

Preserving Academic Integrity in the Age of Artificial Intelligence

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Abstract

The advent of generative AI has revolutionized higher education, presenting opportunities and challenges, both of which require educators to not only embrace artificial intelligence as a pedagogical tool but also to develop strategies and modify traditional assessment methods to mitigate AI-assisted plagiarism, thereby ensuring ongoing academic integrity. This paper evaluates the impact of ChatGPT on traditional methods of assessment in higher education and makes practical recommendations as to how to redesign coursework to mitigate AI-assisted plagiarism today. It argues that artificial intelligence is not an existential threat to higher education, but rather, ought to be understood as a tool to greatly enhance it. It suggests educators embrace AI to develop new pedagogical concepts, utilizing it to create assignments that reduce opportunities for AI-assisted plagiarism. Generative AI not only has the potential to support teaching and learning in the classroom but is also the very tool necessary to help redesign traditional forms of assessment in a post-ChatGPT context. As virtual education grows, ensuring academic integrity will become increasingly important. Educators must harness the advantages of AI by modifying assignments so that they are not only challenging for today's digitally-versed students but are also difficult to plagiarize using AI tools. Overall, the paper advocates for embracing AI in higher education and adapting pedagogical practices to leverage its advantages while also utilizing it to safeguard overall academic integrity. It encourages educators to be at the forefront of AI experimentation and research to harness the potential of AI in transforming the learning environment.

Keywords: *artificial intelligence, academic integrity, course redesign, ChatGPT, AI-assisted plagiarism.*

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A New Era of Higher Education

Towards the end of the Fall 2022 semester, when most faculty members were immersed in grading, final exams, and winding their semesters down in eager anticipation of the Christmas break, a form of intelligence not previously encountered crept into our classrooms. OpenAI's artificial intelligence large language model, called ChatGPT, was released with little pomp or ceremony on November 30, 2022. It is no hyperbolic assertion that the way in which we learn, as well as how we perform many of our day-to-day tasks—both inside and outside of the classroom—will never be the same. Still feeling the strain of a three-year COVID-19 hangover, our post-pandemic culture had only just accepted the realization that the world as we knew it prior to March 2020 would never be seen again. It is now becoming abundantly clear that 2023 will forever be remembered as the year we were forced to come to terms with the fact that we were all suddenly thrust into a new and ever-developing era of artificial intelligence. History will no doubt record the 2020s as not only the decade that ushered in a global pandemic but also the one that gave birth to the fastest developments in artificial intelligence that humankind has ever seen.

ChatGPT is a web-based generative AI large language model. The letters “GPT” stand for **G**enerative **P**re-trained **T**ransformer, which essentially describes the basis on which it operates. It is a form of artificial intelligence that has been trained by algorithms to read large amounts of text found online so as to learn how to predict language. It provides answers to prompts by generating text based on the data it has consumed. This is why it is also often described as an LLM, or **L**arge **L**anguage **M**odel, because it has not only been trained how to read text but also to then generate human-like responses, which can be used for a variety of

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purposes such as language translation, chatbot conversations, question-answering systems, and text summarization, to name a few. In a nutshell, ChatGPT can answer our questions, because it has been a student of our language and has learned how to answer our questions based on predictions from analyzing the vast swathes of information fed to it. However, generative AI is not without error in the way it provides information to the user. Indeed, it has been noted on many occasions since launch that it can frequently generate incorrect responses, which have become known as hallucinations (Petkauskas, 2023).

Although described as artificial intelligence, ChatGPT (or any other large language model, for that matter) is not alive, nor is it sentient. It is a digitally coded program that has learned how to respond to human prompts. A more appropriate title might be *artificial prediction*, because although it appears to be producing meaningful text in response to user-inputted questions and prompts, in reality it is neither thinking, nor conversing as we understand it. Instead, it is predicting one word after another as it forms whole sentences based on information it has been exposed to. According to Wolfram (2023, para. 2), ChatGPT is merely providing us with, “Reasonable continuations of whatever text it’s consumed, whereby ‘reasonable’ we mean ‘what one might expect someone to write after seeing what people have written on billions of webpages.’” Generative AI chatbots such as ChatGPT look at the question posed by the user, and then produce a response based on a prediction of what they have learned ought best to come next. They do not comprehend nor understand the words and phrases they are using (at least, not in the sense that we do), but rather, they are assembling those words in the most likely manner based on what they have previously seen in the billions of pages of information they have scanned. Mollick (2023, para. 6) describes the process as follows:

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LLMs are prediction machines that have studied the content of the web, developing connections between words and concepts. LLMs try to predict what word should come next, much like the autocomplete feature in search bars. When you type something into ChatGPT, it tries to continue that text reasonably, based on everything it has read.

While writing this paper, the following prompt was entered into ChatGPT, “If you had to introduce yourself to a seminar of university professors, what would you say?” The response received was (OpenAI, 2023, May 1):

My name is ChatGPT, and I am an AI language model designed to understand and generate human-like language. Trained on a vast corpus of text, I have been developed to assist with a variety of natural language processing tasks, such as text generation, language translation, and information retrieval. As an AI language model, I am constantly learning and adapting to new information, which allows me to improve my performance over time. I have been designed to be highly versatile, and I can be used in a wide range of applications, from assisting with customer service interactions to generating creative writing. I am honored to have the opportunity to interact with such esteemed scholars and am eager to learn from your expertise in your respective fields. Thank you for allowing me to introduce myself, and I look forward to engaging with you throughout this seminar.

As human-like as that response sounds, ChatGPT is simply producing a text-based answer in response to a specific prompt predicated on language patterns fed to it. When asked to explain how it formulates its answers, it responded (OpenAI, 2023, May 1):

I am a form of artificial intelligence designed to provide information and answer questions. I use advanced algorithms and machine learning techniques to understand and respond to user queries in a natural and conversational manner. My responses are

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generated based on the information available to me at the time of the query and are designed to be informative, logical, and engaging.

Artificial Intelligence: Friend or Foe?

Since its launch in November 2022, ChatGPT has not been without controversy and has at times generated considerable critique. Not only have alarm bells been sounded by some as to the speed and scope of developments in AI, but at times, even entire countries have moved to introduce an outright ban on the use of ChatGPT within their geographical boundaries (Metz & Schmidt, 2023). However, as great as the temptation might be to conclude that artificial intelligence is an enemy to be avoided, the reality is that ChatGPT—and the many different iterations of artificial intelligence—is not merely here to stay but is permanently changing the way tasks are performed and how information is being produced. For our immediate context in higher education, we must all understand that the way our students are now learning and completing their assignments is not the same as it was a year ago. Although the current generation of college students has been referred to as digital natives and has for some time been using a plethora of online resources in the learning process, their ability to find answers and consume knowledge, as well as how to generate quality assessment content, has been fundamentally transformed with the advent of ChatGPT (Terry, 2023). As a result, the education process itself is now changing at a rate we have not previously experienced, and the learning environment is in the process of radical development (Villasenor, 2023). The phrase *evolution* would not be adequate to describe where we currently find ourselves because that term implies a period of slow advancement, whereas the developments we are currently witnessing are so seismic in nature that they ought best to be understood as *revolutionary*.

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We ought not, however, to be so fast to conclude that the academic institution is in existential peril. Artificial intelligence is most certainly changing how we work, and although it is amplifying the potential avenues for academic dishonesty, it ought best—at least for now—to be seen as a tool we can embrace rather than as an enemy in need of defeat. The reality is that most educators are not—so far as the foreseeable future is concerned—likely to lose their jobs to artificial intelligence, albeit there *is* a genuine risk that jobs could be lost to those who *know* how to use it (Lo, 2023). The pathway forward, therefore, requires a cautious adoption of AI and an adjustment not only in the way we prepare our classroom interactions but also in how we presently access our students. Many online education programs are already encouraging students to experiment with ChatGPT for online learning and inquiry-based research, albeit there is a genuine concern that quick and ready access to information via AI has the potential to adversely impact critical thinking skills (Abramson, 2023).

However, rather than perceive the rise of ChatGPT as a threat, we would perhaps be better to view the growing AI horizon as a new frontier of opportunities and pedagogical possibilities. It is clear AI is here to stay, and therefore, our task is to understand it and adapt to how the learning environment is changing. That starts by experimenting with ChatGPT. We will not fully understand how our students are using ChatGPT unless we are also experimenting with it. We will not fully understand how to create assignments that reduce AI-assisted plagiarism unless we are also using it ourselves (Danzinger, 2023). As academics, we ought to be at the forefront of experimentation with artificial intelligence, rather than being known for our *artificial ignorance*. To best understand how to redesign and modify forms of assessment so as to combat AI-assisted plagiarism, the educator must become a student of artificial intelligence. Mollick argues (2023, para. 3):

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Large language models (LLMs) like ChatGPT have shown considerable promise in helping teachers improve classroom outcomes and reduce workload ... Used thoughtfully and intentionally, AI can support teachers in the implementation of strategies that would otherwise take prohibitive amounts of time and effort.

For example, generative AI can serve as a digital teaching assistant, helping us develop or refine grading rubrics, in-class discussion prompts, and PowerPoint presentations, just to name a few. For those interested in experimenting with different pedagogical perspectives, ChatGPT can provide a plethora of flipped classroom teaching plans and debate prompts, and even assume the persona of someone of interest from the past being studied in class. For instance, when teaching about Plato's Theory of Forms, artificial intelligence can be instructed to assume the role of Plato himself, and to not only explain his concept to twenty-first-century students, but also to enter a dialogue "live" and in-class, responding to questions from the students as though they were in the presence of Plato himself. Learning opportunities are almost without limit, and the creative scope of the classroom can be harnessed to help the student learning process in ways not previously envisioned.

Redesigning Assessments to Mitigate AI-Assisted Plagiarism

As online education continues to grow in popularity, ensuring academic integrity has become an increasingly pressing concern. One challenge we face is the potential for students to use artificial intelligence tools, such as ChatGPT, to generate text that can easily be submitted as their own work. The risk of AI-assisted plagiarism is particularly evident in online education, where students typically complete assessments and coursework asynchronously without any form of proctoring. However, this is not only a problem for those courses that are 100% virtual,

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but also for many of our traditional face-to-face classes where students also submit coursework throughout the semester electronically through their institution's learning management system.

The challenge for higher education today, however, is not to decry or reject generative AI, but rather, is to do all it can to understand it, and thereafter, to adapt pedagogical practices and develop courses and forms of assessment that mitigate the temptation for students to utilize artificial intelligence to commit academic dishonesty. Academics ought to remember well that AI is not an underminer of education; in fact, it has the potential to be a significant enhancer of it. It is, in any event, the new reality in which universities and colleges now operate. Higher education cannot afford to ignore this new reality, and neither can it continue to operate as it did prior to November 2022. The reality is that virtually all our students are already well versed in the extent to which, for example, ChatGPT, Bing, or Gemini (previously called Bard) can help with their coursework.

Therefore, the question that needs to be answered is how educators can redesign courses and curricula to best leverage the advantages of artificial education while, at the same time, reducing opportunities for students to utilize AI to commit academic dishonesty. Institutions of higher education must be at the forefront of research and development as to how to adapt best practices in the use of artificial intelligence, and how to put into place guardrails to ensure that academic integrity and AI are able to coexist together (Khan, 2023). Recognizing this is the first step, and then understanding how to design courses in the wake of AI is the second. That is the task to which we now turn as we explore strategies for redesigning courses and assessments in a way that best mitigates the risk of AI-assisted plagiarism.

The advent of generative AI does not necessarily equate to the demise of the discussion or essay prompt. It does, however, require an understanding that the traditional methods of

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assessment can now very easily be answered by artificial intelligence, and therefore, although the content itself does not necessarily need to change, the way we are assessing it, or at least the way in which a question is phrased, and the forms of assignments being utilized, will most likely need to be modified. This paper is not proposing a *rejection* of many of the traditional ways we have been assessing; it is instead arguing for a *modification* to them.

However, we are not without significant help in this task. In fact, the educator's greatest companion to know how to mitigate AI-assisted plagiarism is AI itself. One of the best ways to understand how easily an existing question or prompt can be answered using ChatGPT is for the educator to copy and paste a prompt directly into generative AI and ask for a response. In other words, the academic must experiment by adopting the role of a student. Not only will this serve to demonstrate the ease with which AI has the potential to enable academic dishonesty but will also help the educator begin the learning process with AI, through which assessments can be modified or redesigned. Experimenting with generative AI will help the academic become used to identifying the kind of responses it gives to commands. Sometimes described as *generic* AI rather than *generative* AI, ChatGPT is known to produce a "solid B-grade response" to prompts, and often provides generic or repetitive information that serves as somewhat of a red flag for educators (D'Agostino, 2023).

After asking ChatGPT to provide a response to an assessment prompt, the next step is to utilize artificial intelligence as a pedagogical assistant, and to ask it to help refine the question so that *it* would not be able to provide a satisfactory answer. The more specific the educator is in phrasing their own questions to ChatGPT, the greater assistance will typically be provided in response. In other words, we must embrace the use of generative AI to help develop assessments that it cannot answer. However, remember that artificial intelligence is a teaching companion,

not a magician. As a predictor of text, the answers it provides will only be as helpful as the specificity of the prompts given to it. For example, rather than asking a generic question such as, “Rewrite the following essay prompt,” consider instead using a more specific request, such as: “I am a university professor teaching college students the topic of [insert topic] and am concerned about the ease with which some of them are now utilizing AI to answer assignment questions. I am therefore trying to create course prompts that are difficult for my students to plagiarize by simply copying and pasting the question into an artificial intelligence tool. I’d like you to help me modify the prompt that follows in quotation marks, making it more difficult for my students to answer using artificial intelligence: [“insert the question/prompt inside quotation marks”].”

Once the AI response has been given, the educator ought to immediately copy and paste the new (AI-generated) question back into ChatGPT and ask it to provide an answer. This can be as brief as “please answer the following prompt [insert question].” In most instances, AI will quickly provide a response, to which the follow-up question ought to then be, “I thought you said you were unable to answer that question?” Typically, ChatGPT will then apologize and help reformulate the question. This process will likely be a back-and-forth between the educator and AI, through which the form of the question will be refined and modified until it cannot provide a satisfactory answer.

The following recommendations represent some of the current—as at the time of writing this paper—best practices when redesigning course prompts so as to mitigate opportunities for AI-assisted plagiarism.

Open-Ended Questions

The use of open-ended questions requires students to think critically and apply their knowledge. These types of questions are more difficult for generative AI to answer by simply

copying and pasting information from a search engine. For example, rather than asking, “Create a list of values that should be included in a code of ethics,” instead ask, “Using your own words and examples, describe at least five ethical principles that you think are particularly relevant to the workplace. For each principle, *explain from your own experience* why it is important and *how it relates to specific topics or case studies that we have discussed in this course.*” Both of these examples were pasted into ChatGPT as this paper was being written, and it was asked to comment on the ease with which it could answer them if it were a university student using AI to commit academic dishonesty. The response received was (OpenAI, 2023, May 15):

The second prompt you have provided is less likely to be answered by AI compared to the first one. By asking students to use their own words and examples, and to explain why each principle is important based on their own experience, it requires a deeper level of engagement with the material that is less likely to be found in an AI-generated response. Additionally, asking students to relate each principle to specific topics or case studies from the course further encourages them to engage with the course material in a way that an AI would not be able to do. Overall, this prompt is a good way to encourage students to think critically about ethical principles and their practical applications in the workplace.

Subjectivity and Experiential Responses

At the time of writing this paper, we are already aware that there are certain kinds of questions generative AI is not able to satisfactorily answer. For example, because it is essentially a series of codes that predict text, it is not currently able to adequately process emotions or feelings. Neither can it predict the future nor describe personal experiences. Therefore, when drafting forms of assessment, consider asking students to explain how they *feel* about a topic or

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prompt. Ask for specific *personal examples* from their own *experience*. Present a theme or concept and adopt the *Dr. Phil* approach to elicit responses, which means asking questions such as, *how did that make you feel?* Therefore, consider modifying existing questions so that they ask for personal opinions and judgments, and formulate prompts that require subjective or experiential responses, and ensure students describe situations they have personally encountered related to the topic. Consider phrases such as, “What is your personal view of...,” or “Describe your opinion about...,” and “Using your own judgment...,” or “Critically reflect on...,” and “What do you believe is the right thing to do when...” For example, instead of asking, “Should an ethical code of conduct be grounded on rules-based principles?,” instead ask, “In your opinion, how important is it for an ethical code of conduct to be based on a specific set of principles or values, as opposed to being developed on an individual basis? Make sure you explain your answer from what you have learned in the course so far.” The latter question was copied and pasted into ChatGPT, and its response was (Open AI, 2023, May 15):

As an AI language model, I am not capable of having opinions or beliefs as human beings do. However, if I were a student taking an ethics course, I would certainly be able to understand the question and provide a thoughtful answer based on what I have learned in the course so far. The question is clear and specific, and it asks for the student's opinion on the importance of basing an ethical code of conduct on a specific set of principles or values, such as the Bible, versus developing it on an individual basis. The prompt also asks the student to explain their answer based on what they have learned in the course so far, which encourages critical thinking and reflection. In my opinion, this question is a good way to encourage students to think critically about the relationship

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between ethical principles and their practical applications in the workplace, while also prompting them to reflect on what they have learned in the course.

Validation and Application

Always require students to validate answers by explaining their reasoning and to provide evidence to support their answers, specifically from a course textbook or class lecture content. This will help ensure that students not only comprehend the material, but also that they are not simply regurgitating information that they find online. Make it clear to students that assessments will receive a lower grade for lack of specific and appropriate citations. In addition, incorporating real-world applications into assessments will not only help students see the relevance of the material, but also make it more difficult for them to simply look up answers online.

Controversial Topics

Create assessments that ask students to reflect on topics or information that are potentially controversial, or that might be considered offensive by some. Although this needs to be approached with care, not only does it stimulate critical thinking, but the current iterations of constitutional boundaries for artificial intelligence prevent it from responding to topics likely to offend or cause harm. Generative AI is written with code that prevents it from offending users. These boundaries are based on the principles of human rights, democracy, and the rule of law. For example, ChatGPT, Bing, and Gemini are not allowed to generate text that is hateful, discriminatory, or offensive. They are programmed to be respectful and helpful to users. They are designed to respond in a way that is appropriate for all users, which ought to ensure responses are as neutral and unbiased as possible, flagging offensive or inappropriate statements that may be inappropriate or harmful. While this paper is not advocating that assessments be

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created to offend or cause harm, it is suggesting that asking students to express their personal convictions on potential hot topic cultural issues (abortion, death penalty, euthanasia, sexuality, gun control, politics etc.) is often not possible with the aid of AI. As a result, educators could potentially ask students to provide their opinions on an ethically sensitive or politically controversial issue or to write a story about a delicate topic.

Course Textbooks

Generative AI may not have access to course textbooks, especially if those texts are not readily available online. Consequently, it is limited in its ability to answer specific questions that deal with content related to course readings. The educator should create open-ended questions that specifically relate to weekly reading and can, therefore, only be answered once the students have completed their reading. Steer away from utilizing popular texts (or videos) that are likely to have full transcriptions readily available online. If unsure, copy and paste the text prompt or video URL into an internet-enabled form of AI and ask it to locate a transcript. Avoid posting a closed question that includes a quotation from the reading, which can often easily be searched for or explained, even if a text is not freely available online. Instead, use a form of question that requires the student to locate part of a text and then reflect personally. For example, avoid: “In this week’s reading, you read John Doe’s article in the Harvard Business Review entitled ‘Are Business Ethics Oxymoronic?’ Summarize Doe’s main thesis and provide an argument against it.” Instead, try: “What did you think about Doe’s claims in this week’s reading? Write a short reflection as to whether your own beliefs align with the perspective he presented.” Again, instead of “Explain Smith’s conclusions in his 2015 article ‘Globalization and the Poor.’ What did he mean that ‘Buy American’ campaigns are inconsistent with an ethical view of justice?”, rather, try, “Critically reflect on Smith’s article in this week's reading. How did it make you feel?”

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Explain your answer fully. Don't merely write about feelings, also explain why you believe what you believe. An essential skill in ethics is not only to make an assertion about personal values, but also to explain why you have those values.”

Video Submissions

Require students to answer prompts by creating video submissions rather than producing a written response. Most written assessments can be answered by generative AI, yet a video submission requires the student to engage with the material personally. Virtually all students today have ready access to video recording capabilities and are more than skilled in using them. This form of submission can be effective not only in assessing student comprehension of the material but also helps develop professional and soft skills (communication/professional presentation, etc.) that are a necessary element of their preparation for future careers. Students can be asked to prepare a short recorded seminar presentation explaining a particular topic and to incorporate, for example, PowerPoint or Prezi using screen recording software.

Educators can also utilize video, creating unique videos in which he or she discusses a specific topic or element of course content and has the students respond to it. Upload the video directly into the LMS platform being used, the effect of which is that it is unavailable publicly for AI apps to search for, read, and then transcribe.

Embed Images into LMS

Embed images and PDF documents directly into the LMS platform and have the students write or record an analysis or personal reflection. Images and PDFs that are embedded directly into the LMS are (usually) viewable only in an assessment module window, which means they are inaccessible to most forms of AI, as well as being difficult for students to “grab” with the intention of uploading online for AI to access and interpret.

Encourage Creativity

Ask for creative solutions. For example, instead of asking, “Write a draft code of conduct for customers,” consider asking, “Based on your experience as a consumer, how would you promote an atmosphere of ethical values that would make a business a more welcoming and ethical environment for customers? Your answer should *reflect on your personal experiences and consider what behaviors or practices made you feel welcome or unwelcome*. Credit will be given for creativity.” This assignment could be enhanced by requiring students to create a PDF, poster, PPT presentation, or even an information video, rather than simply asking them for a text-driven response. ChatGPT’s response to this suggestion was (OpenAI, 2023, May 18):

This could be effective in reducing the risk of students relying solely on AI to complete the assignment. By asking students to draw from their personal experiences and reflect on specific behaviors or practices that made them feel welcome or unwelcome, you are encouraging them to think critically and creatively. Additionally, by emphasizing ethical values, you are asking students to consider the larger principles that underlie good business practices. Overall, this prompt should encourage students to engage thoughtfully with the assignment and produce original work.

As academics in an artificial intelligence era, we ought to be experimenting with a variety of forms of assessment. For instance, create an interview assignment that requires the student to physically interview someone (either in person or virtually) and then write a reflection paper about their own thoughts of the interviewee’s answers. Ensure that students are required to provide the date the interview took place, as well as the name, title, address, phone, and email so that faculty can follow up during the grading process if needed. Avoid using questions and prompts that can be easily found online. Remember, generative AI has been trained by

algorithms to read vast amounts of text, the result of which is that it can easily provide answers to questions that have already been answered online. Therefore, consider developing questions that are not only unique but also specific to course content and require students to validate from and draw upon knowledge gained from textbooks or class lectures, etc.

Chicago/Turabian Formatting

Not only can generative AI models rapidly produce detailed essays on almost any topic, but they can also very easily be instructed to produce that essay in a particular format and to include a certain number of citations in support (whether correct or hallucinations) in the body of the text. As a result, any student can now request that ChatGPT produce an essay that adheres to, for example, APA formatting. An APA formatted essay is quite easy for a student to then copy and paste into a Word document, retaining all of the correct APA formatting and citations. APA citations are inherently simple and lacking in specificity, being made up only of the author's last name and the year of publication in parenthesis at the end of a sentence. They are extremely easy for AI to create, and even to invent ("hallucinate"). However, although AI can also produce the same content in Chicago/Turabian format, it is much more difficult for the student to copy and paste a Chicago/Turabian essay into Word while retaining the correct formatting requirements. This is because Chicago/Turabian, rather than requiring a simple in-sentence parenthetical citation of last name and year, instead demands the insertion of detailed numerical footnotes, which are much more difficult to format in a simple copy-and-paste command. Instead, for a student to retain the correct formatting, he or she must spend additional time manually inserting each footnote and then copying and pasting the content into each one. Although not impossible to do, it is a much more laborious and time-intensive process that can easily be identified when done incorrectly. Indeed, the correct style in Chicago/Turabian demands not merely the citation

itself, but also a specific page number for each occasion the reference is used, unlike APA, which merely requires the author and year. Generative AI is much more likely to hallucinate in this step, which can easily be verified by the instructor looking up the respective citation and page number. The use of Chicago/Turabian not only enhances academic rigor in the use of citations, but it is also more difficult to correctly replicate from a plagiarism perspective.

Flexibility

Students are more likely to yield to the temptation to commit academic dishonesty when they feel the pressure of high-stakes assignments that carry most of the weight of a course grade (Keith, 2023). Therefore, consider restructuring a course to spread the grade out over an entire semester, incorporating different kinds of assessment formats to keep students engaged. For example, educators might restructure a course so that the final grade is a culmination of a variety of assignments, including several smaller-stakes exams or quizzes, a presentation, a debate, an essay, a video submission, etc. In addition, an assignment might offer students flexibility in the way it is completed, with the student being encouraged to think creatively and having the option to demonstrate comprehension and learning via essay, video, podcast, song, art, PPT, conference posters, etc. (Center for Teaching and Learning, 2023).

Ongoing Training and AI-Detection Tools

Every academic ought to stay current with what's happening in AI and be aware of the latest trends in AI plagiarism prevention. This will help stay ahead of the curve and preserve academic integrity. A helpful way to do this is to subscribe to AI/ChatGPT podcasts and newsletters. In addition, we should be talking to our students about artificial intelligence. Rather than remain silent on the issue, we ought to educate students on the importance of academic integrity and not only the consequences of plagiarism, but also what amounts to plagiarism.

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Students can be encouraged to use generative AI as a learning tool, while at the same time being warned about the implications of relying on it as a shortcut. This likely requires institutional administrative leadership to re-evaluate existing policies on academic integrity.

With regards to AI detection tools, great care must be taken. Although initially heralded as the defender of academic integrity, the reality is that such tools have not only been found unreliable, but they also demonstrate an alarming bias against international students and those with learning disabilities, who have historically relied on web-based platforms to help correct spelling, grammar, and syntax. Even the creators of ChatGPT, OpenAI, are aware of the danger of relying on AI detectors as a means of preserving academic integrity and removed their own product from the public domain in June 2023, citing concerns over lack of accuracy. Ongoing research continues to indicate false positive results and problematic findings with AI detectors, and there is a growing consensus today that academics ought not to rely on them as a means of determining if a student has used generative-AI to complete an assignment (Wu et al., 2023). Therefore, rather than attempt to use such tools as a reactive ambulance at the foot of the assessment cliff, the educator should consider building clear guardrails at the top, many of which have been outlined in this paper.

In summary, the advent of generative AI has ushered every academic into a new era of higher education that presents a myriad of opportunities to embrace new and powerful tools in today's learning processes. Artificial intelligence will allow educators to sharpen existing and develop new pedagogical methods and instruction techniques. However, it also brings with it challenges that must be addressed, including, and perhaps most pressing, the need to redesign traditional content to mitigate AI-assisted plagiarism. The ability of today's students to utilize generative AI to submit work poses a threat not only to academic integrity, but also to the

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development of critical thinking skills and students' general preparedness to enter the marketplace. The present landscape is anything but static, and to remain competent in higher education, educators must themselves become students of artificial intelligence, leveraging the very tool some are using to commit plagiarism as the most fitting means of defense against it.

References

- Abramson, A. (2023, March 27). How to use ChatGPT as a learning tool. *Monitor on Psychology*, 54(3). <https://www.apa.org/monitor/2023/06/chatgpt-learning-tool>.
- Center for Teaching and Learning. (n.d.). Promoting academic integrity. *Columbia University*. <https://ctl.columbia.edu/resources-and-technology/resources/academic-integrity>.
- D'Agostino, S. (2023, January 19). AI writing detection: A losing battle worth fighting. *Inside HigherEd*. <https://www.insidehighered.com/news/2023/01/20/academics-work-detect-chatgpt-and-other-ai-writing>.
- Danzinger, A. (2023, April 27). Reinventing the classroom: The need for real-world and authentic projects in a ChatGPT era [Online Seminar]. *The Society for Experiential Education*.
- Keith, T. (2023, February 7). Combating academic dishonesty, part 7: Authentic assessments and the challenge of AI. *University of Chicago Instructional Design Blog*. <https://academictech.uchicago.edu/2023/02/07/combating-academic-dishonesty-part-7-authentic-assessments-and-the-challenge-of-ai>.
- Khan, S. (2023, April). *How AI could save (not destroy) education* [Video]. Ted Talks Daily. https://www.ted.com/talks/sal_khan_how_ai_could_save_not_destroy_education?hasSummary=true.
- Lo, D. (2023, April 16). Will you lose your job to AI and tech like ChatGPT? *Fast Company*. <https://www.fastcompany.com/90881876/ai-chatgpt-take-jobs>.
- Metz, C., & Schmidt, G. (2023, March 29). Elon Musk and others call for pause on A.I., citing 'profound risks to society'. *New York Times*. www.nytimes.com/2023/03/29/technology/ai-artificial-intelligence-musk-risks.html.

Preserving Academic Integrity in the Age of Artificial Intelligence

Mollick, E. (2023, April 9). The future of education in a world of AI. *One Useful Thing*.

www.oneusefulthing.org/p/the-future-of-education-in-a-world?utm_source=direct&utm_campaign=post&utm_medium=web.

Mollick, E., & Mollick, L. (2023, April 26). Let ChatGPT be your teaching assistant: Strategies for thoughtfully using AI to lighten your workload. *Harvard Business Publishing*.

www.hbsp.harvard.edu/inspiring-minds/let-chatgpt-be-your-teaching-assistant.

OpenAI. (2023, May 1). *ChatGPT* [Large language model]. <https://chat.openai.com>.

OpenAI. (2023, May 15). *ChatGPT* [Large language model]. <https://chat.openai.com>.

OpenAI. (2023, May 18). *ChatGPT* [Large language model]. <https://chat.openai.com>.

Petkauskas, V. (2023, March 6). ChatGPT's answers could be nothing but hallucinations.

Cybernews. <https://cybernews.com/tech/chatgpts-bard-ai-answers-hallucination>.

Terry, O. K. (2023, May 12). I'm a student. You have no idea how much we're using ChatGPT.

Chronicle of Higher Education. www.chronicle.com/article/im-a-student-you-have-no-idea-how-much-were-using-chatgpt.

Villasenor, J. (2023, February 10). How ChatGPT can improve education, not threaten it.

Scientific American. <https://www.scientificamerican.com/article/how-chatgpt-can-improve-education-not>.

Wolfram, S. (2023, February 14). What is ChatGPT doing ... and why does it work? *Stephen*

Wolfram. <https://writings.stephenwolfram.com/2023/02/what-is-chatgpt-doing-and-why-does-it-work>.

Wu, J., Yang, S., Zhan, R., Yuan, Y., Wong, D. F., & Chao, L. S. (2023). *A survey on LLM-generated text detection: Necessity, methods, and future directions*. arXiv. Retrieved

from <https://arxiv.org/abs/2310.14724>.

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