

# Cheating Better with ChatGPT: A Framework for Teaching Students When to Use ChatGPT and other Generative AI Bots

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## Abstract

In this paper we describe a framework for teaching students when they should, or should not use generative AI such as ChatGPT. Generative AI has created a fundamental shift in how students can complete their class assignments, and other tasks such as building resumes and creating cover letters, and we believe it is imperative that we teach students when the use of generative AI is appropriate, and when it is not appropriate (e.g., cheating). Our initial pass at the framework was piloted with colleagues, and then followed with a focus group of students to refine the framework. We then used the framework in an MBA class to test its efficacy and gather qualitative feedback. Using the results, we further refined the framework, and then used it to teach two general undergraduate business classes as a rudimentary test of generalizability across students. The qualitative feedback was very positive. The framework helps educators understand when to use, or not use ChatGPT, and provides a way to teach students about the same. We have found that using the framework in class generates interesting discussions about the use of generative AI.

**Keywords:** Generative AI, ChatGPT, Teaching, Framework, Flowchart

## 1. INTRODUCTION

The use of generative AI in universities has already generated controversy: "There's an Arms Race on Campus and Professors are Losing" (The Atlantic, 2023). Its ability to successfully evaluate and complete complicated functions has resulted in a variety of reactions among the educational establishment (Baidoo-Anu and Ansah, 2023); several institutions have already banned its use (Lim et. al, 2023), yet it remains a crucial part of

business innovations (Chen, 2022). Generative AI has a huge potential to disseminate knowledge (Liebrez et. al, 2023). It "has access to a library far beyond the capacity" (Kissinger et. al, 2023) that a human possesses.

We believe that the most relevant questions around generative AI are should, and if so, how do we use generative AI for a given use case? In this paper, we have developed frameworks to

address the should, which then leads to better solutions to how.

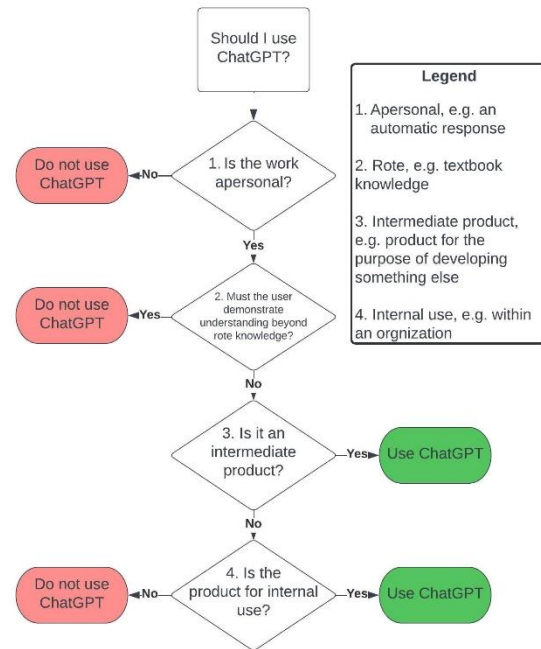
Our frameworks help to address concerns regarding improper use of generative AI and encourage students to make use of the opportunity to use a new tool to aid their learning. Our overarching goal is to provide a framework by which students can be introduced to the effective use of generative AI chat bots in classroom-related settings. While we absolutely do not approve of cheating, we are well aware that cheating is prevalent in business schools. One comprehensive study of business school cheating showed that 86% of students had cheated at least once (Klein et al., 2007). We do realize that providing a framework to students as to when and when not to use generative AI could increase the level of cheating, or perhaps more importantly given the already high rate of cheating, the efficacy of cheating. In industry, leaders expect IS graduates to be able to align business and technology with the goal of using artificial intelligence to further the needs of the business case (Lyytinen et. al, 2023). Students must also be able to connect the use of IT and AI to how the tools can help the business generate value (Lyytinen et. al, 2023). Our frameworks are useful tools but operate in different ways. The first framework is a simple flowchart that provides basic introduction on when to use generative AI like ChatGPT for students. The second framework is a more complex tool, but a more useful tool if one understands the nuances of how to wield the technology properly.

## 2. FRAMEWORKS

The flowchart and matrix framework that we developed and describe here are exploratory. We developed them from scratch to help us, the teachers, understand when to use generative AI, or not. The goal was to then be able to use the framework to explain when to use generative AI to students. The process of building this framework is iterative. We tested the framework with colleagues and a small group of students and modified the framework based on feedback. When we were confident that we had our flowchart and matrices mostly correct we engaged an entire class of MBAs. From that we used the qualitative feedback to make more (minor) changes, and then we used the framework in several sections of undergraduate classes to check that the framework was useful.

As a starting point, we introduce a simple binary flowchart, see Figure 1. The purpose of this chart is for the preliminary evaluation of the

appropriateness of utilizing generative AI for a given use case. This flowchart allows students to apply a series of questions to a task to evaluate on a basic level whether generative AI should be used to complete the task. As such, it can be used to explore different types of information or contexts easily for the purpose of showing students, and others, how large language model generative AI can be used in collegiate settings and beyond.



**Figure 1: Flowchart for basic evaluation of generative AI potential use cases. A user can begin at the top and proceed stepwise until a positive (yes) or negative (no) has been determined.**

In our flowchart (Figure 1) work is apersonal if the personality of the author does not need to be conveyed in the product. Rote knowledge is knowledge that does not require the synthesis and application of other knowledge into a new product. Rote knowledge is factual knowledge (e.g., today's date). An intermediate product is a product that is created in a process at any point prior to the absolute end or before the deliverable. Work is considered to be internal if it is not being presented to a client, professor or instructor for an assignment, or submitted to an entity outside the organization or group.

The basic flowchart is useful to the extent that it can be presented in a straightforward way to a large number of students or to students early in

their collegiate career. It is simple to use, and in most cases, will return a correct answer that encourages students to use the tool in a way that saves them time in a way that is not detrimental to their learning. To demonstrate, we will walk through the flowchart from the perspective of a busy university student who must give a speech on the importance of communal residence halls. Should the student use ChatGPT to develop an outline for the speech?

1. Is the work apersonal?  
*Yes, the outline does not need to reflect the personality of the author.*
2. Must the work demonstrate understanding beyond rote knowledge?  
*No, the outline can contain rote knowledge without any synthesis.*
3. Is the work an intermediate product?  
*Yes, the outline is not the final product. Use of ChatGPT makes sense.*

In this circumstance, the flowchart framework has determined that because the outline is merely a foundation upon which personality and understanding of the writer can be developed before the final product is complete, using ChatGPT is a wise use of the resources at the student's disposal. The result of the flowchart is to use ChatGPT.

We will evaluate another potential use case. There is a student who must verbally present a nutrition and training plan to an imaginary client for a class assignment. The students want to know if they should use ChatGPT to gather information to write a script that they will read for their presentation.

1. Can the work be apersonal?  
*Yes, the script does not need to reflect the personality of the student.*
2. Must the work demonstrate understanding beyond rote knowledge?  
*No, the script can contain rote knowledge without any real synthesis or addressing a particular context.*
3. Is the work an intermediate product?  
*No, the script is a final product.*

In this circumstance, the flowchart concludes that because the student will be reading from the script, the use of generative AI is not appropriate. This would amount to plagiarism and is a violation of student conduct and would inhibit their learning. The result is not to use ChatGPT.

Our flowchart is straightforward to use and will prevent students from using generative AI in a way that will inhibit their learning or harm their professional or personal relationships. As a result of this simplicity, this framework has been

designed to be conservative in its results. To this end, the flowchart will, in most instances, return false negatives, but not false positives. Therefore, we have developed a second framework to derive a more nuanced answer. This framework, which we are calling the Matrix Framework, can be visualized in Figure 2, below.

### 3. PROSPECT THEORY

Before we continue with an explanation of the Matrix Framework in Figure 2, it is important to introduce a tool to help understand how to deal with the yellow result outcomes – see Figure 2 for yellow results. A yellow result is one in which the outcome is not clear to use generative AI or to not use generative AI. Further analysis is necessary, and for this further analysis we are proposing the use of prospect theory (Kahneman and Tversky, 1979). Simply put, prospect theory describes the decision-making process that individuals utilize as they account for potential losses and gains relative to their current circumstances (Barberis, 2013). As there is extensive literature on prospect theory, we will only give a brief overview as it applies to our Matrix Framework. In summary, by evaluating the risks and rewards relative to current circumstances, a user of the Matrix Framework can evaluate if it is appropriate to use ChatGPT for a specific use case if it falls into a yellow quadrant in one of the matrices.

| Assumption 1  | Assumption 2   | Assumption 3   |
|---|--|--|
| Individuals are "more attuned to changes than absolute magnitudes." | Individuals are more sensitive to gains than losses of the same magnitude. | There is diminishing sensitivity to the magnitude of a gain or loss. |

**Table 1: Assumption of Individual Behavior in Prospect Theory**

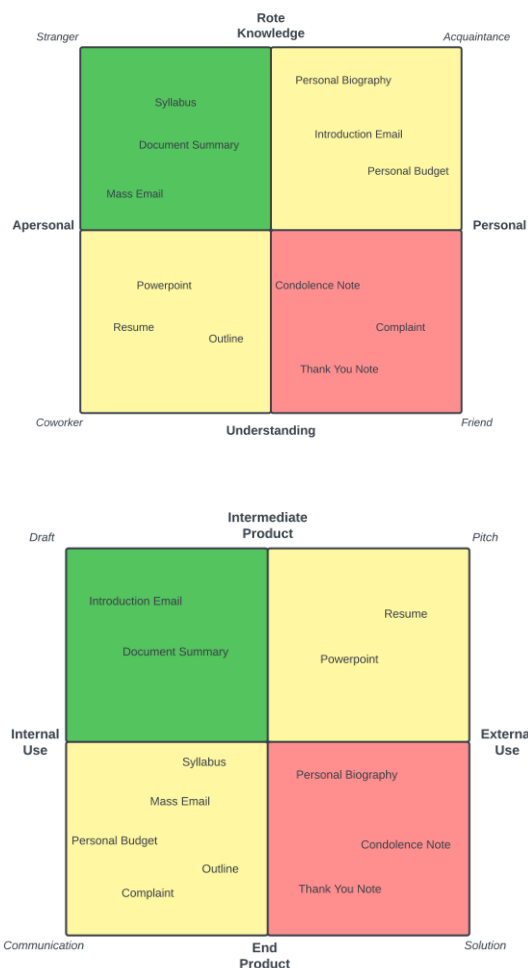
According to prospect theory, a user weighs their decision based on the potential changes to their circumstances. There are three main assumptions on which prospect theory is founded, including that individuals are: 1) more attuned to changes than absolute magnitudes, 2) people are more sensitive to gains than losses of the same magnitude, and 3) there is diminishing sensitivity to the magnitude of a gain or loss (Barberis, 2013 see Table 1).

By evaluating the risks and rewards relative to current circumstances, with the underpinning of prospect theory to guide the process, a user of the Matrix Framework can evaluate if it is

appropriate to use ChatGPT for a specific use case if it falls into a yellow quadrant in one of the matrices. As prospect theory is descriptive, not prescriptive, it is helpful to first determine the answer, then critically evaluate how a user arrived at the answer by analyzing which assumption was used.

#### 4. MATRIX FRAMEWORK FOR THE EVALUATION OF GENERATIVE AI USE CASES

We will now walk through each of the quadrants in Figure 2 (Stranger, Acquaintance, Coworker, Friend, Draft, Pitch, Communication, and Solution) in turn to discuss and explain them.



**Figure 2: Proposed Matrix Framework for the evaluation of generative AI use cases.**

#### Stranger: Apersonal/Rote Knowledge

It is helpful to think of this quadrant as containing the kind of information that a stranger may know

about you. The stranger may find out basic facts about you, such as where you work, or what kind of car you drive. However, they do not know anything personal about you, like your relationships with your family, or possess any deep understanding of how the facts about you make you who you are. It is appropriate to use ChatGPT for use cases that deal with such basic, apersonal facts and require no deep understanding or application of those facts.

An example of a use case in this quadrant is creating a syllabus. Creating a syllabus requires knowledge of facts, and applies to the whole class, and not a specific person, and as such is apersonal/rote knowledge. Additionally, it does not require an understanding of who the instructor is as a person. This would make it an appropriate use case for ChatGPT when evaluated in this part of the Matrix Framework.

#### Acquaintance: Personal/Rote Knowledge

In this quadrant, there are use cases that require the kind of knowledge that an acquaintance would have which we are taking to mean someone who knows some aspects of your personality. They likely have an idea of what your sense of humor is like or may know the kinds of clothes you wear. However, they still do not have a deep understanding of who you are as a person. Depending on the situation, it may or may not be helpful to use ChatGPT for use cases that fall into this category. One can utilize prospect theory to evaluate whether a use case that falls into this category can be accomplished using generative AI or not.

For example, take a student who is reaching out by sending an email to a leader at an organization that they desire to be employed by upon graduation and compare their decision-making process to that of an individual in management at the same organization where the leader works. Here, the prospect theory assumption #3 that there is diminishing sensitivity to gains is helpful in evaluating the decision-making process. The student should not use ChatGPT to craft the email, as they have much to gain in the form of employment by making a good impression on the potential leader.

In contrast, the individual in management at the same organization as the leader may choose to use ChatGPT to send the email. The individual in management has much less to gain in the process of making a good first impression, since they have already achieved much of what the student is seeking to achieve. Therefore, the same assumption underlying the student's decision to

not use ChatGPT underpins the second individual's decision to use it. This exemplifies the necessity of prospect theory to underpin the Matrix Framework. Two individuals can come to different conclusions using the same framework based on their personal circumstances.

#### **Coworker: A personal/Understanding**

Coworkers likely understand the facts surrounding your work. However, they may not understand who you are as a person. If you work for a large firm, they may not have even met you in person. Here, it is again helpful to use prospect theory to evaluate whether a specific use case is appropriate for ChatGPT or not.

A resume lands in this category. For a well-crafted resume, it is necessary to understand how your skills apply to a given prospective job. For example, take someone who currently works in a call-center but is looking to move to more fulfilling work as a consultant in the same field as that in which the call center operates. There is no obvious way working in a call center prepares an individual for work as a consultant. However, there are communication skills and conflict-navigation abilities that are developed in a call center that are very useful to a career in consulting. It is not enough for a prospective consulting employer to merely know that you worked in a call center, it is important for them to understand what that work entailed and how it prepared you for work as a consultant. However, there is not much space on a resume to directly address who you are as a person. You can include skills and interests, but these do not directly reflect you personally, they are simply facts about you. Using prospect theory here helps determine if the use of ChatGPT is appropriate.

In an example, let's ask ourselves if landing a new job is a choice or a necessity? If it is a necessity, then an individual will likely choose to manually create a resume, as the opportunity cost of creating the resume is outweighed by the potential gain of a job. Assumption #3 in prospect theory is used in the decision-making process. This individual sees a huge potential gain (i.e., their first \$1,000). It may initially seem like assumption #2 is the correct prospect theory assumption for this situation, and that the decision using that assumption would lead to a contradictory choice. However, it is important to remember that assumption #2 is only useful for gains and losses of similar magnitude. In this circumstance, the potential gain of a job is significantly larger than the loss, the time spent composing the resume manually. Therefore,

assumption #2 does not accurately describe this individual's choice.

If moving to a new job is a choice, then the gain (i.e., a new, marginally better job) is closely associated to the loss (i.e., opportunity cost of manually creating a resume) and the individual should use ChatGPT to create the resume. Here, assumption #2 is appropriate as the potential gains and losses like saving time by using ChatGPT and not getting a marginally better job are similar. Therefore, the potential gain will take precedence in the decision-making process.

#### **Friend: Personal/Understanding**

Close friends understand what you do and who you are. They know why you love or hate your job. They know your hobbies and your plans for your future. They can give you advice on large life decisions and romantic partners. ChatGPT is not appropriate for use cases that require an understanding of both your personality and the connections between the facts of the use case with which you are presented.

A letter of condolence falls into this category. Given a hypothetical situation where you find out a student missed class due to losing a family member, it is quite inappropriate to formulate a response using ChatGPT. This is because you need to show you understand and care about the situation. Additionally, you want your personality to come through, as you do not want to appear to be unfeeling. For these reasons, this and other use cases in this quadrant are not appropriate to use ChatGPT to fulfill.

#### **Draft: Internal Use/Intermediate Product**

This category includes use cases that are not finished products and are used internally. Drafts are generally not presented to any individual outside of an organization, and the point of a draft is that it is not final. Use cases that fall into this quadrant are prime examples of when making use of ChatGPT is appropriate.

A document summary can also be in this quadrant. A document summary, despite the opinions of some educators, is not an external product. Document summaries are meant to be referenced in the future to remind the user what a given piece is about so that they can use it to build a product for external use, like a research paper. This also touches on the other key attribute about a document summary. They are an intermediate product in a process of developing a final product. Therefore, it would be useful and appropriate to use ChatGPT to summarize a document.

### **Pitch: Intermediate Product/External Use**

In this quadrant, good use case examples include a sales or business pitch. In a pitch, the product is external, though not final. An individual presents an idea to a client, but the idea is not a final product yet. ChatGPT may be useful in developing a pitch, as it is not a final product, but it can help develop the presentation. In this quadrant, it is again necessary to use prospect theory to evaluate how to deal with “yellow result” outcomes in order to evaluate your specific circumstances and use case to decide if the use of ChatGPT is appropriate.

A PowerPoint deck is a good example of a use case that falls into the “Pitch” category. In fact, a Powerpoint deck (or deck developed using similar software) is a crucial part of most pitches. The deck is presented to clients, but it is far from a finished product. If the client likes the deck and the accompanying presentation, they may hire the presenter to build or implement the idea that they presented. In summary, a Powerpoint deck is not a finished product, though it presents the concept of a finished product to an external entity.

In this circumstance, the prospect theory assumption #3 that there is a diminishing value to returns is useful. If an individual has already been contracted to fulfill a need, and the Powerpoint deck is only necessary to sell an additional service, then ChatGPT may be useful. Here, the user already has their proverbial \$1 million. They are only risking not being able to sell the add-on (i.e., their last \$1,000), as they have already sold the main service.

However, it may not be appropriate to use ChatGPT to gain the client from the start. At the beginning, before the deal has been sold and contracted, the user is striving for their proverbial first \$1,000, which is valued more highly in prospect theory than the last \$1,000.

Microsoft seems to agree with the assessment that ChatGPT can be helpful in solving the first \$1,000 issue here, as they have developed a new tool called Copilot to use in building PowerPoint decks. As in most cases, getting started is the most valuable gain from using ChatGPT.

### **Communications: End Product/Internal Use**

Communications for our purposes are use cases that are an end product for internal use. Here, we consider an organization to be a cohesive unit and as such, communications can be an email or a note to a family member or a member of your educational institution, among other things. We

believe that in many of these cases, it could be appropriate and helpful to make use of ChatGPT. However, there may be some instances where it is not, depending on your circumstances.

Imagine a scenario where a professor must respond to a student inquiring about receiving an excused absence for missing class. If it is the beginning of the semester and the professor does not know the student, it could be helpful to use ChatGPT to formulate a response based on the syllabus to save time. However, if this scenario occurred near the end of the semester, the professor might have an established relationship and knowledge of the student. In this case, the professor should choose to write a response manually that helps elicit the reason for the absence. Students miss class for a variety of reasons, from hobby-type events like concerts to memorial services and professional conferences. Whether a professor declines or accepts the request to excuse the absence, it could be useful to include a personal touch to maintain the positive relationship.

Here, Prospect Theory assumption #1 is useful. At the beginning of the semester, the professor is reacting to a potential absolute change in circumstances with a student. Therefore, they use ChatGPT to refer the student to the syllabus. In contrast, at the end of the semester, the professor has an established rapport with the student, and they should take the time to respond based on the student’s individual needs to preserve the relationship, a relative change instead of an absolute change.

### **Solution: External Use/ End Product**

Use cases that fall into the Solution quadrant should not make use of ChatGPT. These are final products that are meant for external consumption. It is not appropriate to use ChatGPT as the final step in an external process. If there is a deliverable, it is essential that the product is at least reviewed by the user and edited.

Take a personal biography for example. This piece will be representing yourself on behalf of your institution to the public. Considering known issues with ChatGPT around factual accuracy, how embarrassing it would be to present a factual error in your own biography! Indeed, it is important that in situations like these, individuals directly represent themselves. The value in this process is added by the user, and should not be passed off to a bot.

## 5. PRELIMINARY TESTING OF THE FRAMEWORKS

To refine and test our frameworks, we presented the frameworks and instructions for their use to a class of MBA students and a class of undergraduate students at a public regional university. In order to gain useful feedback on our frameworks, we surveyed them before and after the class to self-rate their own ability to determine if ChatGPT was appropriate for a given use case. We also asked them to provide written feedback on what they thought was helpful or could be improved. We acknowledge that our sample is small, so we do not attempt any quantitative analysis. Instead, we will discuss qualitative results.

First, students who rated themselves as less able to evaluate use cases prior to the lecture had significantly improved their self-rating of evaluating use cases by the end of the lecture. For these students, we received detailed feedback that the framework presentation had changed the way they viewed ChatGPT. One student remarked that they went from "thinking about it as a fun novelty thing to a tool that [they] needed to start engaging with straight away." Another student stated that they "have a better understanding of where and when [they] should use [ChatGPT]." Overall, the students seemed to be appreciative of a deeper understanding of what situations would be appropriate and not appropriate to use ChatGPT. For many, it fundamentally changed the way that they viewed ChatGPT and gave them confidence in knowing how they should apply it to their professional and academic tasks.

We also had students evaluate examples of use cases by using the frameworks. These examples incorporated prospect theory for the yellow result outcomes and required students to evaluate what they should do based on circumstances. For the most part, they were able to arrive at the answer that we were expecting after taking part in the presentation. However, there were some notable exceptions. In one situation, we asked them the following question:

Your 3-year-old niece wants you to tell her a bedtime story. You are not a creative type, but still want to tell her a bedtime story. Should you use ChatGPT to generate a bedtime story?

The answer to this question was nearly unanimously yes. Using our frameworks, this use case is in a yellow quadrant for both squares in the Matrix Framework. In the first matrix, the result is Personal/Rote Knowledge, and in the

second matrix, the result is Internal Use/End Product. Therefore, we would have expected a more even split owing to students being forced into a prospect theory-based analysis of their individual relationships with family. A student with a strong relationship with their niece and a student with no pre-existing relationship with their niece would likely answer differently.

We assumed that students would operate under the prospect theory assumption that relative change is a greater motivator than absolute change. A student may not use ChatGPT if they already have a relationship with their niece because they would seek to improve their relationship, where a student with no relationship may use ChatGPT because they had no relationship with their niece in which to invest.

A potential area for future research would be to examine if the relationship between the child in the question to the individual being surveyed affects the answer. For instance, would the child being a daughter as opposed to a niece influence the answer. However, that is beyond the scope of this paper.

Although not specifically related to the when to use ChatGPT of our Matrix Framework, at the end of the presentation, students were tasked with feeding their resumes into ChatGPT for the purposes of writing a draft cover letter. The steps involved were:

1. Sign up for or sign in to a ChatGPT account.
2. Cut and paste their resume into the ChatGPT dialogue box after telling ChatGPT "This is my resume."
3. Tell ChatGPT a very specific position they are applying for, such as "I want to work at Nike in marketing for women's athleisure."
4. Ask ChatGPT for a one-page cover letter that includes a paragraph on "Why me," "Why you," and "Why us."

Upon seeing the result, one generally quiet student exclaimed, "Oh my god, I would totally hire me based on this!" We then referred to the two Matrix Frameworks and emphasized that this cover letter would be in "Coworker: Apersonal/Understanding" and "Pitch: Intermediate Product/External Use," and that it was a draft only, and that it was necessary for them to review it make it their own. This exercise introduced them to the power of ChatGPT but also informed them of how they should evaluate its use.

In our discussions with the undergraduates, there was a definite thread of thinking that general

education courses were more about figuratively just checking the box on the path to getting the degree. The result was that more students leaned towards using ChatGPT. In contrast, the MBA students were much more focused on skill-building. ChatGPT was a productivity tool, rather than a completion tool for them. This difference is in line with what we could expect to see given the application of prospect theory. Undergraduate students are seeking an absolute change to their circumstances, the granting of a first degree, (i.e., the first \$1,000). Students in the MBA program are seeking a relative change to their circumstances (e.g., a raise, promotion, or career pivot) and are therefore more motivated around learning.

## 6. CONCLUSION

As elucidated by numerous papers and individuals, the rise of generative AI represents an issue for the institution of education in its current state. On the one hand, there is significant resistance to its use (Lim et. al, 2023). On the other, students should master AI tools while in school (Rudolph, et. al, 2023). In order to accomplish this goal, it is necessary for students to understand the strengths and shortcomings (Vayena and Morris, 2023) of this technology.

Students should be empowered to use AI and knowing when to do so is a critical first step. It is essential that they learn about these tools to be competitive in their fields of employment (Lyytinen et. al, 2023). In the words of one of our students, our frameworks do "a great job of not only explaining how someone *could* use ChatGPT but if someone *should* use ChatGPT in certain academic and professional situations." This kind of instruction is essential to the success of students in a world where generative AI integration is accelerating. The qualitative feedback from students was very positive, and showed that students had a much better understanding of when to use ChatGPT. We realize that this also means that the framework can enable students to make better choices about when to cheat using ChatGPT. While there is significant research to be done in this area, we believe that our frameworks provide a solid foundation to begin educating students about how to evaluate use cases for ChatGPT.

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