

Why evaluating students' use of AI writing tools is important:

Actionable strategies for institutions



AI writing

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“I teach with ChatGPT and get the students to use it to assist with structuring their writing and brainstorming. I don't use [Turnitin] as ‘Gotcha!’ detection. It's a heads up for me to follow up with my students and ask them to use more of their own voice.”

Dr. Leslie Layne, Associate Professor, University of Lynchburg

Introduction

The advancement of generative AI technology and its commercialization in AI writing tools is posing a significant opportunity for education. Priorities around upholding academic integrity, intellectual property rights, proof of learning, and fair assessment, are motivating institutions to regulate use of generative AI and rethink traditional writing assignments in a digital world.

AI writing tools are here to stay, so understanding when and how students are using these tools is becoming a priority for education leaders. Armed with this knowledge, they are in a better position to mitigate the risks and leverage the opportunities from AI to promote student success for an evolving workforce, while safeguarding institutional reputation in support of student enrollment and retention.

Uniquely positioned at the intersection of technology and education, Turnitin understands the complexities of employing AI to enhance teaching and learning. Our solutions offer critical insights into students' usage of AI writing tools and text similarity, empowering educators to make informed decisions that support student success. With Turnitin, even in the face of evolving technology, the true essence of authentic learning remains uncompromised.

In this guide, we'll explore why evaluating students' use of AI writing tools is important and how institutions can achieve it, across four key pillars: (1) safeguarding academic and integrity standards; (2) cultivating students' original thinking; (3) empowering educators to drive change; and (4) adapting teaching and assessment for authentic learning.

By the end of this guide, you will have a deeper understanding of how your institution can navigate AI writing with confidence by leveraging the resources and tools at your disposal to mobilize educators, administrators, students, and other stakeholders in the age of AI.



Chapter 1

Safeguard academic and integrity standards



Adoption of AI writing tools is increasing, requiring a framework to govern their use.



Identifying AI-generated text serves to uphold institutional guidelines around fairness and accuracy in learning.



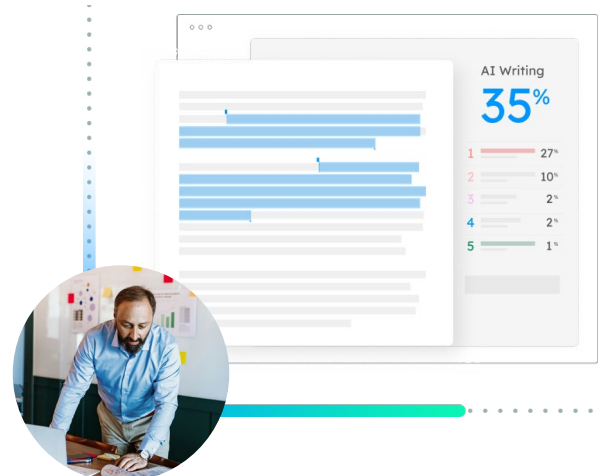
Turnitin's AI writing detection supports institutions to maintain academic standards and integrity in the age of AI.

Cultivating a reputation for academic excellence is the driving force behind educational institutions and it's taken on additional meaning in the generative AI landscape where benchmarks for learning, assessment, and degree attainment are being renegotiated.

In the aftermath of [ChatGPT's release by OpenAI in November 2022](#) and the myriad reactions within the education sector, institutions are being compelled to regroup and channel the various hopes, fears, and uncertainties of education professionals into a cohesive AI policy that safeguards academic and integrity standards and supports the enrollment outlook.

Central to this endeavor is defining academic integrity policies to capture the new reality of generative AI in education. It also means embracing permitted use cases for AI assistance in student writing to prepare the next generation of graduates. Indicative of AI's momentum, [Tyton Partners' Time For Class 2023*](#) survey and report on the North American demographic reveals that more than 50% of educators strongly believe GenAI tools will be needed for students' future professional success.

There is clearly a role for education in building students' AI preparedness, and the task becomes reconciling mastery of these tools within the boundaries of the learning process. This requires [a review of your existing academic integrity policy](#) and it should aim to answer a pivotal question: **How and to what extent is the use of generative AI tools acceptable within the academic environment?**



*Turnitin was a partner in providing compensation to conduct this study.

Codifying rules for something as dynamic as AI is not a straightforward exercise and it's no surprise that there has been hesitation and even inaction in the education community. In May 2023, a [UNESCO global survey](#) of over 450 schools and universities found that fewer than 10% had developed institutional policies and/or formal guidance concerning the use of generative AI applications. Come September, they released the first-ever global '[Guidance on Generative AI in Education and Research](#)' to encourage appropriate regulations and teacher training.

To put things into perspective, guardrails for generative AI is another necessary step in a changing education landscape, and not unlike the adjustment of teaching in the pandemic-led, remote-learning revolution. Whether it's improving engagement in online modes or ensuring assessment is not undermined by AI, sound policy and pedagogy hold the key to their success. Existing gaps in academic policy will be magnified when AI considerations are applied, so it's crucial that institutions are equipped and united in their [approach to academic writing standards and integrity](#).

To what degree AI writing in education remains discretionary to institutions and when sector-wide guidance is warranted, is also an emerging consideration. The [Quality Assurance Agency for Higher Education \(QAA\)](#) in the UK, and the [Tertiary Education Quality and Standards Agency \(TEQSA\)](#) in Australia are just two examples of agencies that are consulting with institutions in order to uphold academic standards as AI technology unfolds. With such far-reaching effects, making generative AI work for education is a collaborative undertaking that will benefit from the involvement of a number of education partners.

AI detection's role + Turnitin's AI writing detection capabilities

The concept of AI writing detection has received plenty of attention as society explores the possibilities of this technology. Growing sophistication in AI to mimic human expression means it is getting harder for educators to distinguish what is AI-generated versus what is human-generated text. Whereas this may become the accepted norm for industry, institutions of learning need

mechanisms to validate student achievement that occur separately from AI.

At Turnitin, we recognize that for educators, there is a pressing and immediate need to know when and where AI writing tools have been used by students. Even the most AI-savvy educators and those with a deep knowledge of their students' capabilities will not realistically capture every instance of AI-generated text. Case in point, in [a recent study by Casal and Kessler](#) on how accurately linguists could distinguish between AI and human writing, 72 linguistics experts correctly identified AI-generated content only 38.9% of the time (2023). And when AI writing goes unchecked, it can have ramifications on guiding responsible AI use and safeguarding the authenticity of learning.

One only needs to view the data on the prevalence of AI writing usage to see the urgency of tracking students' engagement with these tools. Looking at data up until 31 December 2023, Turnitin's AI writing detection tool had reviewed 173+ million papers. Over 4.7 million papers were flagged as having at least 80 percent AI writing present, and that number rose to 17.6 million when over 20 percent of AI writing was present.

Turnitin's AI writing detection capabilities are integrated with one of the most trusted and widely installed suite of academic integrity tools and aims to help administrators, educators, and students uphold the standards set forth by their institution. Rather than viewing the results of our AI writing detection as a punitive measure, the overarching purpose of the tool is to [facilitate student conversations](#) and interventions on the use of AI writing tools that may not otherwise occur, and use it as one strategy in your toolkit to regulate use of AI-assistance tools.

The stakes are high, and we have gone to great lengths to ensure the tool's training on diverse data, minimization of bias and system stability. To gain a more technical understanding of how our state-of-the-art transformer architecture identifies AI writing's clear statistical signals and the safety provisions we have put in place, download our whitepaper '[Turnitin's AI writing detection model architecture and testing protocol](#)'.

Chapter 2

Cultivate students' original thinking



AI writing is a skill students need to develop in order to thrive in the future of education and work.



Students are seeking guidance on AI writing within their courses and how they can upskill.



Turnitin's solutions nurture students' originality and critical thinking via formative feedback.

To maintain the relevance of higher education offerings into the future, institutional leaders are seeking to prioritize independent and authentic learning and ensure faculty are equipped to deliver it. As it adapts to the digital age, the sector is contending with fluctuations and [drops in enrollment rates as observed in the United States](#) and other parts of the world, and the advent of ChatGPT and its counterparts puts further pressure on institutions to strengthen the student experience and students' workforce readiness.

When graduates and alumni excel by crafting solutions to the world's challenges, it validates their institution's reputation for academic excellence and their investment in the development of originality, creativity, and critical thinking skills. The drive to nurture student creativity and originality will arguably be even more acute as AI is folded into society, but it does mean reshaping our expectations around authorship and [what constitutes original student work](#).

In the domain of creativity, for instance, we're now faced with the interplay (and inevitable debate) of human versus AI-derived creative output. In an article penned for [The Conversation](#) on AI's creative ability, Erik Guznik points to the impetus for education in nurturing creativity for a new age: "the creative abilities now realized by



AI may provide a "Sputnik moment" for educators and others interested in furthering human creative abilities, including those who see creativity as an essential condition of individual, social and economic growth."

A much-discussed risk that institutions are in a hurry to offset is the notion that [an overreliance on AI will impair](#)

writing competence — either gradually or before the skill is even acquired — and thereby affect a student’s ability to contribute original written thought towards their studies, in the scientific record, and during their professional lives. So, where should institutions draw the line?

In their 2023 research paper, Lodge et al. propose **a typology of possible student-to-generative AI relationships** that plots the affordances and drawbacks AI brings to learners, with the aim of rethinking human productivity. Paired with the cognitive offloading AI offers to enable students to focus on higher-order thinking, they also point to its metacognitive potential: “generative AI can also play a vital role in supporting learners’ ability to regulate their learning process. Through features like real-time feedback, adaptive questioning, and self-assessment prompts, AI can guide learners to monitor, evaluate, and adjust their learning strategies.”

Of course, students cannot make these discoveries alone. They require guidance from teaching faculty to develop their uniquely human mastery of a subject to oversee and elevate AI output. That brings us to how students feel about generative AI in the context of their journey, and what educational leaders, administrators and front-line teaching staff need to consider when building out curricula and support services.

In an illuminating Hong Kong study on **student perceptions of the use of GenAI in higher education**, Chan and Hu (2023) discovered “a complex and nuanced picture of both enthusiasm and concerns”. Amongst the 399 surveyed students across 10 different faculties, students viewed the integration of AI as an essential part of university curricula and expressed the desire to be better equipped to compete and thrive in an AI-powered world. The study established a positive correlation between students’ knowledge of generative AI technology and their frequency of use, supporting the idea that embedding AI training into the learning process will advance understanding and acceptance of the technology.

Reflecting on the overarching theme of students yearning to understand their purpose and pathway to the workforce, and by extension, the value of a university education, the authors infer the following: “Since holistic competencies may become the most in-demand attributes for today’s work environment, a focus on competency development in instructional designs could also relieve students’ anxiety concerning career prospects.”



Turnitin's support of originality in the age of AI

Turnitin has a proud 25-year history of promoting student originality, driven by our mission of empowering students to do their best, original work. AI is a new frontier in the evaluation of student achievement, but one that Turnitin has been busy preparing for over several years. Customers can access our AI writing detection capabilities by licensing Turnitin Originality, on top of their existing integrity solution, for an all-in-one solution for safeguarding authentic learning in the age of AI.

As education leaders and faculty revise the benchmarks for assessing student originality and integrity in general course progression and for accreditation purposes, learning artifacts that delineate where student and machine contributions begin and end, becomes paramount. Refining assessment methodology to draw out proof-of-learning that only a human can provide is one necessary step, but the approach should also be balanced and [encourage collaboration](#) rather than deterring the use of generative AI tools outright.

To this end, faculty are seeking to reliably identify the presence of AI-generated text to ensure [students use AI responsibly](#), and in a way that aligns with academic policy and their learning journey. Top of mind for both

institutions and Turnitin is acting in the best interests of students when AI writing detection is applied.

We strive to maximize the effectiveness of our detector while keeping [our false positive rate](#) — incorrectly identifying fully human-written text as AI-generated — under 1% for documents with over 20% AI writing. It's crucial to note that Turnitin does not make a determination of misconduct in our similarity checking or AI writing detection technology. Rather, we provide data for educators to make an informed decision based on their academic and institutional policies.

Although we can expect AI-generated text to become a fixture of the writing endeavor, nurturing students' ability to write — and especially the thought process behind it — will remain an essential and coveted skill. [Turnitin's Draft Coach](#) solution — available within Turnitin Originality — guides students to high-quality writing and nurtures independent learners. Students receive real-time formative feedback on text similarity, grammar, and citations as they work, helping them make corrections before final submission.



Chapter 3

Empowering educators to drive change



Educator understanding and engagement with AI writing tools will help set the tone for their institution's success.



Training teaching faculty to deliver AI-enabled pedagogy is an essential investment.



Turnitin's AI writing tool and resources equip educators to tackle AI writing confidently.

An institution's success in navigating AI writing will ultimately depend on the success of frontline teaching staff to make inroads with AI writing technology and responsibly incorporate it into the teaching and learning process. When building generative AI literacy across the ecosystem, it is the integration of AI into pedagogy that will demand extra focus to support educators and students in adapting to new educational realities and expectations.

Are you confident that your faculty are AI-ready? Are the criteria for AI readiness understood and actively practiced? In these early stages of generative AI adoption there is much for institutions to learn and test, and it begins with an openness to make AI work for education and empowering educators to be agents of change. Luckin et al. (2022) addressed the misconception of [AI readiness training](#) as equivalent to teaching the technical aspects of AI, explaining that it needs to be "an active, participatory training process" which seeks to build educator and student confidence in using AI more strategically to meet their needs.

And in their research confronting the [paradoxes of generative AI](#) and its impact on the collective consciousness, Lim et al. (2023) point to the responsibility of leadership to set the tone for productive engagement:

"Educational bodies and institutions need to embrace a cultural change when it comes to Generative AI and similar technologies deemed 'disruptive'...[and to] allocate adequate resources to support staff and students deal effectively with Generative AI-related challenges and optimize opportunities presented by its tools."



According to Tyton Partners' [Time For Class 2023 report](#), faculty's use of generative AI tools has jumped from 9% in March 2023 to 22% in September 2023. Advocates for AI will view this as an encouraging sign, but the figure still lags behind students' use, and inconsistency in faculty's use of generative AI tools has emerged. For those faculty who use generative AI tools for the purpose of teaching and learning, the most common application accounting for 43% of respondents, is to test the output of prompts in order to understand what students see. The second highest use case amongst 35% of AI users is training students on how to use AI tools themselves.

Such data points to a huge opportunity to grow curiosity and targeted use of AI writing technology across educators' respective [stages of technology adoption](#). Aside from the obvious boon for institutional innovation, doing so will also mitigate inequalities and reputational harm that are likely to arise from differentiated access and division in the approach to generative AI. As the array of online AI training courses suggests, there is an urgency to invest in educators' professional development so they can leverage AI writing output and negate the risk of getting left behind.

If educators are to work harmoniously with AI writing tools and even use them to [co-create learning opportunities](#), what does this actually look like in the classroom? By institutions following the principles of human-centered AI, educators can be assured that they will remain in the driver's seat of teaching. To this end, [Luckin et al. \(2022\)](#) assert that "The concept of 'AI readiness' must both recognize the superiority of human intelligence when it comes to contextual and meta-contextual intelligence and prepares the sector to see AI as a tool to build better interconnections between and within education and training ecosystems."

Especially during the discovery phase, being too prescriptive in the use of AI writing tools in pedagogical practice could [hinder its development](#). Ongoing dialogue and the sharing of community wisdom will be key to championing AI writing best practices amongst educators, along with access to tools and resources that help gauge their progress.



Tools and resources to support educators

Just as students need guardrails in the use of AI writing to meet their learning objectives, so too do educators in accommodating AI writing tools and using the technology for educational reform. Turnitin believes in the power of [human-centered AI](#), and our AI detection technology aims to empower educators during this transformative shift in education.

Patti West-Smith, Turnitin's Senior Director of Customer Engagement, and long-time classroom teacher and administrator, explains how [Turnitin's 25-year legacy in academic integrity is benefiting educators in the age of AI](#): "we are continuing that commitment with our new AI writing detection feature. We want teachers and students to talk about appropriate use of writing tools, proper citation and original thinking. Our role is to provide them with a tool to start those meaningful conversations."

At an instructional level, AI writing detection facilitates student-teacher exchanges by identifying any signatures of AI-generated text in student submissions to inform educators' decision-making process. In the context where AI writing tools are *not* permitted in an assignment, Turnitin's detection model can alert educators to possible non-compliance from students and trigger intervention efforts. In the scenario in which students are encouraged to harness AI writing, our AI detection provides insight into how students are engaging with the tools so that educators can better evaluate their skill development. One of many educator-facing resources, our ['How to interpret Turnitin's AI writing score and dialogue with students'](#) infographic offers guidance on the contextual factors when assessing an AI writing score.

As is the case with [Turnitin's similarity-checking software](#), when using our AI writing detection feature, educators always make the final determination of whether student misconduct has occurred and are supported in turning it into a teachable moment. Case in point, Dr. Leslie Layne, Associate Professor of English and Linguistics Coordinator of College Writing at University of Lynchburg [uses Turnitin's AI writing detection tool](#) to facilitate authentic learning: "I teach with ChatGPT and get the students to use it to assist with structuring their writing and brainstorming. I don't use [Turnitin] as 'Gotcha!' detection.

It's a heads up for me to follow up with my students and ask them to use more of their own voice."

At an institutional and leadership level, AI writing detection offers an accurate, consistent method of upholding quality and integrity benchmarks while enhancing educators' ability to [manage AI-student output](#).

In addition to our integrity solutions, our team of veteran educators have built an extensive repository of pedagogical resources that integrate pedagogy with technology, including our latest [AI writing instruction resources](#) to help educators overcome these newfound challenges. Written *by educators for educators*, these include AI misuse rubrics, checklists, and our interactive [AI writing puzzle](#) resource that distills the core components of AI writing. They are built for professional learning and provide actionable steps for educators to apply to their coursework and assessments.



Chapter 4

Adapting teaching and assessment for authentic learning



Assessment reform is a priority across the sector to dispense with methods that are no longer fit for purpose.



The shift to assessing the process rather than the product of learning, to ensure AI and industry readiness.



Turnitin's integrity and assessment solutions facilitate authentic learning and AI-enabled assessment.

The implications of AI writing on assessment of learning cut to the heart of the education community's reaction to this technology, prompting checks and balances to uphold assessment security, fairness, and the authenticity of learning in a new era.

Type the words 'assessment in the age of AI', or some combination thereof, into a search engine — or an AI text generator itself — and you will be inundated with information that seeks to address how learning and accreditation can be safeguarded. For instance, in their review of the [standard assessment paradigm](#) typified by multiple-choice questions, essays, and short answer questions, Swiecki et al. (2022) raise several reasons as to why this model may no longer be fit for purpose in the age of AI and a rapidly changing workforce.

Despite a range of different perspectives on teaching and assessment methodology to neutralize AI's risks, an emerging consensus is that authentic learning and authentic assessment may hold the key. In his provision of [The Authentic Assessment Toolbox](#) (2005), Jon Mueller defines authentic assessment as follows: "a form of assessment in which students are asked to perform



real-world tasks that demonstrate meaningful application of essential knowledge and skills". Crucially, he asserts that "A measure cannot be valid if it does not effectively address the learning goals it was designed to assess."

When ChatGPT entered the mainstream in November 2022, it reinvigorated long-held beliefs within the academic community that prioritizing authentic learning and assessment opportunities could elicit the best teaching, learning, *and* graduate outcomes. Gaining prominence during the shift to remote learning, it was intended to make it harder for students to take shortcuts or cheat, and boost engagement with learning. And given generative AI's direct bearing on workforce demand and [skill recalibration](#), authentic learning is also poised to evaluate student achievement in a way that prepares them for professional, AI-enabled practice.

Writing for Times Higher Education, Alastair Bonnett surmises that generative AI could pave the way for [positive educational reform](#): "If it stimulates a turn towards innovation then the advent of the 'AI essay' will enliven and enhance student learning. Rather than assessing students on how well they summarize and regurgitate, this new pedagogic environment will require more challenging and exciting tasks."

Returning to Mueller's edict that assessment measures must extract tangible evidence of the learning goal, should educators continue to assess students on writing output that machines can produce? Or more pointedly, how does AI writing modify the learning goal itself? Furthermore, where does emphasis on the learning *process* as opposed to the *product* fit in? Any conclusive answers to these questions are on the horizon and beyond the scope of this guide, but their consideration is crucial to grasping the importance of evaluating students' use of AI writing and taking steps to succeed with AI-enabled teaching and assessment.

Unpacking [generative AI's implications for assessment design](#), Jason M. Lodge argues for higher education to move away from measurement of outputs which are now machine replicable, to evaluation of the learning process behind student output: "The ability to trace this journey, through the assessment of learning processes, ensures the ongoing relevance and integrity of assessment in a way that a focus on outputs cannot" (2023). Mindful of the complexity and resource-intensive nature of this endeavor, Lodge concludes that monitoring learning trajectories to this extent would be 'virtually impossible' without the involvement of modern technologies. In doing so, he raises the importance of edtech tools and learning analytics to accomplish this with precision and at scale.



Using Turnitin's technology for assessment innovation

The assessment reform facing higher education has been accelerated by the advent of generative AI and its recalibration of human capital, but it's also a response to broader realities in the digital age for which traditional assessment practices are no longer keeping pace. Whilst institutions are at varying phases of their digital transformation, the benefit of technology in navigating both the challenge and opportunity of AI writing and the advancement of assessment, cannot be overstated.

With [recent usage data](#) suggesting growth in students' experimentation and familiarity with AI writing tools and projections of generative AI serving as a co-pilot in decision-making, ensuring students are engaged, comprehending course content, and engaging productively with AI should be top-of-mind for education leaders and teaching faculty. Turnitin's AI writing detection tool has been designed to provide much-needed visibility into the development of these skills and also bridge educators' efforts in making sense of AI writing and guiding its impact on learning.

AI writing detection is not intended as a substitute for assessment reform, but rather, a tool to understand how AI-generated text is presenting and indeed shaping students' written work. The resulting data insights can paint a clearer picture of how their institution is being affected to inform decision-making amongst administrators and those educator-level interventions. An ability to reliably parse or analyze student versus machine contributions is also critical for high-stakes or accreditation-based assessment where an institution's due diligence and reputation cannot be compromised.

Alongside 'realism' of tasks as intrinsic to authentic learning and assessment, Villarroel et al. (2018) identify two other conceptual dimensions: *cognitive challenge and evaluative judgment*, and explore the associated [barriers for higher education](#). With the former requiring institutions "to go beyond the textual reproduction of fragmented and low order content" in favor of teaching higher-order cognitive skills, and the latter, to develop students' ability to "judge their own performance and regulate their own learning", this type of assessment demands a great deal of energy, time and resources.

Turnitin's portfolio of integrity and assessment solutions addresses the time and resource-intensive elements of authentic, formative learning and assessment, supports next steps for learning, and crucially, makes the exercise scalable. For instance, use of [Turnitin Feedback Studio](#) in tandem with educator-administered "Where to next?" feedback has been shown to scaffold students' learning, leading to [enhanced learner performance](#).

Our industry-leading [Similarity Report](#) is a foundation for original thinking and flagging potential academic misconduct, and paired with our Draft Coach solution to encourage [students' self-evaluation and independent learning](#) during the writing process, further nurtures authenticity in assessment and students' essential skills. Institutions gain simultaneous oversight on potential misconduct such as plagiarism and develop their radar for AI writing, guided by the [Similarity Score and AI Indicator scores](#).

And in addition to our AI writing detection technology, Turnitin solutions like [Gradescope](#) harness AI and machine learning to [assist grading efforts at scale](#), in ways that are impractical for educators to accomplish manually. Gradescope supports authentic learning by making formative assessment more feasible for departments, with features such as Assignment Statistics and Dynamic Rubrics promoting a richer understanding of a student's performance and cues for self-improvement and concept mastery.

Turnitin's AI writing detection capability works hand-in-hand with our integrity and assessment solutions to provide a comprehensive toolkit for institutions to thrive in the digital age. By evaluating students' use of AI writing and embracing the help of AI writing detection tools, education leaders are in a better position to minimize risk and maximize the reward from this technology, whilst strengthening their program offering to attract and grow the next generation of learners.

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