Our research found that a large number of students are regularly using ChatGPT to help with their assignments. Given that it is not possible to know if students have written their assignments or if an AI chatbot has, I believe that continued use of take-home assignments runs the risk of punishing those students with the good integrity to do those assignments for themselves.

References

Adamopoulou, E., Moussiades, L. (2020). An Overview of Chatbot Technology. In: Maglogiannis, I., Iliadis, L., Pimenidis, E. (eds) Artificial Intelligence Applications and Innovations. AIAI 2020. IFIP Advances in Information and Communication Technology, vol 584. Springer, Cham. https://doi.org/10.1007/978-3-030-49186-4_31

Amani, S., White, L., Balart, T., Arora, L., Shryock, K. J., Brumbelow, K., & Watson, K. L. (2023, April 21). Generative AI Perceptions: A Survey to Measure the Perceptions of Faculty, Staff, and Students on Generative AI Tools in Academia. Arxiv. https://arxiv.org/pdf/2304.14415.pdf

ChatGPT could help rather than hinder student learning, says B.C. professor. (2023, January 30). *CBC.* https://www.cbc.ca/news/canada/british-columbia/chatgpt-student-benefits-1.6731105

Claybourn, C. (2023, January 18). ChatGPT in Classrooms: What to Know. *USNews.com.* https://www.usnews.com/education/best-high-schools/articles/chatgpt-in-classrooms-what-to-know

D'Andrea, A. (2023, February 1). Canadian universities crafting ChatGPT policies as French school bans AI program. *Global News.* https://globalnews.ca/news/9451143/chatgpt-education-canadian-universities/

Dehouche, N. (2021, March 25). Plagiarism in the age of massive Generative Pre-trained Transformers (GPT-3). Ethics Sci Environ Polit 21:17-23. https://doi.org/10.3354/esep00195

Fowler, G. A. (2023, April 3). We tested Turnitin's ChatGPT-detector for teachers. It got some wrong. *The Washington Post*. https://www.washingtonpost.com/technology/2023/04/01/chatgpt-cheating-detection-turnitin/

Harrison, L. (2023, February 2). From instant essays to phishing scams, ChatGPT has experts on edge. *CBC*. https://www.cbc.ca/news/canada/new-brunswick/chatgpt-academia-cybersecurity-1.6733202

Heikkilä, M. (2022, December 19). *How to spot AI-generated text*. MIT Technology Review. https://www.technologyreview.com/2022/12/19/1065596/how-to-spot-ai-generated-text/

Hristova, B. (2023, February 2). Some students are using ChatGPT to cheat — here's how schools are trying to stop it. *CBC*. https://www.cbc.ca/news/canada/hamilton/chatgpt-school-cheating-1.6734580

O'brien, M., & Gecker, J. (2023, February 1). Did ChatGPT write that? OpenAI launches tool to detect AI-generated text - National | Globalnews.ca. *Global News*. https://globalnews.ca/news/9451365/chatgpt-detector-openai/

OpenAI. (2022, November 30). *Introducing ChatGPT*. OpenAI. https://openai.com/blog/chatgpt

Roose, K. (2023, January 12). Don't Ban ChatGPT in Schools. Teach With It. *The New York Times*. https://www.nytimes.com/2023/01/12/technology/chatgpt-schools-teachers.html

Wong, J. (2023, April 11). Teachers are split on bringing ChatGPT into elementary, high schools. *CBC*. https://www.cbc.ca/news/canada/chatgpt-highschool-elementary-1.6802336

Woods, R. (2023, March 29). *How to use ChatGPT for content creation*. Microsoft Create. https://create.microsoft.com/en-us/learn/articles/how-to-use-chatgpt-for-content-creation