

# Student Perspectives on Chat GPT

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## Introduction

ChatGPT is a generative artificial-intelligence (GenAI) chatbot launched publicly in November 2022 by the non-profit tech-development organization OpenAI. GenAI chatbots like ChatGPT and Bard harness the power of large-language models (LLMs) to make text predictions in response to prompts. LLMs are mathematical models trained on large datasets of words and computer programming code to develop human-like responses in the form of sentences or code (AI Pedagogy Project, 2024). As these LLMs increase in complexity, the chatbots are able to simulate with greater accuracy human-like responses to prompts from the user. Use of human-like responses are not new, AI in education (AIED), such as computer-assisted instruction and intelligent tutoring systems, dates back to the 1950s (McCalla, 2023), but LLM tools like ChatGPT represent a significant breakthrough because they do not just retrieve stored information, they generate it.

Because of this break from prior trends in AIED development, ChatGPT has educators torn on its merits and risks for teaching and learning. Some educators explicitly integrate use of ChatGPT into their curriculum and embrace new pedagogical possibilities like critically engaging with LLMs, accelerating inquiry processes, and augmenting writing (Halaweh, 2023). Indeed others have characterized the many ways students may use ChatGPT to support their learning (Trust, Whalen & Mouza 2023). In contrast to those who pedagogically embrace ChatGPT, many educators express anxiety and lack of preparation for the swiftness with which GenAI technologies have been integrated into teaching and learning (Huang, 2023). Chief among the concerns of skeptics is the mechanism of enforcing academic-integrity standards, particularly for courses in which writing or programming is key to evaluating student learning. As such, several academic institutions of higher learning have outright banned use of ChatGPT on their campuses (Nolan, 2023).

While ongoing debates amongst faculty and administrators in the higher education context has led to generative AI policies at the university, college, and classroom levels, students themselves have largely been left out of these conversations. A variety of reasons may explain the exclusion of student perspectives from these debates and decision-making spaces, the most significant perhaps being how quickly educators were forced to revisit and adjust longstanding

pedagogical approaches and assignments on the tails of the ChatGPT roll-out. As a result, the dominant perspective on student use of ChatGPT for academic work is top-down and punitive, with educators perhaps feeling that surveillance pedagogy to prevent cheating is the only way forward (Yu et al, 2023). However, the effectiveness of surveillance technologies for identifying cheating is dubious (Khalil et al, 2023) and disproportionately disadvantages students from historically marginalized groups (Liang et al, 2023).

Furthermore, actual data on student perspectives on use of ChatGPT is lacking and likely highly variable across contexts (Lucariello, 2023). In the absence of targeted data on if and how students are using ChatGPT for academic purposes, it is not clear that the top-down responses to ChatGPT are addressing a legitimate academic-integrity problem in higher education. Therefore, in the context of this predominantly instructor-driven debate, the aim of this study was to investigate student perspectives on academic uses of ChatGPT, focusing primarily on students from STEM disciplines. This report addresses the research questions: 1) For students who are using ChatGPT, 1) why are they using it?, 2) how are they using it? For students who are not using ChatGPT 3) why are they not using it?, and 4) under what circumstances would they consider its use in academic settings?

## Methods

### Context

This study was conducted by a subset of members of a scholarship of teaching and learning (SoTL) working group at the University of Massachusetts Amherst.

### Recruitment

The data for this study was collected in April 2023, soon after the public introduction of ChatGPT. The researchers used a convenience sample that included students in courses that were taught by members of the SoTL working group, as well as faculty members who were recruited by members of the SoTL working group. In total, 614 students from 12 courses were invited to participate, and of this number 397 agreed to participate. The majority of these students were STEM majors enrolled in upper-division courses.

### Instrument (Survey)

This survey included open-ended questions that asked students whether they have used ChatGPT and used skip logic to probe students with additional questions based on their responses to the first. This study began with the following question:

- “Students across the country are experimenting with using ChatGPT in a variety of ways and for different reasons. Have you used ChatGPT to help with any class projects, activities, or assignments (e.g., discussion forums, coding, short answers, essays, creative writing)?”

Students who responded “yes” were prompted with the following questions:

- “How have you used ChatGPT? Your thoughts are important to us. Please be as detailed as possible to help us understand your use of ChatGPT.”
- “Why did you decide to use ChatGPT?”

Students who responded “no” were prompted with the following questions:

- “Why haven't you used ChatGPT? Your thoughts are important to us. Please be as detailed as possible to help us understand your use of ChatGPT.”
- “In what situations would you consider using ChatGPT, if any?”

Each student was prompted with this question at the end of the survey:

- “What is your current or intended major?”

## Data Collection

The two co-PIs of this study visited classrooms to introduce the survey and provide students with a web link and QR code with which to access the survey, which was available via a Google Form. These co-PIs were not teaching any courses during the semester when data collection took place. Course instructors and anyone else with grading responsibilities (such as teaching assistants) were not present in the classrooms while recruitment and data collection was conducted. Only individuals aged 18 or older were recruited for this study.

Students' responses to this survey were anonymous. Before responses were coded, the co-PIs scanned any responses for potentially identifying information that needed to be removed, randomized the order of responses (to avoid clustering of responses by students in the same class), and assigned each participant a study ID number. Only then were survey responses made available to the coders, who were working group members and instructors in courses from which the participants had been recruited.

## Data Analysis

A priori coding was used for responses on how students used ChatGPT based on the framework developed by Trust, Whalen & Mouza (2023). To establish consensus, each response was coded by more than one team member, and team members discussed coding decisions in pairs, as well as in a whole group. There was not a limit to how many codes could apply to a single student response, since often multiple ideas were referenced in one response.

## Ethical Considerations

This study received IRB approval at the University of Massachusetts Amherst.

# Results

Overall 41% of students reported that they had used ChatGPT “to help with ...” some aspect of their academic work. The remaining 59% of students had not used ChatGPT; of those students 16% said that they had considered using it.

## How Did or Might Students Use ChatGPT?

For the students who had used ChatGPT, we asked them to explain how they had used it. Responses were coded in part using a framework provided by Trust, Whalen, and Mouza (2023). 96% of the responses could be coded and at least 40% provided enough explanation that they had multiple codes. Additionally, we asked students who had not used ChatGPT when they might consider using it. We present responses from both questions here to provide UMass community members with information about how UMass students were inclined to use ChatGPT for academic purposes.

### Personalized Learning Support

More than half of students who had used ChatGPT, 56%, described using it for personalized learning support in their academic tasks. Students reported a variety of ways in which the tool fulfilled this purpose, with 48% of students indicating they used the tool for coding support, understanding class topics, checking answers, getting feedback on their work, or searching to answer questions. A much smaller number, just over 8%, specifically mentioned research support.

“I have used chat gpt for school assignments to help me rewrite certain sentences that just don’t sound how I want them too. I’ve also asked it to give feedback on writing assignments or emails, or asked it to check for grammar/spelling errors. I have also used it to help me study by asking it questions about topics I am confused about. I also use it for personal use, like helping me with resumes and cover letters.”

“I usually use it to make the information I’m reading more feasible. ChatGPT has the ability to summarize topics that may be hard to understand. I’ve been using it to summarize scientific articles and research papers. I can also ask it what certain words mean and it gives me a whole definition along with what functions. For example I’ve used it to ask why certain drugs for my paper may be useful in curing a disease and it allows me to look for research articles that put me on the right track.”

Among students who had not used ChatGPT, but who indicated that they would be interested in using the tool, 12% of responses described potentially using this tool for personalized learning support and 4% referencing research support specifically. In addition, some students belonging to this group indicated reasons why they would use ChatGPT for personalized learning support,

not just how: 11% indicating interest in using the tool to overcome inertia when beginning a project or when feeling stuck; 4% indicating interest in using the tool for focused information seeking, similar but more effective than a search engine.

“I could foresee using ChatGPT for classes that involve coding. After building a code structure that I think would work, I could see myself using ChatGPT to check my work or explore alternatives to how I structured instructions for the program.”

“I think it would be cool to use it as an AI conversation tool or to potentially help give me some background on a topic I am researching as a place to start.”

“Maybe with a rubric alongside my work so the application can tell me how it would grade it.”

### Reading and Writing Comprehension Support

Almost as common as personalized learning support were students whose responses described using the tool for reading or writing comprehension support. Among students who had used ChatGPT, writing assistance appeared in 23% of the total responses, while reading assistance, mainly summarizing, was present in nearly 13%. Student responses that referenced writing talked about using ChatGPT to help with writing skills, drafting, revising, proofreading, or assessment of tone or style for a particular audience or genre.

“I use Chat GPT for a couple of reasons: It helps me understand my textbook material (I'll copy/paste into ChatGPT and have it paraphrase, simplify, or reword the concepts). I also will plug my essays in it and have it reworded so my writing flows better( I'm not really good at describing things so this really helps me with explaining what I need to) I've used it for emails and to help with my resume.”

“I usually use it to make the information I'm reading more feasible. ChatGPT has the ability to summarize topics that may be hard to understand I've been using it to summarize scientific articles and research papers. I can also ask it what certain words mean and it gives me a whole definition along with what functions. For example I've used it to ask why certain drugs for my paper may be useful in curing a disease and it allows me to look for research articles that put me on the right track.”

Among students who had not used ChatGPT, but who indicated that they would be interested in using it, a similar percentage of responses, 22%, indicated using the tool for writing or reading assistance:

“I feel like it would be useful to use as a guide for writing maybe. If I saw what it generated It might be able to give me guidance on how to write my own.”

"If I were to consider using it, I would use it to help me write essays as getting started is usually the toughest part for me. Having something to work with when writing an essay is a lot easier."

"I'd only use it to shorten long readings and condense them to their main points."

### Creative Thinking Support

Just over 26% of responses identified using ChatGPT for creative thinking support, meaning the AI tool helped with brainstorming, idea formation, or organizing ideas (e.g. project outline).

"To help with writing. I used it to get an overall knowledge and an idea of what to write. In addition I also use it as a tool for brainstorming"

"I ask the AI questions relevant to my writing task and use the output answer to inform my writing. I also use it when I need to add more details to a writing piece."

Among students who had not used ChatGPT, but would potentially use it in the future, 11% of responses students indicated interest in using the tool for creative thinking support.

"I would consider using it if I was really stuck on a prompt and just wanted some ideas to get me started and would loosely base my research on these ideas."

"If I was ever really stuck on a topic or some material I would maybe use it to generate some ideas and give me more knowledge on the subject but that's about it."

### Assessment Support

The least commonly mentioned reason for using ChatGPT was assessment support. Only about 3% of students mentioned using the tool to help prepare for quizzes or tests. None of the students who had never used ChatGPT indicated interest in using the tool for this purpose.

"I've used it to help me write the code for graphs/plots on lab reports. I've used it to explain concepts and equations when doing homework. I've used it to answer homework questions and give examples for things when asked on homework. I've used it to answer multiple choice exam questions"

Among students who had never used ChatGPT, but who were interested in potentially using it in the future, 6% indicated interest in using it for assignments or homework:

"When trying to do homework"

"If I were to use it, I might ask how to solve a math question, but once again I would rather just go to office hours."

Again, students often provided reasons why they might use the tool, not just how. Most common was for schoolwork they feel is not engaging or did not require critical thinking (5%) and others indicated ChatGPT use in the event that they encountered a challenge handling a large volume of schoolwork (3%):

“I would consider using GPT if there was a “busy work” assignment that I felt was not beneficial to my learning and just needed to provide general answers ”

“If I have too much on my plate in a short duration of time and I have to do last minute submissions.”

### Other Uses

The remaining student responses that described how they had used ChatGPT fell outside the framework. Students mentioned having the tool do the assignment for them (12%), using it for personal projects (11.5%), or playing with it (3%).

“I've mainly used it to generate cover letters for job applications. I only used it once for a class assignment.”

“I have used chat GPT to write a small amount of code to help me in my research laboratory. I also have used it to talk about career related questions as well as asking it to write a preliminary draft for a cover letter for a summer job.”

## Why Did Students Use ChatGPT?

To code student responses to why they had used ChatGPT, we used emergent and iterative coding processes. In our initial round of coding, we identified 16 codes which we then collapsed into three broad themes: Perception of Utility; Affective Motivation; and Social Influence.

### Perception of Utility

Responses in this theme reflected students who reported using ChatGPT because they felt it would be useful for a specific academic task or because it was accessible and convenient to use at the time. Since most student responses talked about utility, we further differentiated the type of usefulness students identified into three subcategories: short term academic needs; long term goals, and convenience and accessibility.

Students who found it useful for short term academic needs reflected an exploration of if or how ChatGPT could be useful learning aid, such as getting started with an assignment, rewriting their thoughts, or having course material explained to them:

*“I was interested in how it would frame my notes into a better format and more complete work”*

*"It offered a different view of the equations and explained it better than was shown in slideshows"*

*"I didn't fully understand the material taught in class, but ChatGPT was a good way to learn the material"*

Other students wrote that use of ChatGPT helped them when they were unable to access other options for help, particularly when they were unable to talk with someone else such as peers or the professor:

*Because I don't have anyone to work in group with, and office hours don't match my schedule.*

*I think it can be a useful tool sometimes if you don't have a peer to help you.*

*I didn't have any other sources to turn to and the deadline was too soon to go to office hours.*

Finally, one student explained that they were using ChatGPT as a tool to help them keep pace with the rate with which other students were learning, "I have a learning disability and it bridges the gap so I can learn at the same pace as people without one."

Those who spoke about convenience and accessibility simply said they were using ChatGPT because it was simple, quick, and free to use: "Easy, saves time." One student who used it to answer a question explained they used ChatGPT "because it was a question that would have taken me a long time to find the answer to."

Finally, a few students (n=6) talked about using ChatGPT for long term needs; particularly the idea of getting familiar now with an important tool for the future:

*AI is evolving to facilitate learning and so i believe it is useful to hop on the train now and get accustomed with how to use it properly to my advantage.*

*I think it's a really cool new technology, and it's a big part of our future with our generation.*

## Affective Motivation

Responses in this theme reflected students who mentioned emotions that enable learning, such as curiosity, and emotions that could inhibit learning—such as boredom, stress, or frustration. Some students' curiosity about what ChatGPT could do was the main motivator for them to use the tool:

*"I used it because it was interesting and it was fun to see what answers it would create."*

*"I wanted to see if the program would be able to figure it out"*



Additionally, curiosity for some students led them to seeing its utility, “At first out of curiosity, then because it was a useful tool.”

When students talked about emotions that could inhibit learning, ChatGPT was identified as a tool that they used to mitigate those negative emotions:

*“I was struggling to figure out what project to do from my engineering class and use ChatGPT to help me come up with ideas.”*

*“I was stressed about other classes and it helped”*

## Why had students NOT used ChatGPT?

To code student responses to why they did not use ChatGPT, we used the same coding processes (emergent and iterative). In our initial round of coding we identified 11 codes which we then collapsed into four broad themes: Authenticity & Plagiarism; Inapplicability; Unfamiliarity; Ethics Concerns with ChatGPT Itself. These themes and corresponding codes are represented in Table Y.

### Authenticity & Plagiarism

This theme encompasses responses from students who cited that they did not use ChatGPT because they thought it would negatively interfere with their learning in that their work would not be considered “original”. Students had a variety of reasons for valuing originality. Some were fearful of committing or being accused of academic dishonesty and thus use of ChatGPT felt too risky in terms of their overall goals for their educational experience (27%):

*“I am aware of the negative ramifications that may happen if a teacher catches a student using chat GPT.”*

*“I believe it is a form of cheating, and by using this system I am only harming my own writing abilities.”*

*“I think the current narrative surrounding ChatGPT is one that sort of “villanizes” it, as well as students who use it (accusing them of being lazy or of plagiarizing). For that reason, I’m scared to even type it into my browser for fear of being labelled as such. “*

Some students expressed that they thought their original work was better quality than what ChatGPT could produce and some stated that they valued being able to learn and to think for themselves (something they perceived would be disrupted by a tool like ChatGPT) (14%):

*“I would not use it to write out responses for me because I believe my own work is more genuine.”*

*“Didn’t feel it was necessary and I felt like my own research and intuition could provide a good enough answer.”*

Finally, some students cited the inaccuracy of the tool as a reason they did not trust it to do generative or original work for them (7%):

*"Also, I have used chatGPT for recreational purposes, and the information it provides is not always factual, so it's not necessarily a good source."*

## Inapplicability

Responses in this theme reflected students who did not see a straightforward way and/or reasonable need to use ChatGPT for their coursework. Within this theme two types of responses emerged: 1) students simply stated they didn't need it and/or the tool did not appear to be useful in completing coursework (17%) and 2) that using the tool was in and of itself too much work or hassle to use in the context of completing coursework (9%):

*"I have not felt the need to use it in any of my classes."*

*"I haven't had any assignments that I feel like I could utilize it for."*

*"I honestly just have been too lazy to try it out. I never had an impulse to use it."*

## Unfamiliarity

At the time we collected student responses (Spring 2023) a large portion of student respondents (30%) stated that they did not use ChatGPT because they were unfamiliar with the tool and how it could be used in their lives as students:

*"I didn't know it existed."*

It would be interesting to see if this percentage of student respondents would remain the same if they were surveyed about their use of ChatGPT today.

## Ethical Concerns with ChatGPT Itself

Few students (roughly 6%) cited ethics concerns with how ChatGPT itself was developed and how it functions as a reason they would not use the tool. Some students cited data privacy as a significant concern. In other words, how was their own data and querying of the tool being used or stored?:

*"It is not something I have been super interested in due to security concerns and lack of necessity."*

Some students stated that they had ethics concerns over how ChatGPT was developed as a generative AI tool that is trained on data scraped from the internet. Concerns over ownership, copyright, and authenticity were raised by some students in this regard:

*"pretty iffy on using it since AI art is super bad (steals from hardworking creators)..."*

Other students cited the negative impacts of generative AI technology on society as a reason they would not use it themselves:

*"I personally take a stance against ChatGPT, for I feel that it is an example of the ethical boundaries in technology that our society has failed to acknowledge. ChatGPT has demonstrated its ability to render frighteningly accurate photoshop, to create art and photography that has the ability to go far in competitions, to write essays and answer homework assignments, and to even pass the MCAT. The reason I stand so strongly against this, is because to what extent do we draw the line, when do we decide it has gotten out of hand. It provides more opportunities for false and fraudulent work, in several forms, and it has the ability to go as far as effecting evidence used in court cases due to its ability to render completely false and reinterpreted photographs..."*

Relatedly, some students simply stated that they did not "trust" the tool:

*"...nor do I trust a platform like that to write work for me."*

## Discussion

While overall students were not familiar with ChatGPT at the time these data were collected (April 2023), student perspectives on ChatGPT and the themes emerging from/within these perspectives give UMass educators valuable information in two critical areas: 1) how we as educators may be perceived in terms of our ability to offer opportunities for learning support/experiences and 2) that pedagogical transparency in the classroom may be critical to engage students in the learning process in the age of generative AI.

**Our results suggest that, for many students, ChatGPT appears to be a lower-barrier resource than perhaps connecting directly with their instructor or course support staff to aid in their learning.** This, in turn, raises more questions to consider: Are the reported ease/efficacy and personalized instruction that students report appreciating about ChatGPT, dimensions of learning that are not readily available in a traditional in-person higher-education classroom today? Or, more significantly perhaps, is ChatGPT perceived as easy to use and personalized because the chatbot operates outside of the typical economy of social power of a classroom in which [the teacher is a singular and authoritative arbiter of class content](#)? Our results do not offer us clear answers to these questions, however a discussion of generative AI within higher-education classroom environments cannot be divorced from the historic and perceived authority of teachers within these spaces. Do tools like ChatGPT trouble instructor authority or, do they point to a larger issue of student anxiety about approaching their instructors to ask for help? The latter is perhaps a pertinent question with the recent shift back in-person classes for many universities following the Covid-19 pandemic.

Interpreting the results of our study in the context of historic and perceived teacher authority (as theorized by scholars such as bell hooks), illuminates another significant theme within student responses as to why they did not use ChatGPT: fear of being accused of plagiarism by their instructor(s). The results from our study suggest that students who had not yet used the tool, in particular, have picked up on this "doomsday" discourse and, perhaps, the anxiety that educators appear to have about the tool. This may preclude their use of the tool in ethical and potentially helpful ways for personalized learning support, for which the majority of our students were using ChatGPT. Student perceptions of ChatGPT are

influenced by perceived teacher perspectives/opinions about the tool, namely the assumption that teachers anticipate, maybe even first and foremost, that students will cheat AND that the role of the teacher is to police student work in terms of authenticity. We see this come through in the data in the reasons why students aren't using the tool (i.e. fear of academic dishonesty, retribution, etc.). This particular fear may be informed by a common perception of educators as powerful gatekeepers of knowledge and potentially punitive evaluators of student work. We saw this perception of teachers amplified by the media in the early advent of ChatGPT : the doomsday rhetoric around the supposed "end of learning" was premised on educator and non-educator assumptions that students will use ChatGPT to cheat and that educators needed to be prepared to identify non-original student work. Our data show that few students reported using ChatGPT in ways that could be considered plagiarism (12%).

**Moreover, our results indicate that our students are craving clear and well-justified articulations of how/why/why not ChatGPT is to be used in the context of a particular learning environment and discussions of the ethical use of ChatGPT.** Course policies might need to be more granular than just a syllabus statement; teachers may need to help students understand how and why or why NOT to use ChatGPT on assignments/activities. Given our data shows that inertia is a big reason students turn to ChatGPT, how, as teachers, are we offering students explicit ways/methods to brainstorm or get "unstuck" in the context of a particular assignment/task? In other words, we may need to be **even more explicit** about naming, for students, the phases of the learning process ( ie. invention or brainstorm phase) and explicitly connecting strategies to this moment of the learning process. For example, in a junior year writing course, one might ask their students: "Instead of looking to ChatGPT to design your cover letter, where else would you look? Who might you talk to? What other resources would you consult?"

We conducted this scholarship of teaching and learning (SoTL) study with the desire to bring students voices into the conversation about ChatGPT and what it means for higher education. We hope that instructors at UMass and beyond consider how to bring their students concerns about generative AI into their classroom spaces, opening lines to authentic, and sustained dialogue that is critical as we navigate this new higher education landscape together.

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## Study impact to date

- Preliminary findings presented to 56 Umass faculty members at CTL's Spring into Teaching Event, "ChatGPT and Generative AI in Higher Education: Exploring the Future of Teaching and Learning" in June 2023.
- Cited in Tyson, J. (2023). Shortcomings of ChatGPT, *Journal of Chemical Education*, 100 (8), 3098-3101 <https://doi.org/10.1021/acs.jchemed.3c00361>
- Winner of [UMass ADVANCE Award for Equitable Practices in Collaboration - Research Collaboration \(EPiC-RC\)](#) in Spring 2023