

C1 -- Social-Emotional Development

Mental Health Rising in Students

Clarify Health Institute 23 -- Covid-19, 5-15-2023, "The Kids Are Not Alright 2023," Clarify Health, <https://clarifyhealth.com/insights/institute/briefs/the-kids-are-not-alright-2023/>, accessed: 2-25-2025 //fdmvsFMG

The mental health landscape for children in the United States continues to be a major concern, with recent studies indicating declines in children's mental health, driven at least in part, **by the COVID-19 pandemic.** In light of this, the [Clarify Health Institute](#) analyzed patterns in the use of mental health services among **children and young adults from 2016-2022.** Among the most striking results, **we find a 250% increase in inpatient (IP) hospital admissions** for children and young adults **for anxiety and fear-related disorders and a 221% increase for feeding and eating disorders,** representing a tripling since 2016. Our analysis is based on an observational national sample of health insurance claims for over 24.5 million children and young adults up to 21 years of age from 2016-2022. This research brief is the second in a series reviewing mental health utilization, following our initial analysis, which analyzed the use of mental health services among children aged 1-18 with a diagnosed mental health condition. The goal of this brief to provide a clearer picture of the current state of youth mental health care utilization and its contributing factors among children and young adults. The [CDC estimates](#) that four in ten high school students experienced persistent sadness or hopelessness in 2021, with two in ten seriously considering suicide. The [National Institute of Mental Health reports](#) that, as of 2020, 16.5% of adolescents experienced a major depressive episode in the past year. [Anxiety disorders](#) are also increasingly common, with a lifetime prevalence of up to 32% among adolescents. Moreover, [early-life stress and trauma impact the development and long-term mental health](#) of affected individuals. Major Findings Our major findings include the following: Rising incidence of most mental health conditions among children and young adults from 2016–2022, accompanied by pandemic-related decreases in 2020, lowering overall growth rates for the time period **A 124% overall increase in mental health IP hospital admissions, including: A 250% increase in IP hospital admissions for anxiety and fear-related disorders A 221% increase in IP hospital admissions for feeding and eating disorders A 96% increase in IP hospital admissions for depressive disorders A 45% increase in mental health emergency department (ED) visits, including a 74% increase in ED visits for suicidal ideation, attempts, and other self-harm** Higher rates of mental health IP admissions and ED visits among teenagers and young adults compared to younger children, with the largest increases among girls aged 12-15

Cox 25: Covid-19 destroyed social and emotional learning

Janelle Cox, holds MS in Education and has over a decade as an education psychology journalist and contributor to education sites including TeachHub, Bright Hub Education, and Western Governors University, no date, "Why is Social-Emotional Learning Important Post-COVID?," Graduate Programs for Educators, Janelle Cox is a seasoned freelance writer specializing in education, mental health, and health and wellness. She holds an MS and BA in education and a minor in human behavior and interactions from Buffalo State University. <https://www.graduateprogram.org/blog/importance-of-social-emotional-learning-post-covid/> //DOA: 2/20/25// ATA

Social-emotional learning (SEL) is essential for managing emotions. It helps children learn to deal with any difficulties that may arise in their life and help them make successful choices. But **amid the pandemic, children lost the ability to socialize and interact with others. These barriers showcased an urgent need for social-emotional learning to help promote positive mental health** for children whose daily lives have been disrupted by the COVID-19 pandemic. What is Social-Emotional Learning? Social-emotional learning is the process in which children gain and apply the knowledge, attitudes, and skills necessary to manage and deal with their emotions and feelings. From problem-solving to developing impulse control, SEL provides a foundation for children to be better able to cope with everyday challenges. **How Did COVID Impact Social-Emotional Learning Curriculum? In the spring of 2020, the COVID-19 pandemic temporarily closed schools. When this happened, social-emotional learning programs looked different because curriculums were either taken away or transitioned to distance learning because of stay-at-home orders. The stress of the pandemic, the social isolation, lack of technology for some students, loss of routines, and no access to school meals increased the need for social-emotional programs to be delivered remotely. Why is**

Social-Emotional Learning Important Post-COVID? Prior to the COVID-19 pandemic, one study found that more than half of student respondents from the Detroit Public Schools Community District experienced symptoms of anxiety or depression. These findings suggest that children needed social-emotional learning even before the pandemic. Post-COVID, students are still reeling from the loss of learning, socialization, and other increased stressors related to the pandemic. For many students, SEL wasn't offered during remote learning. This made it difficult for students to progress as they should have with their development of self-control, self-awareness, behavior, and other interpersonal skills that are essential to the social-emotional learning curriculum. Social-Emotional Activities for the Post-COVID Classroom To ensure that students continue to develop social-emotional skills, educators may need to rethink existing approaches and teach children how to navigate new social skills needed for life after the pandemic. Teaching and educator positions are social-emotional learning jobs due to how essential SEL is. Here are a few social-emotional learning in the classroom activities to try.

Hess 22 -- Frederick Hess, director of education policy studies at the American Enterprise Institute, 09-26-2022, "After COVID-19, Schools Are Spending Big On Social And Emotional Learning. Is That A Problem?," Forbes, <https://www.forbes.com/sites/frederickhess/2022/09/26/after-covid-19-schools-are-spending-big-on-social-and-emotional-learning-is-that-a-problem/>, accessed: 2-25-2025 //fdmvsFMG

Social and emotional learning (SEL) looms large in schooling. Just last week, an analysis of how the nation's largest 100 school systems are spending their federal COVID-19 relief dollars showed that 88 percent are spending funds on "social-emotional support", making it the second most popular option after facilities upgrades. At the same time, SEL continues to be hugely controversial. Earlier this week, a National Public Radio story focused on the heated ideological debates that have suffused SEL. Earlier this year, the *Washington Post* proclaimed SEL a "new target" on the right and *Salon* deemed it "the right's new CRT panic." Last spring, SEL played a major role in Florida's recent decision to reject dozens of textbooks, and it's garnered lots of airtime in angry school board meetings.

Face to face teaching is essential for student social and emotional intelligence development. AI undermines this as Alexander Sorkin, professor for cell biology explains in 2024

Alexander M. Sorkin, PhD Professor and Chairman, Cell Biology and Physiology (14 May 2024): Artificial intelligence: Why is it our problem?, Educational Philosophy and Theory, <https://doi.org/10.1080/00131857.2024.2348810>, DOA: 2-21-2025//Teshyy

AI as a teacher ai's potential to be viewed as an instructor, collaborator, learning assistant, or coach further complicates its role in education. While the role of a teacher or instructor has been explored and debated for centuries, ai presents a new challenge to our understanding of these roles. as Vygotsky (1978) noted, 'human learning presupposes a specific social nature and a process by which children grow into the intellectual life of those around them' (p. 88). this highlights the importance of social interaction and guidance in the learning process, traditionally provided by human instructors. However, ai's ability to engage in interactive, personalized, and adaptive instruction blurs the line between tool and teacher. luckin (2010) contends that ai technologies have the capability to tailor the learning experience to individual needs by offering adaptive scaffolding and support (p. 38). this suggests that ai can take on some of the roles typically associated with human instructors, such as providing guidance, feedback, and support tailored to individual learners' needs. Moreover, ai's capacity for natural language interaction and its growing ability to understand and respond to learners' questions and concerns further positions it as a potential collaborator or coach. Woolf (2010) observes that ai tutors can simulate several essential roles of human instructors by engaging in dialogue with learners, answering questions, and offering explanations and feedback (p. 62). However, the nature of ai as a learning collaborator or coach is also different from that of a human instructor. While human teachers bring their own experiences, emotions, and social understanding to the learning process, ai's 'intelligence' is based on predictive algorithms and data. this raises questions about the quality and depth of the interaction and support ai can provide, as well as its ability to foster the kind of emotional and social growth that is often a key part of the teacher-student relationship. as of today, the quasi-instructor's role ai may play does not involve the relational sphere, which is essential for learning motivation. Furthermore, the use of ai as a learning collaborator or coach raises ethical concerns about the potential for ai to perpetuate biases or to be used in ways that exacerbate existing inequalities in education (Zawacki-richter et al., 2019).

Ask questions to chat bots

Quay 23 -- Hannah Quay, Senior Technologist at the Center for Democracy & Technology, PhD in computer science from Brown University in 2017, "Students' Use of Generative AI: The Threat of Hallucinations." Center for Democracy and Technology, 18 Dec. 2023, cdt.org/insights/students-use-of-generative-ai-the-threat-of-hallucinations/?.com. Accessed 17 Feb. 2025.//GZ

Generative AI systems trained on large amounts of existing data use machine learning to produce new content (e.g., text or images) in response to user prompts. In education, generative AI is most often talked about in the context of academic integrity, with teachers expressing fears of cheating in the classroom. However, our polling of teachers, parents, and students shows that **45 percent of students who say that they have used generative AI report using it for personal reasons**, while only 23 percent of students report using it for school. **Of those who have used the technology for personal reasons, many of the uses are high stakes – 29 percent have used it for dealing with anxiety or mental health issues, 22 percent have used it for dealing with issues with friends, and 16 percent have used it for dealing with family issues. As a result, even in the context of personal use, generative AI systems that produce incorrect information can have significant harmful consequences.**

Quay 23 -- Hannah Quay, Senior Technologist at the Center for Democracy & Technology, PhD in computer science from Brown University in 2017, "Students' Use of Generative AI: The Threat of Hallucinations." Center for Democracy and Technology, 18 Dec. 2023, cdt.org/insights/students-use-of-generative-ai-the-threat-of-hallucinations/?.com. Accessed 17 Feb. 2025.//GZ

The Potential Detrimental Impacts of Hallucinations on Students The reality of generative AI hallucinations paired with high levels of student personal use for important issues raise huge concerns about access to accurate information in times of crisis. **For example, students could be asking ChatGPT (or another generative AI tool) questions about how to deal with an ongoing mental health issue, which could potentially be a life or death situation.** Because most generative **AI systems** likely to be used by students are trained on information gleaned from the internet, they **may replicate common misunderstandings of sensitive issues like mental health challenges, gender roles, and sexual orientation.** In addition to **traditional hallucinations, which are simply incorrect information, generative AI can also have significant emotional impacts on students who utilize the tool for personal reasons by replicating societal biases against marginalized populations, including on the basis of race, gender, or sexual orientation. Students, especially during the vital developmental stages of K-12 education, may internalize these biases,** whether against themselves or others. **Hallucinations are also of significant concern when students use generative AI platforms for academic use.** The possibility for **students to receive inaccurate information can run directly counter to schools' goal of imparting reliable, quality information to students.** Students who do not understand these tools' potential for hallucinations may use the tools in ineffective ways and miss beneficial uses. Without understanding generative AI's shortcomings and limitations, students may not be able to effectively leverage its potential as a tool to supplement their learning and critical thinking skills.

Impact – MH leading cause of death in kids

2022 National Healthcare Quality and Disparities Report [Internet]. Rockville (MD): Agency for Healthcare Research and Quality (US); 2022 Oct. CHILD AND ADOLESCENT MENTAL HEALTH. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK587174/>, date accessed: 2-23-2025, //fdmvsFMG

Nearly 20% of children and young people ages 3-17 in the United States have a mental, emotional, developmental, or behavioral disorder, and suicidal behaviors among high school students increased more than 40% in the decade before 2019. Mental health challenges were the leading cause of death

and disability in this age group. These trends were exacerbated during the COVID-19 pandemic. Data in this report show: From 2016 to 2019, the rates of emergency department (ED) visits with a principal diagnosis related to mental health only increased for ages 0-17 years, from 784.1 per 100,000 population to 869.3 per 100,000 population. The rate for this age group dropped slightly in 2019, but in 2018, the rate was 976.8 per 100,000 population, a 25% increase from 2016. From 2008 to 2020, the rates of death from suicide among people age 12 and over increased 16% overall, from 14.0 per 100,000 population to 16.3 per 100,000 population. Specifically, the rate for youths ages 12-17 increased from 3.7 per 100,000 population to 6.3 per 100,000 population. The rate of suicide death increased by 2% for Hispanic youths from 4.9 per 100,000 population to 5.0 per 100,000 population between 2018 and 2020. The rate for non-Hispanic White youths decreased by 13% from 8.5 per 100,000 population to 7.4 per 100,000 population. To address the youth mental health crisis, the Biden-Harris Administration announced on July 29, 2022, [two new actions to strengthen school-based mental health services](#), with a nearly \$300 million pledge.

1NC - Skill Development

Critical thinking is imperative for student skill development and their future. Don Marlett, an educator and analyst in 2024 writes

Marlett 24 — Don Marlett, an educator for 20+ years. Before joining Learning-Focused, he taught High School and Middle School Science and was a school administrator. Don has participated in school evaluations focused on implementing High-Yield Strategies. In addition, he partnered with various state DOE's to support leaders and presented at numerous conferences hosted by multiple leadership organizations in Florida, NC, Ohio, WV, TN, and KY. Don leads product development, provides leadership training and coaching, and coaches educators in the implementation of High-Yield strategies. 5-14-2024, Critical Thinking in Education: How to Prepare Students for the Future, Learning-Focused,

<https://learningfocused.com/increasing-critical-thinking-in-education-a-pathway-to-preparing-students-for-the-future/>, DOA: 2-17-2025//Teshvy

The world is changing rapidly, and the critical thinking skills needed to succeed in the workplace vastly differ from those of the past. Rote memorization and basic recall of facts are no longer enough. **Today's students need to be critical thinkers – able to analyze information, solve problems creatively, and collaborate effectively.**

Richard Riley, former US Secretary of Education, encapsulated this need succinctly by predicting that "We are currently preparing students for jobs that don't yet exist, using technologies that haven't been invented, in order to solve problems we don't even know are problems yet." This stark reality underscores the need for an educational paradigm that evolves past the traditional focus on memorization and rote learning to embrace a more robust focus on critical thinking in the classroom and beyond.

The Challenge of Current Educational Practices The concept of having students use higher order thinking strategies has been around for over half a century. However, in a study conducted over several years by McREL (Mid-continent Research for Education and Learning), data was collected from over 27,000 classroom observations to determine the level at which instruction was occurring. They discovered that in over half of those classroom observations, student learning was centered around the two lowest levels of thinking, remembering (25%) and understanding (32%), and in less than 1/6 of the classrooms students were developing higher-order thinking.

(Goodwin, 2010) In 2018, the Opportunity Myth was published by TNTP, and similar to the study by McREL, they found that of the "180 classroom hours in each core subject during the school year, students spend 133 hours on assignments that were not grade-appropriate and 47 hours on assignments that were grade appropriate." In addition, they found that when they "compared classrooms with primarily (>75%) low-income students, classrooms with primarily higher-income students tended to receive two times more grade-appropriate assignments and over five times more likely to grade-appropriate lessons." As curriculum standards have changed, **the number of standards that require a higher level of thinking has increased.**

These standards emphasize the importance of critical thinking skills and require students to engage with complex texts and problems on a deeper level. **The emphasis on higher level thinking is reflected by employers seeking individuals who can think critically, analyze information, solve problems creatively, and collaborate effectively.**

In 2023 IBM conducted a survey to determine the most critical skills required in the workforce. How many of the skills most in demand require critical thinking? Why Critical Thinking? **Critical thinking in the classroom is essential because it fosters independence in learning and enables students to engage with content deeply.**

For instance, compare the following two activities from a literature lesson: Activity #1: Students are asked to identify and sequence challenges a character faces. Activity #2: Students are asked to identify challenges a character faces and analyze how these challenges changed the character and how the plot shifted as a result. The difference in cognitive demand is clear. The former is a recall exercise, while the latter encourages synthesis, evaluation, and creative thinking. Implementing Critical Thinking In the Classroom: Challenges & Solutions One of the biggest challenges is ensuring students have ample opportunities to develop critical thinking skills. Teachers often struggle with balancing the demands of covering a vast amount of content with the need for in-depth learning experiences. There is a misconception that critical thinking is an innate ability or a skill that develops naturally over time. Research shows that critical thinking skills can be explicitly taught and developed through deliberate practice. Here are some ideas for how **to increase critical thinking:** Move beyond rote memorization: Activities that

require students to simply recall facts do not promote critical thinking. Instead, design tasks that encourage students to analyze information, identify patterns, and draw conclusions.

AI harms critical thinking in multiple ways – harms memorization for long term learning, causes digital distractions, and incentivizes offloading thinking

Horvath 24 -- Jared Cooney Horvath, neuroscientist and educator with expertise in human learning, memory, and brain stimulation. Jared serves as director of the Science of Learning Group and NeuroEducation: two teams dedicated to bringing the latest in brain research to education and business, 8-6-2024, "Harvard Business Publishing Education," Harvard Business Publishing, <https://hbsp.harvard.edu/inspiring-minds/the-limits-of-gen-ai-educators-in-higher-ed>, accessed: 2-24-2025 //fdmvsFMG

Problem two: Knowledge University College London Professor Rose Luckin [recently argued](#) that, since ChatGPT can access and organize all the world's knowledge, learners need no longer waste time learning "facts." Instead, they can focus on higher-order thinking skills like creative and critical thinking. Unfortunately, much of what we term "creative" and "critical" thinking occurs via subconscious processes that rely on internalized knowledge. When we consciously think about a problem, humans can only actively consider a very finite amount of information due to the cognitive limits of working memory. However, once we stop consciously thinking about a problem, we enter into an incubation period whereby our brains subconsciously sort through our memory stores by seeking out relevant ideas. It's during this sorting process (known as reconsolidation) that novel connections are made and better thinking emerges. "Even among highly skilled human educators, failure to cultivate an empathetic relationship inevitably hinders learning." Here's the problem: Subconscious reconsolidation only works with information that is stored within a person's long-term memory, which means it cannot leverage information that is externally accessed or stored. This explains why experts almost always demonstrate stronger problem-solving skills than novices within their field of expertise, but rarely outside of it. This also explains why semantic dementia (whereby patients lose long-term memories but maintain cognitive faculties) impairs creativity nearly twice as much as frontotemporal dementia (whereby patients lose cognitive faculties but maintain long-term memory stores). Simply put, using AI to help learners avoid the tedious process of memorizing facts is the best way to ensure higher-order thinking skills will never emerge. But, you may be asking, what about learners who use AI to merely assist with fact memorization? Well, consider that textbooks have historically been written by experts—people with enough deep knowledge to aptly vet and organize information into a meaningfully structured curricula. Large language models (at least in their current form) have neither oversight nor vetting. This means learners who use AI are very likely to encounter wrong, oddly sequenced, or irrelevant information which—if memorized—might very well derail their path to mastery. Of course, AI models will improve and information will surely increase in accuracy. Unfortunately, this won't address the issue of vetting. Just as with Wikipedia today, users will only ever be able to work up to their current level of knowledge: Anything beyond that must be taken on faith. When learning relies on faith, it's imperative that faith is placed where the likelihood of success is highest; this is why having the assurance that an expert has evaluated and organized key information remains invaluable. Problem three: Multitasking It has long been known that multitasking harms accuracy, speed, memory formation, and even enjoyment. In fact, I have no qualms calling this the single worst thing human beings can do for learning. A pre-COVID survey revealed that students across the United States spent nearly 200 hours annually using digital devices for learning purposes. However, they spent 10 times as long—more than 2,000 hours—using these same devices to rapidly jump between divergent media content. Other studies have shown that, when people use a computer for self-guided learning, they typically last fewer than six minutes before engaging with digital distractions and, when using a laptop in the classroom, students typically spend 38 minutes of every hour off-task. In other words, the digital devices learners use to access and engage with ChatGPT have become veritable multitasking machines. It's not that computers *can't* be used for learning; it's that they so often *aren't* used for learning that whenever we attempt to shoehorn this function in, we place a very large (and unnecessary) obstacle between the learner and the desired outcome—one many struggle to overcome. What does work? There is one area of learning where generative AI may prove beneficial: cognitive offloading. This is a process whereby people employ an external tool to manage "grunt work" that would otherwise

sap cognitive energy. However, as noted above, **when novices try to offload memorization and organization, learning is impaired, the emergence of higher-order thinking skills is stifled, and without deep-knowledge and skill, they're unable to adequately vet outputs.** "When we regularly offload certain tasks, our related skills and mental faculties can atrophy, making external support a requirement in the future." Experienced learners or experts can benefit from cognitive offloading. Imagine a mathematician using a calculator to avoid arithmetic, an event planner using a digital calendar to organize a busy conference schedule, or a lawyer using a digital index to alphabetize case files. In each of these scenarios, the individual has the requisite knowledge and skill to ensure the output meaningfully matches the desired outcome. But there is still the risk of digital reliance. **When we regularly offload certain tasks, our related skills and mental faculties can atrophy, making external support a requirement in the future.** For instance, I've used digital programs to run statistical analyses for over a decade. Although I have the relevant knowledge to vet the output, I can no longer remember the specific equations each statistical test employs. Accordingly, unless I return to my textbooks, I'm now reliant upon these programs. Consider the costs. Whenever we employ digital tools to amplify, hasten, or circumvent aspects of a particular process, something is inevitably lost along the way. Or, in the words of Thomas Sowell, **"There are no solutions, only trade-offs."** Sometimes this trade-off is worthwhile—such as discarding complex equations to run statistical analyses in seconds rather than hours. However, **when we use AI to supplement education, that thing which is lost is the very essence of the endeavor itself: learning.** Whenever the primary reason for using a tool is negated by its own adoption, we are well justified in questioning its continued use. **If the primary reason for using a tool is negated by its own adoption, we are well justified in questioning its continued use.**

The ease of use creates huge losses of educational value

Chen 24, (Binglin Chen, Colleen M. Lewis, Matthew West, and Craig Zilles, Research team from University of Illinois Urbana-Champaign. 2024, "Plagiarism in the age of generative ai: cheating method change and learning loss in an intro to CS course," Eleventh ACM Conference on Learning at Scale, <https://dl.acm.org/doi/pdf/10.1145/3657604.3662046>, Pages 75-85) //DES-JRS

The advent of generative AI facilitates students' plagiarism because it can provide students with answers quickly, freely, and without having to interact with other people. By identifying markers associated with plagiarism in one particular class, we observed that **the popularization of generative AI lead to** (1) **a modest increase in plagiarism, from cheating hubs such as Chegg to ChatGPT,** (2) **a substantial shift in the source of plagiarism, and** (3) **no significant change in the already substantial learning loss due to plagiarism.** We suspect that **future advances in generative AI and students' increasing aptitude in using it could make identifying plagiarism nearly impossible, which places teachers and instructors in a challenging position when grading out-of-class work.** The solution to this problem may be one that is already being championed for equity. Feldman suggests that students grades be computed entirely or almost entirely from summative assessment, treating formative assessment (the bulk of out-of-class work) as a means to an end, rather than an end itself [17]. Because summative assessment is typically small relative to formative assessment, we have the potential to make it secure and trustworthy.

AI is increasingly diminishing critical thinking by the day, Steven Pomeroy, a scientific researcher and editor in 2025 explains

Pomeroy 25 – Steven Ross Pomeroy, Steven "Ross" Pomeroy is Chief Editor of RealClearScience. A zoologist and conservation biologist by training, Ross has nurtured a passion for journalism and writing his entire life. Ross weaves his insatiable curiosity and passion for science into regular posts and articles on RealClearScience's Newton Blog. Additionally, his work has appeared in Science Now and Scientific American.²⁵, 1-27-2025, Is AI eroding our critical thinking?, Big Think, <https://bigthink.com/thinking/artificial-intelligence-critical-thinking/>, DOA: 2-20-2025//Teshyy **As we increasingly offload cognitive tasks to artificial intelligence, researchers are concerned that our critical thinking skills will atrophy.** A recent study finds exactly that: **Participants who reported higher use of AI scored worse on measures of critical thinking.** In an interview with Big Think, study author Dr. Michael Gerlich suggested that AI isn't inherently bad for our cognitive abilities — like any tool, it needs to be used correctly. Over the ensuing years, this "Google effect" has

taken on a new moniker: “digital amnesia.” It’s the tendency to forget information that can be found readily online via search engines. After all, why would the brain waste resources storing information available at the click of a button? Instead, people better recall how to access the information. Google is now the [most trafficked website](#) in the world, and the internet itself is the definitive repository of human knowledge. If the brains of Googlers and their invaluable search engine were interconnected back then, they’ve essentially merged now. The myriad effects are up for speculation. Now, artificial intelligence is here to supplement — or even supplant — human cognition, potentially redefining and broadening digital amnesia. From digital assistants to ChatGPT to Google Search’s AI Overview, AI is planning our days, doing our work, and answering our questions. In essence, it is thinking for us. Will this new relationship reshape how we think and behave? Research is underway, with much of the focus on critical thinking. AI is increasingly thinking for us [Critical thinking](#) is the ability to analyze, evaluate, and synthesize information to make reasoned decisions. People who rate highly in scientific measures of critical thinking [get better grades in school](#), are more [adept at their jobs](#), and are less susceptible to manipulation. Critical thinking can seem nebulous and insignificant, but that impression couldn’t be farther from reality. For example, when you compare different loan terms for a house or scrutinize car insurance rates, you’re thinking critically. When you dig into the meaning of a poem, book, or work of art, you’re thinking critically. When you plan out your busy day to be optimally time efficient, you’re thinking critically. Here’s the thing: AI can do all of those tasks for you and more, quite proficiently. And its use is increasingly mainstream. Since launching in 2022, ChatGPT has rocketed to become the ninth most trafficked [website](#) and the fourth most popular app on iPhone. The AI tool [has](#) 300 million weekly active users and 123.5 million daily active users as of early January. People [frequently utilize AI](#) to craft emails, plan travel, get financial advice, summarize texts, and prepare for job interviews. According to a [2024 Pew Research poll](#), roughly half of Americans said they use AI at least several times a week, while a recent survey found that virtually all Americans use products that contain AI ([even though two-thirds don’t realize it](#)). Companies offering AI assistants sell them as productivity boosters. They argue that tasking them with humdrum mental chores and queries frees up users’ time and cognitive resources, which they can then spend on other, more creative, and innovative pursuits. The idea makes intuitive sense and has backing in the scientific literature. According to [cognitive load theory](#), the human cognitive system has limited capacity. So reducing cognitive load can enhance learning and performance. Atrophied critical thinking Habitually offloading cognitive tasks to AI could backfire, however. As AI has grown more commonplace in everyday life, psychologists theorize that it reduces users’ engagement in deep, reflective thinking, causing their critical thinking skills to atrophy over time. [Professor Dr. Michael Gerlich](#), Head of the Center for Strategic Corporate Foresight and Sustainability at the Swiss Business School, is one of the researchers studying this risk. “If individuals use the cognitive resources freed up by AI for innovative tasks, the promise holds,” he told Big Think. “However, my research and related studies suggest that many users channel these resources into passive consumption, driven by AI-enhanced content curation. This trend aligns with findings on digital dependence, where the convenience of AI fosters a feedback loop that prioritizes entertainment over critical engagement.” In other words, when AI frees up users’ cognitive resources, they typically don’t use their extra time and brain power to problem-solve or create. Rather, they tune out by watching Netflix or perusing social media — content served up by AI algorithms. In Gerlich’s [most recent research](#), published January 3rd in the journal *Societies*, he surveyed 666 participants in the UK on their AI tool use and also measured their critical thinking skills with oft-used, scientifically validated assessments of critical thinking. Gerlich found a very strong negative correlation between subjects’ use of AI tools and their critical thinking skills. The higher their usage, the lower their skills. Younger participants tended to be more dependent on AI tools compared to older participants. Education was associated with greater critical thinking skills and attenuated AI’s negative effect. Many participants suspected that AI was hampering their ability to think critically. “I find myself using AI tools for almost everything — whether it’s finding a restaurant or making a quick decision at work,” one said. “It saves time, but I do wonder if I’m losing my ability to think things through as thoroughly as I used to.” “I rely so much on AI that I don’t think I’d know how to solve certain problems without it,” another worried. Gerlich’s findings suggest participants were correct to be concerned. “As individuals increasingly offload cognitive tasks to AI tools, their ability to critically evaluate information, discern biases, and engage in reflective reasoning diminishes,” he wrote. “This relationship underscores the dual-edged nature of AI technology: while it enhances efficiency and convenience, it inadvertently fosters dependence, which can compromise critical thinking skills over time.”

Tech skills go away over time but soft skills dont. Groysberg 21

(Boris Groysberg, Richard P. Chapman professor of business administration at the Harvard Business School; Katherine Connolly Baden, researcher in organizational behavior at the Harvard Business School. 9-14-2021, "Pandemic Is Quickly Making Some Workplace Skills Obsolete, New Survey Finds," Newsweek,

<https://www.newsweek.com/2021/10/08/pandemic-has-spurred-sweeping-changes-in-other-aspects-of-our-lives-it-has-affected-this-too-expediting-the-pace-at-which-some-professional-skills-become-out-of-date-by-more-than-70-percent-1628468.html>, Accessed 2/27/2025) //ZD Recut//DES-JRS

Skill obsolescence is something we all experience. When was the last time you had to read a paper map? Or balance a checkbook? Or dial a rotary phone? But just as the experience of **the pandemic has spurred sweeping changes** in other aspects of our lives, it has affected this too, **expediting the pace at which some professional skills become out of date by more than 70 percent.** That is one of the central findings of a new survey of over 3,000 executives that we conducted in partnership with The Official Board, a global directory of medium and large companies. While the respondents were largely C-Suite types, the insights and takeaways are applicable to any employee trying to maintain relevance at work during these challenging times. The goal of this global survey was to find out how the COVID-19 pandemic affected the rate at which executives' skill became obsolete. Thirty percent of the 3,026 respondents were based in the U.S., with the remainder representing 120 countries from every continent except Antarctica. Respondents represented 53 key functions, such as CEO, CFO and CIO, and 86 industries (primarily banking, insurance, financial services, consulting and telecommunications). We designed the survey to include only a few quantitative questions, so that executives could focus on qualitative answers, providing advice and insights. Most of those surveyed—84 percent—offered text responses that elaborated on their quantitative estimates. **These comments told a more complex and complete story about skill obsolescence and acquisition, particularly in regard to communication.** Executives also shared strategies they found helpful in keeping their skills relevant. The survey asked two simple questions: GET THE BEST OF NEWSWEEK VIA EMAIL Email address On average, what percentage of your skills became obsolete or outdated during the pandemic? On average, what percentage of your skills became obsolete or outdated on a yearly basis before the pandemic? We compared the mean responses for each question and found that the perceived rate of **skill obsolescence increased by 71.7 percent during the COVID-19 pandemic.** In their comments, some executives emphasized the acquisition of new skills over the obsolescence of others. Others challenged the notion of skill obsolescence and reported their "obsolete" skills were not truly outdated because they either served as the foundation for newer skills or would be useful again once the pandemic was over. Generally, executives talked about the pandemic as an opportunity to improve old skills and acquire new ones. Many executives said their existing face-to-face skills were inadequate for managing people digitally. A business services executive in the U.S. said, "Any skill that was required or heightened from face-to-face interactions was reduced or made obsolete during the pandemic. Virtual interactions are not the same as in-person interactions, whether casual or formal." Others said their existing **time management skills or risk assessment and mitigation skills had become obsolete.** Some said their **technology skills were made obsolete by the quick rate of change of technological solutions** enabling people to work from home. Meanwhile, an executive in the Hong Kong service industry saw the challenge in terms of skill acquisition instead of obsolescence: "During the pandemic, we needed to arrange remote work, remote sales and remote training, which required us to change the existing working process in a short amount of time. I needed new skills to manage remote staff and remote clients to create new business opportunities." Many executives told us some **skills went obsolete and others were learned in the transition to a new digital way of conducting business.** **Technical skills** may **become obsolete throughout time.** said one Finance HR executive in Tunisia, "However, **learning new soft skills does not necessarily make previous soft skills obsolete, as the previous skills serve as the foundation for newer skills.**" Many of the executives said some of the skills that became obsolete during the pandemic would need to be sharpened again after the pandemic. A real estate executive in the U.S. said, "All skills that are best deployed face-to-face—interpersonal skills, listening, reading a room, identifying decision makers, overcoming obstacles—went obsolete. But 'obsolete' might be too harsh a description to label what happened to those skills; rather, they went dormant." A Belgian CEO concurred, "Many interpersonal skills used in informal settings were simply wait-listed."

CT key to future jobs – 2/3 will require it and companies prioritize soft skills over hard skills. Robinson 24

Robinson 24 -- Bryan Robinson, Ph.D., licensed psychotherapist specializing in workaholism, journalist, and Former Professor of Counseling and Child Development/ current Professor Emeritus at the University of North Carolina at Charlotte. 4-4-2024, "84% Of Workforce Insists Job Candidates Must Demonstrate Soft Skills, New Study Finds," Forbes, <https://www.forbes.com/sites/bryanrobinson/2024/04/04/soft-skills-in-the-workplace/>, accessed: 2-24-2025 //fdmvsFMG

As technology rapidly changes, so does the shift for a variety of skill sets in the workplace. Social, emotional and communicative skills especially have grown in demand. Hiring managers have come to appreciate these soft skills as essential tools for success in today's job market **because they support remote working and offset the pervasiveness of artificial intelligence in the workplace.** **A previous study by Deloitte Insights, reported that 92% of companies report that human capabilities or soft skills matter as much or more**

than hard skills in today's business world. As the crucial need for abilities such as empathy, collaboration and adaptability continue to grow, experts are starting to refer to them as **"durable" skills** that **can be developed** in the same way as playing a musical instrument or being proficient in a sport. This skill set is shown rather than told through body language, facial expressions and demeanor, and recruiters are looking for this pivotal skill set in job interviews. Now, a recent study from [BusinessNameGenerator](#) (BNG) sought to find out the thoughts of the American workforce on soft skills in the workplace and the training being provided to them. After surveying 1,015 U.S. employees across 12 industries, the study found that the introduction of new technologies like artificial intelligence (AI) **has catalyzed the shift in demand for specific skills, requiring employees to deepen their existing skill sets or integrate new ones like personal attributes and non-technical skills that describe how people work and interact with others.** Overall, the data show that the workforce believes it's important for employees to have a varied skill set and not just focus on the digital skills. More specifically, **84% of employees and managers believe new employees must possess soft skills and demonstrate them in the hiring process. This figure was the highest in companies with over 500 employees, with 90% saying that soft skills were the most important.** You can go [here](#) to learn the five soft skills during an interview that can land job hunters a high-paying job. The study also found that 80% of women agreed that soft skills are valuable, whereas 90% of men found soft skills valuable in the workplace. The most common reasons for perceiving soft skills as important are that they can make or break a hiring decision (22%). They are essential for career development (18%) and can help differentiate similar candidates (17%). The top five companies stressing the importance of soft skills were (1) IT/Telecoms (99%), (2) Finance (89%), (3) Education (89%) (4) HR (88%) and (5) Healthcare (85%). The top five cities emphasizing the importance of soft skills were (1) Los Angeles (89%), (2) New York (89%), (3) San Francisco (88%), (4) Denver (85%) and (5) Phoenix (85%). Other key takeaways from the study include: 48% of companies are looking to expand on existing skill sets. 71% of employees believe soft skills will be more or just as important in the future. The most valuable soft skill for recruits is communication (25%), followed by problem-solving (21%) and time management (19%). The most valuable skill for advancing in your career is leadership. Despite difficult economic times over the past few years, the study reveals that 70% of companies are actively looking to hire new employees. Companies demonstrated different reasons for growing their workforce, but **over half of companies seek to increase their workforce to prepare for future growth** (56%). Plus, 34% of businesses are looking to bring digital skills into the team, and digital skills training is one of the most popular training offerings in U.S. companies, with over one-third providing the training. Over one in five companies also reported offering training in competencies such as AI proficiency and coding, as almost eight in ten companies have plans to use AI technology at present or in the future. The study concludes that **advancements in AI and other technologies are one of the driving forces behind changing demand for skills, and the findings reveal that employees anticipate this to increase the need for soft skills, such as empathy, critical thinking and emotional intelligence, which AI is currently unable to match.** These current findings fit previous predictions about the future of soft skills. **A survey of 5,164 talent professionals and hiring managers by LinkedIn's Global Talent Trends Report, shows that 80% believe soft skills are increasingly important in today's business world, 92% say human capabilities and soft skills matter as much or more than hard skills** and 89% report when a hire doesn't work out, it usually boils down to a lack of soft skills. Deloitte predicts that **soft-skill intensive occupations will account for two-thirds of all jobs by 2030 and grow at 2.5 times the rate of jobs in other occupations.**

C3 Critical thinking

Generative AI will decimate critical thinking.

Jared Cooney **Horvath 24**, 8/05/2024, A neuroscientist, educator, and author at Harvard University, Harvard Medical School, the University of Melbourne, and serves as director of LME Global, 3 Critical Problems Gen AI Poses for Learning, Harvard Business Publishing Education, DOA: 2/01/2025, <https://hbsp.harvard.edu/inspiring-minds/the-limits-of-gen-ai-educators-in-higher-ed> JZ

Problem two: Knowledge

University College London Professor Rose Luckin recently argued that, since ChatGPT can access and organize all the world's knowledge, learners need no longer waste time learning "facts." Instead, they can focus on higher-order thinking skills like creative and critical thinking.

Unfortunately, much of what we term “creative” and “critical” thinking occurs via subconscious processes that rely on internalized knowledge. When we consciously think about a problem, humans can only actively consider a very finite amount of information due to the cognitive limits of working memory.

However, once we stop consciously thinking about a problem, we enter into an incubation period whereby our brains subconsciously sort through our memory stores by seeking out relevant ideas. It’s during this sorting process (known as reconsolidation) that novel connections are made and better thinking emerges.

Here’s the problem: Subconscious reconsolidation only works with information that is stored within a person’s long-term memory, which means it cannot leverage information that is externally accessed or stored. This explains why experts almost always demonstrate stronger problem-solving skills than novices within their field of expertise, but rarely outside of it. This also explains why semantic dementia (whereby patients lose long-term memories but maintain cognitive faculties) impairs creativity nearly twice as much as frontotemporal dementia (whereby patients lose cognitive faculties but maintain long-term memory stores).

Simply put, using AI to help learners avoid the tedious process of memorizing facts is the best way to ensure higher-order thinking skills will never emerge.

It’s not just about learning---AI integration worsens long-term skill development.

Hamsa Bastani 24, 8/07/2024, Associate Professor of Operations, Information and Decisions and Associate Professor of Statistics and Data Science at Wharton, Without Guardrails, Generative AI Can Harm Education, DOA: 2/01/2025,

<https://knowledge.wharton.upenn.edu/article/without-guardrails-generative-ai-can-harm-education/>///
JZ

During the AI-assisted practice session, the GPT Base group performed 48% better than the control group. But when AI assistance was taken away from the Base group and they were given an exam on the material, they performed 17% worse than the control group.

The GPT Tutor group performed an astonishing 127% better in the AI-assisted practice session, yet scored about the same on the exam as the control group.

According to the paper, the results suggest that the Base group depended on the software to solve the problems and didn’t learn the underlying mathematical concepts deeply enough to do well on the exam. In contrast, the performance by the Tutor group shows that these harms are mitigated when AI is deployed with teacher-guided conditions and limits.

“We’re really worried that if humans don’t learn, if they start using these tools as a crutch and rely on it, then they won’t actually build those fundamental skills to be able to use these tools effectively in the future,” said Hamsa Bastani, a Wharton professor of operations, information and decisions who co-authored the paper. “As educators, we worry about that.”

Bastani spoke to Wharton Business Daily about the paper, “Generative AI Can Harm Learning.” (Listen to the podcast.) The co-authors are Osbert Bastani, computer and information science professor with Penn Engineering; Alp Sungu, operations, information and decisions professor at Wharton; Haosen Ge, data scientist at the Wharton AI and Analytics Initiative; Özge Kabakcı, math teacher at Budapest British International School; and independent researcher Rei Mariman.

The Generative AI Paradox and How It Impacts Education

The paper’s finding is consistent with similar studies, and Hamsa Bastani said it reflects the paradox of generative AI: It can make tasks easier for people while simultaneously deteriorating their abilities to learn the skills required to solve those tasks.

"We've been really interested in how humans interact with algorithms for a while. But I think it gets really interesting with large language models just because of the extent of their reach and the number of people who are using them with such a diversity of tasks," she said. "One thing that really drew us to this conversation was a lot of teachers are struggling with students copying answers from homework, and they were worried that this would negatively impact their skill-building and their fundamental understanding of concepts. That's why we decided to dig into this."

The study also found that **students who used AI assistance were overly optimistic about their learning capabilities**, even the high-achieving students. Teachers, on the other hand, seem to be overly concerned and tend to dismiss the advantages of AI. Bastani thinks that's because **students and teachers aren't yet trained on how to use AI effectively to augment traditional teaching methods.**

Bastani and her colleagues said the study is a "cautionary tale" about deploying AI in educational settings, and they remind everyone that the software still has significant limitations. ChatGPT, for example, is known to spit out false information known as hallucinations, which can also potentially harm student learning.

Just like in a workplace setting, **generative AI in the classroom still requires a lot of human finesse and fact-checking to make it valuable**, Bastani said.

AI in classrooms kill the basic skills that is the base for creativity – augmentation arguments are disproven by human compulsion

Addison Maille, 2-23-2024, "WILL AI DESTROY LEARNING?," [Addison Maille is a professional writer specializing in the field of artificial intelligence and tech updates based in Missouri],
<https://medium.com/@addisonmaille58/will-ai-help-or-hurt-learning-and-education-bddd504d476f>, DOA 2-28-2025 //wenzhuo

When we give technologies that can be used to augment human skills, the younger people tend to see it as a technology that can replace the need to learn. This is why **young people are increasingly bad at skills** such as math, driving, and even basic socializing. **Rather than doing the hard work to understand these critical skills, they just bypassed them to the extent they can with technology.** They let calculators do the math, driving assist modes monitor the traffic around them, and rely more on social media for their social skills than actual in-person interactions. This is not only a bad start to a learning revolution, but it sets a precedent that will cause them to think of technology from an entertainment and convenience perspective first and its learning potential second, if at all.

Then there's the loss of opportunities to learn that AI represents. **As we begin to lose more and more jobs to AI, we will be left with fewer and fewer real world opportunities to learn skills.** And this is no longer theoretical as Silicon Giants like Meta, formerly Facebook, and Alphabet, formerly Google, have already begun massive layoffs due to AI. And in Alphabet's case, they laid people off despite being very profitable. They literally didn't need as many programmers and other computer related professionals because of the efficiencies they gained through their use of their own AI. And this is only the beginning of this shift.

If we don't learn the basic skills, which is what entry level jobs have done in modern societies for more than a century, then we won't be any good at higher level skills. **All the talk of AI doing the drudgery work while humans focus on the more creative endeavors assumes that we have learned the basics.** We all used to understand this concept of learning basic skills before we move on to something more advanced. **Hence the expression you gotta learn to walk before you can run.** We have to learn how to count before we can do math. And we have to learn how to write simple small pieces such as paragraphs and essays before we can write longer form articles, books, and so on. **For every basic skill set that we remove from offer in either education and/or entry level jobs, the higher level creative work**

that requires those basic skills will no longer be available to future generations. In such a future, we won't be using AI to augment our skills. We will be dependent upon AI for those skills.

What AI represents is something that's novel to human advancement. All the advances in the history of Western culture has been one of increasing skill sets that people can learn. There have always been more specialties/skills to learn in industrial cities than there ever were in the farm. Throughout all increases in human understanding ranging from the transitions of the Stone Age to the Bronze Age and then the Iron Age to the invention of the printing press, the Industrial Revolution, and digital revolutions, the number of skills that humans could and needed to learn were constantly increasing.

AI represents the first real potential that due to technology, rather than a loss of technology, the skills on offer for humans to learn will actually get smaller and shallower. I don't care what correlations any historian tries to make about AI. When human learning plummets, as has happened a number of times when a sophisticated civilization falls to a much less sophisticated one, the loss of skills leads to a lessening of the human condition. From the dark ages to the loss of the library at Alexandria, for better or worse, when our learning starts declining, so do we.

Now is usually when we get the avalanche of techno-optimists that will chime in with statements how we can fix these problems and make these AI driven personal assistants incredibly robust, accurate, and superior in all ways despite difficulties in the past. Yes! Of Course! This Utopia will succeed... right... Oh Shit!

Computers tend to be good at creating compulsions, not motivation. Humans, at least some of us, are oddly good at motivating other humans. Our parents, teachers, siblings, and friends can all play pivotal roles in motivating us through a variety of ways to push ourselves academically, professionally, and so on. Other humans tend to be good at pushing us to be better ourselves. But computers, so far as I can see, are not good at motivating us to be the best version of ourselves. What they are good at is leading us to compulsions, or what you might call addictions.

Digital content is great at being addictive, but far less so at being motivational. Porn, video games, social media, online gambling, and many other examples don't have strong track records of motivating us to be the best versions of ourselves. As if to put an almost painfully on the nose example of this phenomenon, the vast majority of motivational content on the internet involves learning, the very thing that most of us don't use it for. Motivational books, podcasts, speakers, and more tend to be the elements of the online world where we learn the most. And even they have many well acknowledged downsides. They can be primarily summarized as creating a motivational treadmill that doesn't actually lead to any real action. Just the cathartic release that makes us feel like we made progress by taking in the content without any reciprocal actions.

Technology is far more likely to create what's known as a race to the bottom of the brain stem. It fiercely drives us to be the worst versions of ourselves in service of whatever compulsion we've acquired. While there may be a small number of successes found here or there, they are few and far between. Most people can't name any computer game, porn, or gambling site that's well known for bringing out the best in its heaviest users. And if the digital app and/or material isn't troublingly addictive, then it will usually get usurped by something that is.

While all this destruction to our learning is happening, the infrastructure we once relied on for education will crumble even more than it already has as a result. Teachers will turn into little more than student monitors and the most capable teachers will find work in other industries. As AI starts replacing teachers, we will lose what little expertise the field still has left. As we re-engineer education the people that still remember how to do it the old way will get filtered out for less skilled labor that's cheaper like we've seen in other service oriented jobs. This has been a common occurrence in practically every profession that's ever been automated.

The effects are empirically proven

Coldwell 24 [Will Coldwell, Freelance Writer at GQ, the Guardian, 12-15-2024, "I received a first but it felt tainted and undeserved": inside the university AI cheating crisis", The Guardian, DOA 3-6-2025 <https://www.theguardian.com/technology/2024/dec/15/i-received-a-first-but-it-felt-tainted-and-undeserved-inside-the-university-ai-cheating-crisis>] //dg

Two years have passed since ChatGPT was released into the world. It has shaken industries from film to media to medicine, and education is no different. Created by San Francisco-based OpenAI, it makes it possible for almost anyone to produce passable written work in seconds based on a few basic inputs. Many such tools are now available, such as Google's Gemini, Microsoft Copilot, Claude and Perplexity. These large language models absorb and process vast datasets, much like a human brain, in order to generate new material. For students, it's as close as you can get to a fairy godmother for a last-minute essay deadline. For educators, however, it's a nightmare.

More than half of students now use generative AI to help with their assessments, according to a survey by the Higher Education Policy Institute, and about 5% of students admit using it to cheat. In

November, Times Higher Education reported that, despite “patchy record keeping”, **cases appeared to be soaring at Russell Group universities, some of which had reported a 15-fold increase in cheating.** But confusion over how these tools should be used – if at all – has sown suspicion in institutions designed to be built on trust. Some believe that AI stands to revolutionise how people learn for the better, like a 24/7 personal tutor – Professor HAL, if you like. To others, it is an existential threat to the entire system of learning – a “plague upon education” as one op-ed for Inside Higher Ed put it – that stands to demolish the process of academic inquiry.

In the struggle to stuff the genie back in the bottle, universities have become locked in an escalating technological arms race, even turning to AI themselves to try to catch misconduct. Tutors are turning on students, students on each other and hardworking learners are being caught by the flak. It’s left many feeling pessimistic about the future of higher education. But is ChatGPT really the problem universities need to grapple with? Or is it something deeper?

Albert is not the only student to find himself wrongly accused of using AI. For many years, the main tool in the academy’s anti-cheating arsenal has been software, such as Turnitin, which scans submissions for signs of plagiarism. In 2023, Turnitin launched a new AI detection tool that assesses the proportion of the text that is likely to have been written by AI.

Amid the rush to counteract a surge in AI-written assignments, it seemed like a magic bullet. Since then, Turnitin has processed more than 130m papers and says it has flagged 3.5m as being 80% AI-written. But it is also not 100% reliable; there have been widely reported cases of false positives and some universities have chosen to opt out. Turnitin says the rate of error is below 1%, but considering the size of the student population, it is no wonder that many have found themselves in the line of fire.

There is also evidence that suggests AI detection tools disadvantage certain demographics. One study at Stanford found that a number of AI detectors have a bias towards non-English speakers, flagging their work 61% of the time, as opposed to 5% of native English speakers (Turnitin was not part of this particular study). Last month, Bloomberg Businessweek reported the case of a student with autism spectrum disorder whose work had been falsely flagged by a detection tool as being written by AI. She described being accused of cheating as like a “punch in the gut”. Neurodivergent students, as well as those who write using simpler language and syntax, appear to be disproportionately affected by these systems.

Dr Mike Perkins, a generative AI researcher at British University Vietnam, believes there are “significant limitations” to AI detection software. “All the research says time and time again that these tools are unreliable,” he told me. “And they are very easily tricked.” His own investigation found that AI detectors could detect AI text with an accuracy of 39.5%. **Following simple evasion techniques – such as minor manipulation to the text – the accuracy dropped to just 22.1%.**

The students you end up catching are the ones who are most at risk of their academic careers being damaged anyway

Dr Mike Perkins, generative AI researcher

As Perkins points out, those who do decide to cheat don’t simply cut and paste text from ChatGPT, they edit it, or mould it into their own work. There are also AI “humanisers”, such as CopyGenius and StealthGPT, the latter which boasts that it can produce undetectable content and claims to have helped half a million students produce nearly 5m papers. “The only students who don’t do that are really struggling, or they are not willing or able, to pay for the most advanced AI tools, like ChatGPT 4.0 or Gemini 1.5,” says Perkins. “And who you end up catching are the students who are most at risk of their academic careers being damaged anyway.”

If anyone knows what that feels like, it’s Emma. A year ago, she was expecting to receive the result of her coursework. Instead, an email pinged into her inbox informing her that she had scored a zero. “Concerns over plagiarism,” it read. Emma, a single parent studying for an arts degree, had been struggling that year. Studies, childcare, household chores... she was also squeezing in time to apply for part-time jobs to keep herself financially afloat. Amid all this, with deadlines stacking up, she’d been slowly lured in by the siren call of ChatGPT. At the time, she felt relief – an assignment, complete. Now, she felt petrified.

Emma, who also asked to remain anonymous, hadn’t given generative AI much thought before she used it. She hadn’t had time to. But there was a steady hum of chatter about it on her social media and when a bout of sickness led her to fall behind on her studies, and her mental capacity had run dry, she decided to take a closer look at what it could do. Logging on to ChatGPT, she could fast-track the last parts of the analysis, drop them into her essay and move on. “I knew what I was doing was wrong, but that feeling was completely overpowered by exhaustion,” she says. “I had nothing left to give, but I had to submit a completed piece of work.” When her tutor pulled up a report on their screen from Turnitin, showing an entire section had been flagged as having been written by AI, there was nothing Emma could think to do but confess.

Her case was referred to a misconduct panel, but in the end she was lucky. Her mitigating circumstances seemed to be taken into account and, though it surprised her – particularly since she had admitted to using ChatGPT – the panel decided that the specific claim of plagiarism could not be substantiated.

It was a relief, but mostly it was humiliating. “I received a first for that year,” says Emma, “but it felt tainted and undeserved.” The whole experience shook her – her degree, and future had hung in the balance – but she believes that universities could be more aware of the pressures that students are under, and better equip them to navigate these unfamiliar tools. “There are many reasons why students use AI,” she says. “And I expect that some of them aren’t aware that the manner in which they utilise it is unacceptable.”

Cheating or not, an atmosphere of suspicion has cast a shadow over campuses. One student told me they had been pulled into a misconduct hearing – despite having a low score on Turnitin’s AI detection tool – after a tutor was convinced the student had used ChatGPT, because some of his points had been structured in a list, which the chatbot has a tendency to do. Although he was eventually cleared, the experience “messed with my mental health,” he says. His confidence was severely knocked. “I wasn’t even using spellcheckers to help edit my work because I was so scared.”

Many academics seem to believe that “you can always tell” if an assignment was written by an AI, that they can pick up on the stylistic traits associated with these tools. Evidence is mounting to suggest they may be overestimating their ability. Researchers at the University of Reading recently conducted a blind test in which ChatGPT-written answers were submitted through the university’s own examination system: 94% of the AI submissions went undetected and received higher scores than those submitted by the humans.

Students are also turning on each other. David, an undergraduate student who also requested to remain anonymous, was working on a group project when one of his course mates sent over a suspiciously polished piece of work. The student, David explained, struggled with his English, “and that’s not their fault, but the report was honestly the best I’d ever seen”.

David ran the work through a couple of AI detectors that confirmed his suspicion, and he politely brought it up with the student. The student, of course, denied it. David didn’t feel there was much more he could do, but he made sure to “collect evidence” of their chat messages. “So, if our coursework gets flagged, then I can say I did check. I know people who have spent hours working on this and it only takes one to ruin the whole thing.”

David is by no means an AI naysayer. He has found it useful for revision, inputting study texts and asking ChatGPT to fire questions back for him to answer. But the endemic cheating all around him has been disheartening. “I’ve grown desensitised to it,” he says. “Half the students in my class are giving presentations that are clearly not their own work. If I was to react at every instance of AI being used, I would have gone crazy at this point.” Ultimately, David believes the students are only cheating themselves, but sometimes he wonders how this erosion of integrity will affect his own academic and professional life down the line. “What if I’m doing an MA, or in a job, and everyone got there just by cheating...”

What counts as cheating is determined, ultimately, by institutions and examiners. Many universities are already adapting their approach to assessment, penning “AI-positive” policies. At Cambridge University, for example, appropriate use of generative AI includes using it for an “overview of new concepts”, “as a collaborative coach”, or “supporting time management”. The university warns against over-reliance on these tools, which could limit a student’s ability to develop critical thinking skills. Some lecturers I spoke to said they felt that this sort of approach was helpful, but others said **it was capitulating. One conveyed frustration that her university didn’t seem to be taking academic misconduct seriously any more; she had received a “whispered warning” that she was no longer to refer cases where AI was suspected to the central disciplinary board.**

They all agreed that **a shift to different forms of teaching and assessment** – one-to-one tuition, viva voces and the like – would make it far harder for students to use AI to do the heavy lifting. “That’s how we’d need to do it, if we’re serious about authentically assessing students and not just churning them through a £9,000-a-year course hoping they don’t complain,” one lecturer at a redbrick university told me. “But that **would mean hiring staff, or reducing student numbers.**” **The pressures on his department are such, he says, that even lecturers have admitted using ChatGPT to dash out seminar and tutorial plans. No wonder students are at it, too.**

If anything, the AI cheating crisis has exposed how transactional the process of gaining a degree has become. Higher education is increasingly marketised; universities are cash-strapped, chasing customers at the expense of quality learning. Students, meanwhile, are labouring under financial pressures of their own, painfully aware that secure graduate careers are increasingly scarce. Just as the rise of essay mills coincided with the rapid expansion of higher education in the noughties, ChatGPT has struck at a time when a degree feels more devalued than ever.

The reasons why students cheat are complex. Studies have pointed to factors such as a pressure to perform, poor time management, or simply ignorance. It can also be fuelled by the culture at a university – and cheating is certainly hastened when an institution is perceived to not be

taking it seriously. But when it comes to tackling cheating, we often end up with the same answer: the staff-student relationship. This, wrote Dr Paula Miles in a recent paper on why students cheat, “is vital”, and it plays “a powerful role in helping to reduce cases of academic misconduct”. And right now, it seems that wherever human interactions are sparse, AI fills the gap.

Albert had to wait nervously for two months before he found out, thankfully, that he’d passed the module. It was a relief, though he couldn’t find out if the essay in question had been marked down. By then, however, the damage had been done. He had already been feeling out of place at the university and was considering dropping out. The misconduct hearing tipped him into making a decision, and he decided to transfer to a different institution for his second year.

C4 Misinformation

AI Hallucinates, Makes Errors

“What Is Hallucination (in Models like ChatGPT)? - University of Arizona

Libraries.” Arizona.edu, 2023,

ask.library.arizona.edu/faq/407990#:~:text=Question%20and%20Answer-,What%20is%20hallu

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ination%20(in%20models%20like%20ChatGPT)%3F,gives%20are%20just%20plain%20wrong. Accessed 23 Feb. 2025.

(University of Arizona 23) Hallucination is the word used to describe the situation when models like ChatGPT output false information as if it were true.

Even though the AI may sound very confident, sometimes the answers it gives are just plain wrong.

Why does this happen? AI tools like **ChatGPT are trained to predict what words should come next in the conversation you are having with it.** They are really good at putting together sentences that sound plausible and realistic.

However, **these AI models don't understand the meaning behind the words. They lack the logical reasoning to tell if what they are saying actually makes sense or is factually correct.** They were never designed to be search engines. Instead they might be thought of as “wordsmiths”—tools for summarizing,

outlining, brainstorming, and the like.

So we can't blindly trust that everything they say is accurate, even if it sounds convincing. It's always a good idea to double check important information against other reliable sources.

AI Going to Get Worse, Training on Itself

Bhatia, Aatish. “When A.I.’S Output Is a Threat to A.I. Itself.” Nytimes.com, The New York Times, 26 Aug. 2024, www.nytimes.com/interactive/2024/08/26/upshot/ai-synthetic-data.html

. Accessed 23 Feb. 2025.

(Bhatia 24) The internet is becoming awash in words and images generated by artificial intelligence.

Sam Altman, **OpenAI’s** chief executive, wrote in February that the company **generated about 100 billion words per day** — a million novels’ worth of text, every day, an unknown share of which finds its way onto the internet.

A.I.-generated text may show up as a restaurant review, a dating profile or a social media post. And it may show up as a news article, too: NewsGuard, a group that tracks online misinformation, recently identified over a thousand

websites that churn out error-prone [A.I.-generated news articles](#).

In reality, **with no foolproof methods to detect this kind of content, much will simply remain undetected.**

All this A.I.-generated information can make it harder for us to know what's real. And it also poses a problem for A.I. companies: **As they trawl the web for new data to train their next models on — an increasingly challenging task — they're likely to ingest some of their own A.I.-generated content, creating an unintentional feedback loop in which what was once the output from one A.I. becomes the input for another.**

In the long run, this cycle may pose a threat to A.I. itself. [Research has shown that](#) **when generative A.I. is trained on a lot of its own output, it can get a lot worse.**

Even the best AI models are only Correct 42% of the Time

Tangermann, Victor. "OpenAI Research Finds That Even Its Best Models Give Wrong Answers a Wild Proportion of the Time." *Futurism*, 2 Nov. 2024, futurism.com/the-byte/openai-research-best-models-wrong-answers. Accessed 23 Feb. 2025.

(Tangermann 24) OpenAI has released a new benchmark, dubbed "SimpleQA," that's designed to measure the accuracy of the output of its own and competing artificial intelligence models. In doing so, **the AI company has revealed just how bad its latest models are at providing correct answers.** In its own tests, **its cutting edge o1-preview model**, which was [released last month](#), **scored an abysmal 42.7 percent success rate** on the new benchmark.

In other words, **even the cream of the crop of recently announced large language models (LLMs) is far more likely to provide an outright incorrect answer than a right one** — a concerning indictment, especially as the tech is starting to pervade many aspects of our everyday lives.

Misinformation Hard to Spot, Particularly For Students

Wineburg, Sam, and Nadav Ziv. "What Makes Students (and the Rest of Us) Fall for AI Misinformation? (Opinion)." *Education Week*, 25 Oct. 2024, www.edweek.org/technology/opinion-what-makes-students-and-the-rest-of-us-fall-for-ai-misinformation/2024/10. Accessed 23 Feb. 2025.

(Wineburg 24)Four years ago during the 2020 election, we [warned](#) in the Los Angeles Times that **young people were struggling to spot disinformation** because of outdated lessons on navigating the internet. Today, educators risk making the same mistakes **with artificial intelligence**. With the election at our doorstep, the stakes couldn't be higher. [Previous work](#) by our research team, the [Digital Inquiry Group](#) (formerly the Stanford History Education Group), showed that **young people are easily deceived because they judge online content by how it looks and sounds**. **That's an even bigger problem with AI, which makes information feel persuasive even when it fabricates content and ignores context.** Educators must show students the limits of AI and teach them the basic skills of internet search for fact-checking what they see.

When it comes to AI, leaders preach "great excitement and appropriate caution," as Washington state Superintendent Chris Reykdal [put it](#) in a recent teachers' guide. He writes of a "full embrace of AI" that will put that state's public education system "at the forefront of innovation." New York City schools former chancellor, David C. Banks, who stepped down amid a federal investigation, said in September that AI can ["dramatically affect how we do school"](#) for the better. The "appropriate caution," however, remains a misty disclaimer. Washington state's guidelines, like [California's](#), [Oregon's](#), and [North Carolina's](#), rightly warn that **AI may be biased and inaccurate**. Washington state stresses that students shouldn't automatically trust the responses of large language models and should "critically evaluate" responses for bias. But this is like urging students in driver's education to be cautious without teaching them that they need to signal and check blind spots before passing the car ahead of them.

This pattern repeats the mistakes we saw with instruction on spotting unreliable information online: educators wrongly assuming that students can recognize danger and locate content that's reliable.

Massachusetts Institute of Technology professor Hal Abelson [tells students](#) that if they come across “something that sounds fishy,” they should say, “Well, maybe it’s not true.” But **students are in school precisely because they don’t know a lot. They are in the least position to know if something sounds fishy.**

Imagine a history student consulting an AI chatbot to probe the Battle of Lexington, as one of us recently tested. **The large language model says this conflagration, which launched the American Revolution, was initiated “by an unknown British soldier.” In truth, no one actually knows who fired first. The chatbot also reports that “two or three” British soldiers were killed during the skirmish. Wrong again. None was. Unless you’re a history buff, this information doesn’t sound “fishy.”**

A second danger is that **AI mimics the tone and cadence of human speech, tapping into an aesthetic of authority.** Presenting information with confidence is a trap, but an effective one: Our 2021 [national study](#) of 3,446 high school students reveals the extraordinary trust students place in information based on a website’s superficial features.

When **students conflate style with substance and lack background knowledge,** the last thing they should do is try to figure out if something “sounds fishy.” Instead, the detection of unreliable information and responsible use of AI rests on internet search skills that enable them to fact-check.

Impact

In Either Case, AI will prevent students from learning essential skills,

Chris **Westfall 24**, 12/18/2024, International keynote speaker, The Dark Side Of AI: Tracking The Decline Of Human Cognitive Skills, DOA: 3/02/2025,
<https://www.forbes.com/sites/chriswestfall/2024/12/18/the-dark-side-of-ai-tracking-the-decline-of-human-cognitive-skills/> JZ

The rise of artificial intelligence (AI) has brought about numerous innovations that have revolutionized industries, from healthcare and education to finance and entertainment. However, **alongside the seemingly limitless capabilities of ChatGPT and friends, we find a less-discussed consequence: the gradual decline of human cognitive skills.** Unlike earlier tools such as calculators and spreadsheets, which made specific tasks easier without fundamentally altering our ability to think, **AI is reshaping the way we process information and make decisions, often diminishing our reliance on our own cognitive abilities.**

AI: A Double-Edged Sword for Human Cognitive Skills

Tools like calculators and spreadsheets were designed to assist in specific tasks—such as arithmetic and data analysis—without fundamentally altering the way our brains process information. In fact, these tools still require us to understand the basics of the tasks at hand. For example, you need to understand what the formula does, and what output you are seeking, before you type it into Excel. **While these tools simplified calculations, they did not erode our ability to think critically or engage in problem-solving - the tools simply made life easier.** **AI** on the other

hand, is more complex in terms of its offerings - and cognitive impact. **As AI becomes more prevalent, effectively "thinking" for us**, scientists and business leaders are **concerned about the larger effects on our cognitive skills**.

Declining Cognitive Skills in Education

The effects of AI on cognitive development are already being identified in schools across the United States. In a report titled, "Generative AI Can Harm Learning", **researchers** at the University of Pennsylvania **found** that **students who relied on AI for practice problems performed worse** on tests compared to students who **completed assignments without AI assistance. This suggests that the use of AI in academic settings is not just an issue of convenience, but may be contributing to a decline in critical thinking skills.**

Furthermore, educational experts argue that **AI's increasing role in learning environments risks undermining the development of problem-solving abilities.** Students are increasingly being taught to accept AI-generated answers without fully understanding the underlying processes or concepts. **As AI becomes more ingrained in education, there is a concern that future generations may lack the capacity to engage in deeper intellectual exercises, relying on algorithms instead of their own analytical skills.**

The skills created by education are key to long term financial security.

Relx 20 [Sustainable Development Goals - Resource Centre; 2-7-2020, "What Is the Connection Between Education and Poverty?", <https://sdgresources.relx.com/features/what-connection-between-education-and-poverty>] sumzom

Education is a Key Factor in Poverty Reduction

Education is considered to be one of the most effective ways to combat poverty. It has been proven that **education has the power to transform people's lives and create opportunities for personal and economic growth.** In fact, research shows that every year of education can **increase an individual's income by up to 10%.** Education can also **provide people with the skills and knowledge they need to secure employment and become financially independent.**

Lack of Education Leads to Poverty

On the other hand, a **lack of education can perpetuate poverty** and hinder economic growth. When individuals **do not have access to education, they may not acquire the necessary skills and knowledge to find employment or create economic opportunities for themselves.** This can lead to a **cycle of poverty**, where individuals and families struggle to make ends meet and are unable to improve their standard of living.

automation is enabled by the formation of 'data lakes'—a repository that hosts multiple types of data for machine learning analysis and visualization in the cloud. The process of 'architecting a data lake' **involves the deployment of multiple AWS products** and functionalities, **including those for pulling data seamlessly from student information and learning management systems, and for handling the 'machine learning workload' of analysis.** AWS promotes full infrastructure migration to the cloud in terms of making everything from students and staff to estates and operational processes more intelligible from data, and **thereby more amenable to targeted action or intervention.** Through cloud migration and data lake architecting, **schools and universities are outsourcing a growing range of educational and administrative operations.** **This ultimately reflects a fresh hierarchical stratification of education, with [Amazon] AWS and its cloud firmly on top, followed by a sprawling ecology of edtech companies** that mediate between AWS **and the clients at the bottom: the schools and universities** that form the data lakes **from which [Amazon] AWS derives value.** Yet,

despite being highly consequential, **these infrastructural rearrangements remain opaque, hidden in proprietary 'black boxes', potentially resistant to autonomous institutional decisions, and extremely expensive and challenging to reverse.** 'Big tech' and 'state-like corporations' One key implication we detail in the paper is the growing role of multinational 'big tech' companies in education, and the complex ways they are advancing longstanding reform efforts to privatize and commercialize public education, albeit through new techno-economic business models and practices.