

How Academia is Adapting to Generative AI

How Education Institutions are Navigating
the Rise of ChatGPT and Generative AI

Table of Contents

Foreward	3
<i>Adam Fein: Vice President for Digital Strategy and Innovation and Chief Digital Officer, University of North Texas</i>	
Introduction	5
What is ChatGPT?	6
Implications for Educational Institutions	8
<i>Interviews: How are real institutional leaders responding to AI?</i>	
Predictions: How Generative AI Will Transform Education	15
1. Evolving academic integrity policies:	15
2. Evolving Curriculum Design and Learning Objectives	17
3. Strategic adoption of AI to support student success	19
What's Next: The Rise of Instructional AI	20
Conclusion: Looking Ahead	22



Dr. Adam Fein

*Vice President for Digital Strategy
Innovation and Chief Digital Officer
University of North Texas*

Foreword

Over the past few years, change has felt ceaseless due to the response to COVID-19 and the sudden shift online. I know many educators and administrators are exhausted and burned out. But now is not the time to rest.

The public emergence of large language models, like ChatGPT in late 2022, could be the defining technological breakthrough of our generation. How institutions and educators respond to this moment will play a role in defining the success of their institution—and their students—for decades to come.

It's not often that a technological advancement challenges the very nature of the future of learning, work, and creation as much as the emergence and, more importantly, the ease-of-use of the new generative AI models. At a fundamental level, these tools call into question what it means to write "original" work. More deeply, they call into question the very nature of what it means to be human. But one thing is certain: there is a time before ChatGPT, and there is a time after ChatGPT. And in this new post-ChatGPT world, those who want to thrive must learn and adapt.

Education institutions have both a moral imperative to students and a very real business imperative to evolve—urgently—to this new technology.

Students who are prepared to coexist with these tools have a very bright future. As intimidating as these models can be, and while current versions need necessary human discernment, they open up a world of possibilities that will likely be just around the corner. Let's imagine a few hypotheticals for the students of tomorrow. A student graduates into a junior role at a marketing firm, but instead of writing a few email variants and testing them, she uses ChatGPT as if she had a whole team of copywriters, providing prompts to the system to generate dozens or hundreds of email variants. She is able to apply strategy and critical thinking from day one of a job that might have previously been focused on churning out emails. Or imagine a concept artist who would have previously produced a few sketches for a movie, but can now use AI image generators like Midjourney or Dall-E plus ChatGPT to help write scripts to produce an entire graphic novel or animated series on their own. What used to require massive budgets and huge teams could now theoretically become possible for individuals. In the right hands, these tools can build empires.

But there is a very real and imminent risk that students who are not well prepared to use these tools to their advantage will be sidelined and struggle to find jobs commensurate with their education levels. AI-enabled writing and image generation will eventually render many “white collar” jobs that are focused on execution of cognitive tasks, not to mention the education and training programs we’ve built to prepare people for those jobs, obsolete. Speaking frankly, some of this displacement has already occurred — and we are just now waiting in the suspended, slow-motion moment before we feel the impact.

In the same way that students will adapt to succeed, institutions and their faculty who embrace this progression and evolve their approach to teaching, assessments, course offerings, and broader institutional strategy have the potential to transform the future of education. These new tools have caught most people, even the most technically-aware among us, by surprise over just how impressively they perform. But that’s good news: it means every institution has an equal opportunity to strategically respond to this change.

My intention here is not to be bleak, but to stress the urgency and importance of continuously questioning and adapting our current practices. Transformative external changes, such as the rapid adoption of a new technology like generative AI, bring about the opportunity for transformative internal changes. What might college or high school look like in the future when AI tools are fully embraced and the myriad ways that AI can be used to enrich student and educator experiences are commonplace?

I certainly don’t have all the answers, but the following white paper shares a few possible paths forward for institutions looking to understand and adapt to our new, AI-partnered future.

And if all else fails...perhaps we could ask ChatGPT for some suggestions.

Introduction

After just a few months, ChatGPT has already become a household name. The artificially intelligent chatbot, built by the San Francisco-based organization OpenAI and released in November 2022, reached its first one million [users in less than a week](#). Its ability to not just string sentences together, but seemingly understand complex requests and articulate sophisticated concepts, has transformed our understanding of what AI is capable of — and dominated the national conversation in the process.

ChatGPT’s implications for the future of learning have already sparked a whirlwind of interest from educators, policymakers, and students alike. Will the chatbot [kill writing instruction](#) as we know it? Is it making us [worse people](#)? Is banning it, as school districts from [New York](#) to [Seattle](#) have already done, the right decision? Or must we all now [learn to live](#) with a new world order where AI is an inescapable part of the educational experience? Understanding the ways in which ChatGPT will affect both K-12 and higher education starts with understanding what it is, and how it works. This white paper is designed to provide education leaders with an introduction to not just the mechanics of ChatGPT, but also its likely implications for schools, districts, and higher education institutions.

Time taken to reach 1 million users (months)

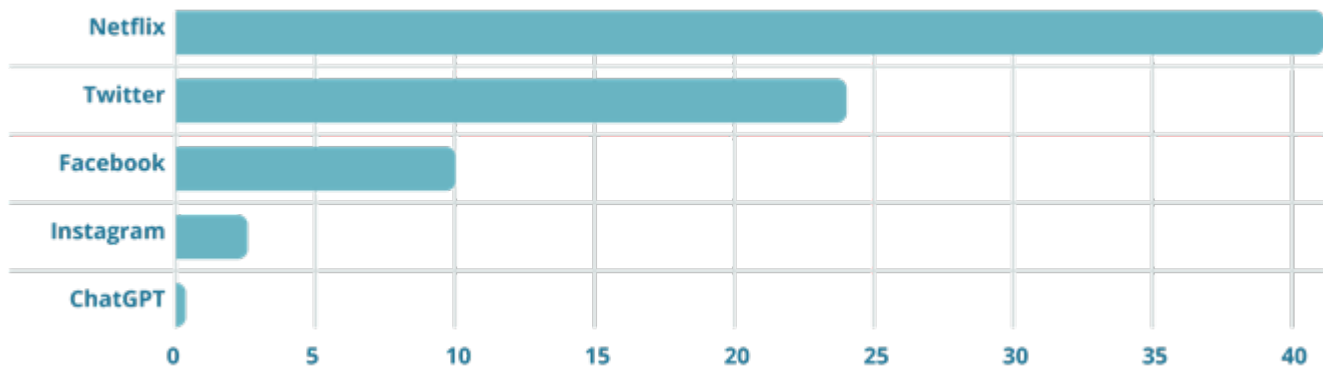


Chart: Financial Review • Source: Genevieve Roch-Decter, CFA

What is ChatGPT?

While ChatGPT may be the “smartest” AI chatbot available to the public, it’s far from the first. Early AI models date back to the advent of spellcheck in the early 1980s, and the idea of chatbots that could simulate human speech [began with MIT’s ELIZA in 1966. What makes ChatGPT special is its unprecedented use of a relatively new, and rapidly evolving, aspect of AI research: the large language model.](#)



Broadly speaking, a language model is a statistical tool which determines the probability of a given sequence of words occurring in a sentence. Feed in a bunch of text, and the model calculates “what comes next” based on a corpus of sentences that it’s already reviewed. Of course, the more existing text that a language model has to review, the better it will perform — hence, the advent of large language models (LLMs), which are based on millions or even billions of sentences. The large language model, GPT3, that underpins ChatGPT was trained on half a trillion words. At the average human speaking speed of 100 words per minute, that’s almost ten thousand years of continuous speech.



With thousands of lifetimes’ worth of text in its mechanical “brain,” it’s no wonder that ChatGPT is such an effective predictor of “what comes next.” Of course, this style of learning is better suited to some tasks than others. Large language models like the one that runs ChatGPT are particularly good at explaining concepts concisely (like [chocolate chip cookie recipes](#)), generating code and content in structured syntax, explaining structured content, and responding to a highly detailed prompt.

What these models can't do as effectively are the higher-order elements of writing (the ones often associated in educational contexts with "critical thinking"). Because they offer the most likely word or phrase to come next, they lack originality. With no guardrails for accuracy or reliability, they often cite false sources as if they're real. And they tend to struggle with responses for questions at a higher order of [Bloom's Taxonomy](#) (e.g., questions that ask it to create, evaluate, or analyze, rather than remember and report back). These limitations notwithstanding, ChatGPT has already turned the world of educational writing upside-down.

As of the publication of this white paper, new competitors to ChatGPT are already emerging, including Google's Bard and Baidu's rumored new chatbot. These platforms, and the LLMs that make up their foundation, are more than just "tools;" they represent an entirely new medium of technological development. Similar to the transformative impact of the advent of the internet, the emergence of easy-to-access LLMs will almost certainly be the defining technological development of the decade and will transform every aspect of work, life, and learning. As we've seen, they've already begun to do so.

Implications for Educational Institutions

As is so often the case when new and disruptive technologies arrive on the scene, many education institutions have reacted to ChatGPT with alarm. Much of the discussion among both K-12 districts and universities has focused on the way that essay and discussion prompts may be susceptible to plagiarism by students using ChatGPT. The result is that many institutional leaders are investing in tools that promise to detect AI-generated writing content. Some school districts have banned the use of ChatGPT outright, in hopes that such policies will deter students from cheating with it. Those policies have, in turn, prompted backlash from [tech experts](#) and [education leaders](#) alike, who have made the case for a more thoughtful approach.

As these policies continue to evolve, what's not in dispute is that ChatGPT and other emerging tools will have long-term impacts on how we learn and work. The development of chatbots built on large language models is exponential in nature: similar to the advent of the internet, they get better with each new piece of content written in the data sets they are trained on, and every interaction that they have with users. And an explosion of new companies has already emerged that build applications on top of LLMs like GPT to provide even more finely-tuned tools for specific use cases. That means that in a matter of months, ChatGPT may render certain professional tasks obsolete or unrecognizably changed — while also creating the need for new tasks and skills to manage the rise of AI-enabled writing.

Consider the likelihood of a world in which businesses use ChatGPT to generate brand-specific marketing copy, or to draft news articles. Jobs that are heavy on content generation but light on critical thinking will quickly be disrupted as AI continues to demonstrate its ability to produce that sort of content more quickly and efficiently than human employees can. But even as ChatGPT threatens to [destabilize white-collar work](#), it will also certainly lead to the creation of new jobs that prioritize collaborating with generative AI models.

What remains to be seen is the role that ChatGPT will play in a broader set of conversations about the ways that humanity and technology interact. We've already begun to see applications of AI for tasks it is not well-suited to perform — with the widely documented backlash to [mental health chatbots](#) as the prime example. The disruption of domains like art and graphic design has also quickly accelerated from the theoretical to the real, thanks to platforms like [DALL-E](#) (also built by ChatGPT creator OpenAI). Simply put, the rise of ChatGPT is just one part of the rapidly changing relationship between people and the technological tools we use. After decades of headlines about whether science fiction is becoming reality, a future defined by interactions with AI now seems well within reach, if not inevitable. The question before us is how best to prepare for that future.

INTERVIEWS:

How are real institutional leaders responding to AI?

Administrators from around the country are currently responding to the emergence of generative AI models. We interviewed three administrators with focuses on institutional innovation and technology to share the approaches they are taking within their institutions.

Please note: Quotes have only been edited for length. Responses are reflective of the opinions of these individuals, and are not necessarily representing their entire institution.



Dr. Steven Crawford

District Director for the Maricopa Center for Learning and Innovation
Maricopa Community Colleges

01

WHAT HAS MARICOPA’S CURRENT RESPONSE (E.G. POLICY CHANGES, STUDENT COMMUNICATION, ADOPTION OF NEW TOOLS) BEEN SO FAR TO THE EMERGENCE OF LLMS LIKE CHATGPT?

Several of the colleges in the District are having “brown bag” discussions and forming regular discussion groups around the topic of ChatGPT. In the case of the regular discussion groups, they are examining the various implications of the technology now being more widely available. Since these groups are primarily faculty, they are looking to explore what the potential impacts may be from academic integrity issues to how to adopt the technology for use in the teaching and learning process.

A districtwide group is being formed to discuss how we should react as a Community College District and what policy recommendations we might need to make. This group will include administrators, faculty, and other key individuals.

It should be noted that [Maricopa Community Colleges] is the first community college to offer an [Associate of Applied Science Degree and Certificate of Completion in Artificial Intelligence](#).

02

WHAT ARE YOUR PREDICTIONS FOR HOW INSTITUTIONS WILL RESPOND TO THESE TOOLS IN THE 1-5 YEAR FUTURE?

We have already seen a variety of responses from banning the use of LLMs (blocking at the network firewall and/or academic integrity policies) to exploring how to embrace the use of LLMs.

Based on these experiences, I expect that in the next year, three common responses will be:

- To consider LLMs a threat to education and will craft policies to ban the use of LLMs.
- To change their pedagogical approach to offer more authentic assessments that are less based on writing and more project-based.
- To experiment and see how LLMs might be useful in both creating learning experiences and encouraging students to use LLMs in specific contexts and/or limited ways.

What will happen in years 2-5 will be dependent on the technology industry. We have already seen the integration of tools to support automated spelling and grammar checking in a number of tools. I expect further integration/ improvement of LLM-related functions into our everyday writing tools (i.e. MS Word, Google Docs, Apple Pages).

Another factor that will impact the use of LLMs will be how the workforce changes. We will need to adapt to those changes so that our students are prepared to utilize the emerging tools in their field so they are better prepared. This will mean that we will need to change our curriculum to match what is happening in the aligning industries and this could mean a change in the curriculum to match the tools and processes that emerge.



03

IF YOU WERE ADVISING OTHER LEADERS AT INSTITUTIONS, WHAT WOULD YOU SUGGEST SHOULD BE THEIR TOP PRIORITIES TO CONSIDER IN THE COMING YEAR?

I would advise librarians to assist in helping both faculty and students to understand that results from LLMs are not “the one true answer”. Previously librarians were helpful during the emergence of the internet search engine and then Wikipedia to help individuals evaluate the accuracy of the results.



I would also advise faculty to help students consider **“what are good questions”**. The problem with LLMs is that they can only respond to the question provided to them. If you do not ask a question with the proper nuance, you may not receive the response you need or desire.

04

ARE THERE ANY STRATEGIC INITIATIVES THAT MARICOPA IS PLANNING TO LAUNCH TO ADAPT TO OR INCORPORATE CHATGPT/AI/LLMS INTO YOUR COURSE OFFERINGS FOR STUDENTS?

We are just at the beginning of the discussion and have not yet [completed designing] the strategic initiatives we should launch. But we have already begun integrating tools such as those from Packback, and launched our AAS in Artificial Intelligence. I expect the workgroup to have recommendations as to strategic initiatives we should pursue.



Dr. Brian Arnold

Chair of the Department of Global Innovation, Social Emotional Learning, and Educational Technology
National University

01

HOW DO YOU ANTICIPATE THE EMERGENCE OF LLMS WILL IMPACT CURRICULUM, CERTIFICATION, ASSESSMENT AT NATIONAL UNIVERSITY AND BEYOND?

The emergence of LLMs is likely to result in a serious examination of assessment/assignment goals and practices. Assessments that focus on rote activities or knowledge check are likely to be replaced by more nuanced, interactive, and complex activities that center on the individual student’s experiences.

02

DO YOU ANTICIPATE THE EMERGENCE OF GENERATIVE AI WILL CHANGE YOUR INSTITUTIONAL OFFERINGS?

I imagine that the largest changes will come in the way that the learning is delivered rather than the subject matter or platform. Emphasis on relevant, authentic assignments and complex/interactive assessments is likely to increase as the learner’s ability to partner with an AI, which in turn, allows them to reach greater heights. To look at it another way, if the test used to be walk five miles and the students now have bicycles, we may want to ask them to travel 25 miles over uneven terrain with a few strategically placed roadblocks. Scale up the assessment to meet the enhanced capacity. Alternately imagine you are running a school for superhumans, how would you train them?



03

IF YOU WERE ADVISING OTHER LEADERS AT INSTITUTIONS, WHAT WOULD YOU SUGGEST SHOULD BE THEIR TOP PRIORITIES TO CONSIDER IN THE COMING YEAR?

My advice this year is to create many, many, many opportunities for the faculty and administration to talk about the implications. Have them openly discuss their concerns, hopes and ideas. Allow them to play with the toys and brainstorm ways to leverage the tools to better engage their learners. Ultimately, I would encourage an institutional mindset of partnership; partnering with the new technology, partnering with each other while embracing new ways of doing.

Ultimately, I would encourage an **institutional mindset of partnership**; partnering with the new technology, partnering with each other while embracing new ways of doing.



04

ON A PERSONAL LEVEL, HOW DO YOU FEEL ABOUT THE EMERGING POPULARITY OF LLMS LIKE CHATGPT?

On a personal level there are two things that stand out about the emergence of LLMs like ChatGPT. One, that we are seeing the initial reactionary/novelty phase which is not likely to be a persistent level of interest or a consistent attitude toward the new tech. At one-point educators had to adapt to their students having handheld calculators, more recently access to Google. Now those magical innovations are considered mundane and are considered business as usual. Two, while this is certainly a huge leap forward, we have enjoyed technological disruptions before and they are much less about the tools' capacity and much more about our human capacity to adapt, evolve and flourish when presented with change.



Dr. Jeffrey Alexander

Vice President of Academic Affairs
Truckee Meadows Community College

We will continue to encourage instructors to **adopt the Packback tools** in the interim.



01

WHAT HAS TRUCKEE MEADOWS COMMUNITY COLLEGE'S CURRENT RESPONSE (E.G. POLICY CHANGES, STUDENT COMMUNICATION, ADOPTION OF NEW TOOLS) BEEN SO FAR TO THE EMERGENCE OF LLMS LIKE CHATGPT?

Thus far, the President spoke about it at Spring kickoff, and so did I. Our theme was on authenticity and subject matter expertise, in addition to raising awareness. I reiterated those updates during my report to the Faculty Senate today. I added that some have asked me whether NSHE will come up with a system-wide response to AI, but I do not believe that this will occur. Instead, I encouraged faculty to adopt a policy and to consider updating our Student Code of Conduct accordingly.

02

HOW DO YOU ANTICIPATE THE EMERGENCE OF LLMS WILL IMPACT CURRICULUM, CERTIFICATION, ASSESSMENT?

I expect that faculty will have to modify certain writing assignments to involve additional in-class work, peer-review, peer-editing, and so forth. Also, some form of AI-generated content detection will need to be part of the standard submission procedure. Our WebCollege team will be watching this space. We will continue to encourage instructors to adopt the Packback tools in the interim.

I can't yet see impacts to certification, assessment, or accreditation, as the conversation is too new. Time will tell.

03

IF YOU WERE ADVISING OTHER LEADERS AT INSTITUTIONS, WHAT WOULD YOU SUGGEST SHOULD BE THEIR TOP PRIORITIES TO CONSIDER IN THE COMING YEAR?

Top priorities at 2-year colleges should be: the continued development of stacked credentials, especially short skills-certificates that offer innovative and timely training to meet employers' needs; refining an iterative process for gathering data from employers about training needs and skills gaps in order to develop responsive training modules; developing apprenticeships to train and upskill existing employees -- on site where possible; building a resilient bridge from high school CTE programs to college CTE programs via concurrent enrollment.



PREDICTIONS:

How Generative AI Will Transform Education

As educators and administrators consider the implications of ChatGPT and generative AI, how will their policies and practices begin to shift?

1. Evolving academic integrity policies:

Innovative institutions are viewing “AI detection”

as a component of their response, but not a complete solution. An emerging category of technology providers are developing tools that can spot the hallmarks of AI-generated writing, and respond accordingly. These tools range from standalone tools where educators may paste content like [GPTZero](#), to embedded tools that check written assignments as they are submitted, like in [Packback](#)'s embedded CheckGPT tool. Large plagiarism detection companies like [Turnitin](#) are also working to develop AI-generated text detection algorithms.

Detection is an arms race between the ever-improving quality of AI models, and the quality of detection algorithms. One thing is certain; detection will never be a perfect or complete response to these new generative AI tools. As ChatGPT and its peers become more sophisticated, and as new approaches to assessment become increasingly popular, schools and colleges will begin rethinking both their policies and their financial investments around reducing cheating and plagiarism.



Institutions are re-evaluating both policies and technologies related to academic integrity. In this new world where students can “copy” from an AI that can generate entirely original text each time it is asked a prompt, and even be prompted to “write in a way that sounds human” to help avoid detection, [the very definition of plagiarism changes](#). Plagiarism is typically defined as “the practice of taking someone else’s work or ideas and passing them off as one’s own” ([University of Oxford](#)) but when copying from AI-generated text, a student isn’t copying from someone else — they’re using novel text generated by AI. Schools across the country spend a very large portion of their technology budgets on plagiarism detection software. With ChatGPT calling into question the potential (and the relevancy) to be able to really detect copying from AI-generated content effectively, schools are starting to evaluate if plagiarism detection budgets might be better utilized for other purposes that are more relevant in a post-AI world.

Schools are also updating their academic honesty policies to account for “plagiarism” from AI-generated text. Unlike text plagiarized from human sources, where direct evidence of the original source can be found, the only evidence that a piece of text was written by AI are statistical markers about the likelihood of the word patterns. And while unlikely, it is possible for humans to write with similar patterns to AI, leading to false positives. The uncertainty and lack of evidence that copying from an AI introduces makes enforcing the same stringent Academic Integrity policies challenging. Many schools are also anticipating that AI-generated text will become an acceptable part of students’ writing processes, at least to some degree, and are evaluating academic integrity policies geared around ensuring students accurately credit their use of AI.

And finally, with AI-generated text being a very new phenomenon, many students may not yet understand that copying from these platforms without credit is a form of academic dishonesty. There is an emerging trend towards a more measured hand on potential cases of AI plagiarism, treating initial “violations” as “teaching moments” to train students on proper accreditation

of AI generated content, rather than immediately filing an academic dishonesty case for the student.

Individual educators, too, are creating class-specific AI policies to help make their stance on AI clear, as in this [example](#) from Professor Ethan Mollick, Associate Professor at [Wharton](#).

2. Evolving Curriculum Design and Learning Objectives

Educators and institutions are shifting toward formative assessments.

Rather than the more summative approach of collecting and grading written work, schools are already moving toward formative assessments geared toward understanding process, instead of final product. In just the few months since ChatGPT was released, educators have begun sharing ideas for formative approaches, like asking students to share more “checkpoints” throughout their work to show how they developed the final end product, as well as incorporating more synchronous activities, presentations, and reflections that ask students to develop presentation and collaboration skills.

A few possible methods of incorporating formative assessments include:

- Providing mastery-oriented coaching (which could be enabled by technology) to help students achieve a “perfect” deliverable before submission;
- Asking students to submit more checkpoints of their work to show their development process from beginning to end, including their brainstorming, research, outlining, editing, and final submission;
- Incorporating self-reflection and metacognition into activities by asking students to reflect on their work, why they made key decisions, and what they would improve.



Educators and institutions are designing more assignments that assume (or require) the use of generative AI. More and more educators are designing assignments with the assumption that ChatGPT or other AI tools are widely used. Instead of antagonizing AI tools, these emerging assignments prioritize their responsible use as a part of student workflows (e.g., asking students to edit or evaluate a draft essay generated by ChatGPT). A few examples include:

- Asking computer science students to perform code review on ChatGPT-generated code;
- Asking students to edit and fact-check an AI-generated essay with known factual and stylistic errors;
- Asking students to openly use ChatGPT in their written assignments, but document exactly where and how they incorporated AI-written text to help build the practice of crediting AI-generated work;
- Asking students to submit the prompt, or set of prompts, they used to achieve a final “output” that meets the assignment criteria, helping them to build [prompt engineering](#) skills.

Institutions are reevaluating their learning objectives to better prepare students to coexist with AI in the workplace. As AI becomes ubiquitous across the world of education, it’s doing the same in the world of work — which means that schools need to prepare accordingly. We can anticipate that many schools will rescope their learning objectives to focus on helping students develop the skills needed to succeed in an AI-enabled working world. AI text generators like ChatGPT are expected to transform the toolkit and process many professions, from copywriting to coding. Models like ChatGPT always generate quite convincing looking text, which can be dangerous since what they generate is not always factually accurate. Additionally, without thoughtful prompting and editing, the output of these models can be extremely generic.

Students will need to develop key skills needed to successfully collaborate with these tools, including [prompt engineering](#), editing and curation skills, [fact-checking and correction](#), and high-level planning skills to develop the objectives for how they want to utilize these tools to achieve their work or educational goals.

Institutions seeking to be on the forefront of this technological shift may consider adding courses in each discipline that specifically address the use of AI in that field, for example; Generative AI in Journalism, Generative AI in Marketing, or Generative AI in the Creative Arts, etc. Additionally, computer science programs that lack structured coursework around AI are at risk of becoming out of date, with these [tools already offering support with automating test writing, code review, and even code writing](#).

3. Strategic adoption of AI to support student success

Innovative institutions are utilizing the potential of AI to achieve previously impossible feedback speed, personalization, and student support. While it's easy to paint AI with a broad brush in the wake of the release of ChatGPT, generative AI models are far from the only application of AI that is relevant to an educational setting. Not all AI is designed to generate content on behalf of users; AI can be used to classify, recommend, suggest scores, provide instant feedback to students, personalize assignments, and more.

Platforms like ChatGPT use what's commonly known as "generative AI;" that is, artificial intelligence that can generate new material (written, artistic, or otherwise). But generative AI models are not the only application of AI that can have utility and relevance to the classroom. An emerging approach, which could be called instructional AI, marries the most effective elements of generative AI with pedagogical principles proven to support student learning and growth.

Instructional AI, for example, uses student-centered, educational applications of AI to enable more students to succeed and improve instructor quality of life by saving time on rote grading. With learning loss from the COVID-19 pandemic still top of mind for many educators and administrators, Instructional AI partners can play a key role in creating personalized, real-time feedback loops for students that help them develop mastery and build confidence.

University of North Texas is a particularly exciting example of an institution that has been taking a proactive approach to integrating instructional AI for years. The CLEAR research team at UNT [recently published a journal article on the results of a multiyear study](#) evaluating the impact of AI-based curriculum technology at their institution. Their findings showed that instructional AI enriches the quality and breadth of feedback students receive, enables instructors to focus on higher-order feedback, and improves student engagement metrics.



WHAT'S NEXT:

The Rise of Instructional AI

The most fully realized example of instructional AI currently in use is [Packback](#), whose AI-enabled approach to writing coaching and inquiry-based student discussion has been used by more than 1.5 million students to date.

Rather than generating text on behalf of students (like generative AI models do), Packback uses its instructional AI models to provide highly personalized, instantaneous feedback to students that teaches them how—and why—to improve their written work. Similarly, the platform uses the same underlying AI to provide educators with powerful grading assistance, through highlighting key passages, suggested scores for each category of the rubric, and providing instructors with detailed originality reporting, while still keeping the educator as the decision-maker for all final assessment decisions.

Rooted in the well-known cognitive framework Bloom’s Taxonomy (mentioned above), Packback’s approach uses AI to assign students a “curiosity score” that evaluates their discussion posts based on clarity, open-endedness, and use of external sources. The platform’s more recent Deep Dives tool applies the same principle to long-form essay writing, using AI to support students as they research, develop outlines and theses, and craft longer essays and papers.

What are you curious about?

How can the process of osmosis be applied to products?

Add more details to your question!

We learned about osmosis today in our Introduction to Biology class. As an engineering student, I was interested in researching how this biological phenomenon is applied in products used in everyday life today.

I found out that osmosis is used in the process of preserving food products, used in kidney dialysis machines, and more. What other applications of osmosis can be designed by people?

Source

Instant Feedback

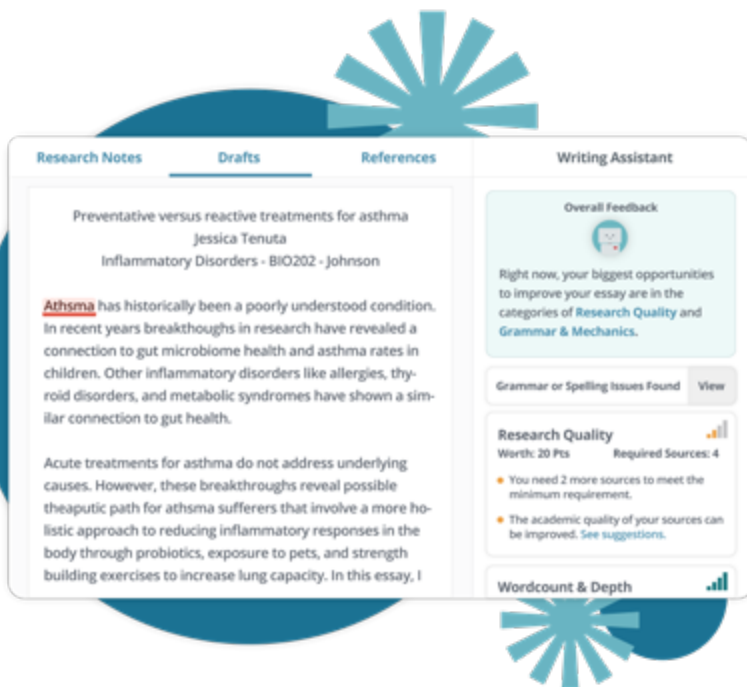
30-70
Curiosity Points

- Great use of an open-ended question!
- Appropriate use of paragraph breaks.
- Cite a source to increase your post's credibility.
- You may be using passive voice. Review.

Because Packback’s AI reviews and makes suggestions in real time as students write, it offers a uniquely formative approach to writing — in which students can integrate feedback during the writing process itself, rather than waiting for an instructor’s review. Instructors, in turn, spend less time evaluating grammar and spelling, and more time engaging with their students’ underlying ideas and thought processes.

Though its instructional AI platform was popular even before the advent of ChatGPT, Packback has adapted its suite of products to respond to the rise of AI-generated writing tools. In December 2022, Packback made a [detection tool](#) available to its users that has a near-zero false positive rate on identifying AI-generated posts and essays. Like other such tools (e.g., CopyLeaks and Turnitin, both of which have developed or are developing detection mechanisms), Packback can provide a helpful stopgap during this period of uncertainty as instructors rethink writing instruction for an AI-driven age.

But the underlying ideas behind instructional AI demand that educators and technology developers alike go beyond a prevent-and-detect approach to ChatGPT. In the months to come, Packback and its partners, including the League for Innovation in the Community College, will be issuing guidance and providing ongoing training to help instructors with specific pedagogical changes, including ideas for classroom assignments, designed to embrace the growing role of AI in educational settings.



CONCLUSION:

Looking Ahead

If one thing is clear from the precipitous rise of ChatGPT over the past few months, it's that AI has crossed the rubicon from a potential disruptive force into a very real, and inescapable, part of the education experience. How can educators' and administrators' response to this particular tool inform the way we respond to future such disruptions?

The coming months and years are likely to bring a steady stream of emerging technologies like ChatGPT that make use of the enormous power and potential of artificial intelligence. As these technologies become easier to design and develop, they'll be more readily available to the public — which means that education leaders should prepare for them to show up in classroom settings sooner rather than later, whether they like it or not. What we've learned from ChatGPT, even in a relatively short time, is that fear and backlash are unproductive (and even counterproductive) ways to engage with such tools. The schools and classrooms that have weathered the storm are those that have instead treated generative AI as a catalyst to rethink their assignments and assessments in ways that help students prepare for a future that is increasingly dependent on the relationship between human and machine.

When the next disruptive AI force arrives, administrators and instructors alike should take the lessons of ChatGPT to heart. None of these tools are likely to shake the foundational elements of education that matter most: its grounding in relationships between teacher and student, and its focus on cultivating curiosity and critical thinking. With those principles in mind, high school and university leaders alike will be able to meet future technological challenges – and opportunities – with open-mindedness and adaptability, and better prepare their students to navigate an increasingly AI-driven world.