# **Neg tech for state main**

# **1NC—O/V**

### **First – You should be skeptical of AI’s effectiveness – almost no research supports it, and those studies which do, are corporate-funded and have methodological flaws.**

| **Williamson ‘24 concludes** (Ben Williamson is a Chancellor’s Fellow at the Centre for Research in Digital Education and the Edinburgh Futures Institute at the University of Edinburgh. Alex Molnar is a Research Professor at the University of Colorado Boulder. Faith Boninger is NEPC's Publications Manager and Co-Director of NEPC's Commercialism in Education Research Unit and holds a PhD from Ohio State University. Williamson, B. Molnar, A., & Boninger, F. (2024). “Time for a pause: Without effective public oversight, AI in schools will do more harm than good.” Boulder, CO: National Education Policy Center. <http://nepc.colorado.edu/publication/ai>) //Bellaire MC  AI in Education Since the 1960s, scientists and technology companies have explored ways to apply AI in education. AI in Education (AIED) is a major field of research and development.55 The AI applications being promoted to schools today were preceded in the 1960s and 1970s by “Intelligent Tutoring Systems” and “Computer Assisted Instruction” systems.56 Since the early 2000s, researchers have gathered, stored, and analyzed massive quantities of educational data with the intention of informing institutional and instructional strategies.57 These approaches are now routinely considered synonymous with AIED, and have also been rapidly commercialized by the ed tech industry.58 Most AIED applications employ big data and machine learning to produce various predictions and automated actions—such as predicting that a student may fail an assessment or creating a “personalized” intervention intended to produce a desired learning outcome.59 Research on AI in education has developed and tested various approaches and reported modest effectiveness on measurable learning achievement—performance on quizzes and tests, for example.60 Current excitement about its potential is motivating both public and private sources to generously fund researchers trying to find ways to improve learning outcomes using AI.61 However, the assumption that AI in education can be understood primarily as a technical matter best addressed by scientists and companies is increasingly challenged by researchers who argue that a narrowly technical perspective may lead to both bad policy and bad pedagogy.62 They point out that AI exists in social, economic, and political contexts that shape its development and uses.63 How AI is adopted by different educational stakeholders (including AIED researchers, ed tech entrepreneurs, corporate leaders, and policymakers) will have significant implications for its use in schools.64 The fact that entrepreneurs and corporations funded by venture capital and private equity are rushing to promote AI in education will inevitably narrow possible applications to those preferred by stakeholders with financial interests.65 Small-scale ed tech start-ups and Big Tech corporations alike see AI as an opportunity,66 leveraging popular hype to market such education products as personalized learning programs, automated lesson plan generators, and AI tutoring chatbots, called “tutorbots,” to schools.67 **Compelling evidence** for the effectiveness of tutorbots in education **remains scarce**,68 though this does not prevent entrepreneurs and researchers from proclaiming their usefulness.69 Policymakers routinely invoke AI rhetorically, calling on schools to embark on “digital transformation,”70 often with little attention to social, economic, legal, or ethical implications.71 These calls dovetail with existing political priorities on performance monitoring, account, ability, efficiency, and effectiveness—all of which require extensive collection of data about students.72 Although systems of test-based accountability have existed in schools since the 1990s,73 they will expand and intensify as AI is used to continuously monitor and assess student learning.74 As a result, commercial AI systems will increasingly serve as private actors in public education as schools, districts, and governments relinquish key tasks, functions, and responsibilities to third-party technology vendors.75 Existing and potential uses of AI in education are not merely innovative technical add-ons to teaching and learning practices or engineering solutions to schools’ existing pedagogic and administrative problems. Rather, AI in education has been spurred by multiple forces: longstanding efforts by scientists to measure, predict, and support learning processes and outcomes; commercial aspirations to profit from selling products to schools; and the political objective of being perceived as having improved school efficiency and accountability while cutting costs. As things currently stand, these ambitions have begun to coalesce into a vision of AI-driven schooling in which commercial products assess student learning, automate teaching, and make decisions about student progress. Inadequate Research Base¶ **Despite** the **extensive research in** the field of **AI** in **Education** (AIED) and the burgeoning¶ research on machine learning, **there is remarkably little evidence to support claims of AI’s**¶ **ability to “transform” schools.**76 While AIED researchers have produced many research findings, their studies tend to focus primarily on measures of individual student engagement¶ and performance (assessed by standardized achievements tests), or on “engineering” problems such as designing increasingly sophisticated algorithms and enhancing machine learning effectiveness.77¶ Overall, AIED **studies** tend to **find ambiguous results, lack independence and scale, and** fail¶ to address more fundamental questions about educational goals.78 AIED research therefore often promotes a view of education transformation as improving measurable individual outcomes despite very limited evidence that AI “works.”79 In effect, such studies **reduce**¶ well-researched and **nuanced theories of how humans learn** to whatever can be made **into**¶ **a** **mathematical** **model** (however complex), and they ignore the contested terrain of exactly¶ which goals and curriculum public schools should embrace.80 Moreover, claims that AI can¶ solve major educational problems—such as lack of qualified teachers, student underachievement, and educational inequalities—rely to a considerable extent on **conjecture rather than**¶ **evidence**.81¶ **Even more problematic are the serious methodological flaws** in machine learning research¶ that call into **question** the **validity of hundreds of studies.**82 The nature of the flaws, in general, leads toward “over optimism” with respect to the usefulness and value of machine¶ learning applications in a variety of fields.83 These findings are particularly concerning because they call into question not only commercial marketing claims, but also the scientific¶ evidence base supporting the widespread implementation of AI systems in all sectors,84 including education. Finally, because of the very high computing costs associated with running machine learning models, most [and] **researchers** have to rely on systems from the dominant AI companies themselves in order to conduct research85—the same corporations that often fund AI studies.86 This makes research **depend**ent **on corporate** resources, **funds**, and business practices, **giving AI firms considerable influence** over not only AI development, but also the academic research that depends on their systems.87 It also compromises an important part of the research process, which is reproducing findings to verify their validity. **When** a **company** changes or **stops** supporting **a particular model,** **researchers cannot reproduce studies conducted earlier.**88 This **renders** the **research** base **unstable and unverifiable**—and thus unusable as a basis for assessing subsequent models. |
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# **1NC—Education**

### **With that being said,**

# Our first contention is an educational downfall.

### **AI isn’t a magic fix—it’s a dangerous shortcut. Instead of solving education’s problems, it risks making them worse. This plays out in two key scenarios:**

## **Scenario 1 — Academic Dishonesty**

### **Students have very quickly turned to AI as Markley ‘24 reports:**

| Markley, T. (With over two decades of experience in education, Dr. Markley brings a wealth of knowledge to his work. He holds a Doctorate in Educational Leadership from Nova Southeastern University, an MSA in School Administration from Fayetteville State University, and a BA in History from the University of North Carolina Pembroke. His career includes transformative leadership as Superintendent of several school districts, where he spearheaded initiatives to improve student achievement, pass significant school bonds, and implement innovative programs. Recognized as a Southeast Regional Superintendent of the Year and a speaker at national educational conferences, Dr. Markley combines his deep understanding of educational systems with a commitment to student advocacy. He also contributes to higher education as a University Field Supervisor at Appalachian State University, mentoring future educators.)(2024). K Altman Law. [online] K Altman Law. Available at: <https://www.kaltmanlaw.com/post/ai-cheating-in-higher-education#:~:text=While%20AI%20tools%20can%20enhance%20learning%2C%20they%20also,the%20rapid%20adoption%20of%20AI%20tools%20among%20students> [Accessed 23 Feb. 2025]. // JA CCHS  ‌The advent of artificial intelligence (AI) has revolutionized education, offering both groundbreaking opportunities and complex challenges. While AI tools can enhance learning, they also present new avenues for academic dishonesty, leading to increasing concerns about their misuse in higher education. Prevalence of AI Usage **Among Students Recent studies underscore the rapid adoption of AI tools among students. A survey by BestColleges revealed that 56% of college students have used AI for assignments or exams. Similarly, research from Nerdynav found that 43% of students admitted to using tools like ChatGPT, with 89% leveraging them for homework, 53% for essays, and 48% for at-home tests.** This widespread usage highlights the urgent need for institutions to address how these tools are being utilized in academic contexts. Perception of AI as Cheating The question of whether AI-assisted work constitutes cheating is divisive. BestColleges reported that 50% of students view AI usage for assignments or exams as a form of cheating or plagiarism, while the other half do not share this perception. This discrepancy signals a need for clearer institutional policies and student education to align understanding of ethical AI use. Faculty Concerns and Detection Challenges Educators are increasingly alarmed by the ease with which students can use AI to sidestep academic standards**. A Wiley survey indicated that 96% of instructors believe at least some students have cheated in the past year, with AI tools frequently cited as contributing to this trend.** Detecting AI-generated content is a formidable challenge. Traditional plagiarism detection tools are often ineffective, and even AI-specific detectors can yield false positives, creating further complications for institutions. |
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### **Specifically, teachers are finding it difficult to detect the difference between human and AI output. Geist ‘24 confirms:**

| Geist, A. (2024) (Staff Reporter at yale news). Readers can’t accurately distinguish between AI and human essays, researchers find. [online] Yale Daily News. Available at: https://yaledailynews.com/blog/2024/11/18/readers-cant-accurately-distinguish-between-ai-and-human-essays-researchers-find/ [Accessed 23 Feb. 2025]. // JA CCHS  **Research suggests readers struggle to tell the difference between human and artificial intelligence-generated essays.** In a project organized by four researchers, including three from the School of Medicine, researchers tasked readers with blindly reviewing 34 essays, 22 of which were human-written and 12 which were generated by artificial intelligence. Typically, they rated the composition and structure of the AI-generated essays higher. However, if they believed an essay was AI-generated, they were less likely to rank it as one of the overall best essays. **Ultimately, the readers only accurately distinguished between AI and human essays 50 percent of the time, raising questions about the role of AI in academia and education.** “How would we even know, other than the word of the author, whether the paper was assisted by generative AI?” Dr. Lee Schwamm, associate dean of digital strategy and transformation at the School of Medicine, said. |
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### **And, there is no tool that can perfectly detect AI as Shabanov ‘24 highlights:**

| Ilya Shabanov (2024) (Not your average scientist. I spent 12 years in industry, co-founded a brain training startup NeuroNation, ran a web design firm and only at 36 decided to do a PhD in biology.) . How reliable are AI detectors for academic text and should you use AI for writing? - The Effortless Academic. [online] The Effortless Academic. Available at: https://effortlessacademic.com/how-reliable-are-ai-detectors/ [Accessed 23 Feb. 2025]. // JA CCHS  **On average, numerous studies support the claim that AI detection is unreliable**. Here is the accuracy of various tools from one of the most cited AI detection studies (Weber-Wulff 2023): The authors conclude their work with a stark warning that academics shouldn’t rely on any of these tools: Our findings do not confirm the claims presented by the systems. **They too often present false positives and false negatives. Moreover, it is too easy to game the systems by using paraphrasing tools or machine translation. Therefore, our conclusion is that the systems we tested should not be used in academic settings.** |
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### **With this, the rates of academic dishonesty have dramatically increased as Colby ‘24 writes:**

| Colby, E. (2024) (Senior Manager, Global Communications at Wiley). AI Has Hurt Academic Integrity in College Courses but Can Also Enhance Learning, Say Instructors, Students. [online] Wiley.com. Available at: https://newsroom.wiley.com/press-releases/press-release-details/2024/AI-Has-Hurt-Academic-Integrity-in-College-Courses-but-Can-Also-Enhance-Learning-Say-Instructors-Students/default.aspx#:~:text=And%20more%20than%20half%20(53,of%20increased%20use%20of%20AI. [Accessed 23 Feb. 2025]. // JA CCHS  Hoboken, NJ—College instructors and students have mixed feelings about the use of artificial intelligence (AI) in postsecondary classes, with worries about academic integrity countered by the hope that AI can also be used to enhance learning. But despite their mixed feelings, both instructors and students agree that AI is here to stay. These findings come from The Latest Insights into Academic Integrity: Instructor & Student Experiences, Attitudes, and the Impact of AI 2024 Update, a new report from Wiley (NYSE: WLY), one of the world’s largest publishers and a global leader in research and learning. The results were gathered in surveys with college instructors and students across North America. The results of Wiley’s survey show both instructors and students believe cheating is on the rise in college classrooms. **Nearly all instructors (96%) say they believe at least some of their students cheated over the past year, a substantial increase from 72% in Wiley’s 2021 survey. And more than half (53%) of students say there’s more cheating now than [2023] last year, with 23% saying significantly more. The majority of both students and instructors also believe cheating will increase in the next few years, largely because of increased use of AI.** And instructors worry that AI could negatively impact student’s critical thinking and writing skills. On the other hand, both students and instructors believe AI can help generate ideas, save time, and assist learners with understanding difficult content if used appropriately. “While students and instructors have a general belief that AI will be used in ways that are detrimental to academic integrity, they also seem to sense that AI can benefit learning when used the right way,” said Lyssa Vanderbeek, Wiley group vice president for courseware. “These beliefs will continue to change as instructors and students gain more experience with AI and as the tools that leverage AI continue to evolve.” “These data drive home the need for faculty to rethink our learning outcomes, teaching strategies and assessments,” said David A. Rettinger, applied professor of psychology at the University of Tulsa and coauthor of the book Cheating Academic Integrity: Lessons from 30 Years of Research. “AI will affect every aspect of learning, and faculty must determine whether the impact is positive or negative. AI is disruptive. It is not a fad that we can ignore and hope it goes out of style.” Use of AI Limited The findings suggest many of the attitudes expressed by students and especially instructors may not be based on actual experience. Use of AI is much more widespread among students than instructors, yet fewer than half (45%) of students say they’ve used AI in the classes the past year. Only 15% of instructors say the same. Students are most likely to have used generative AI tools to help with writing assignments, to brainstorm and generate ideas, and to help understand difficult concepts. Students who have not used AI in their classes in the past year say it is because they don’t trust AI tools, they are concerned their instructor would think they were cheating, and/or they’re not familiar with how to use AI tools. Deterring Cheating Instructors plan to make a variety of changes to help protect academic integrity and avoid misuse of AI. These plans include using different types of assessments, such as more in-person exams, and more communication to students on the negative consequences of cheating and methods used to detect cheating attempts. The findings suggest demonstrating how classes are relevant to students and their career goals could also help. Instructors clearly express a need for guidance on how to properly use AI and tools to deal with academic misconduct enabled or encouraged by AI. Wiley includes an academic integrity assignment for students in all of its WileyPLUS, Knewton Alta, and zyBooks courses which gives them feedback on what behaviors are and aren’t appropriate from an academic integrity standpoint. It also employs techniques and enhancements within its courseware to promote academic integrity, including specific tools such as Similarity Checker, Coding Trail, and Playback History. In addition, Wiley works to educate instructors about teaching strategies proven to reduce academic dishonesty and has conducted research on methods to improve academic integrity, such as Impact of Several Low-Effort Cheating-Reduction Methods in a CS1 Class, which found that low-effort actions by instructors can lead to substantial behavior improvements. Methodology **The results of this report are based on surveys completed in March 2024 by 850 college instructors and 2,067 students across the U.S. and Canada. The full report can be accessed here.** |
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### **This has translated into an increase in plagiarism by students. Chen et al ‘24 explain:**

| Chen, B., Lewis, C.M (Affiliated with UIUC)., West, M. and Zilles, C. (2024). Plagiarism in the Age of Generative AI: Cheating Method Change and Learning Loss in an Intro to CS Course. Plagiarism in the Age of Generative AI: Cheating Method Change and Learning Loss in an Intro to CS Course. doi:<https://doi.org/10.1145/3657604.3662046>. // JA CCHS  **Background: ChatGPT became widespread in early 2023 and enabled the broader public to use powerful generative AI, creating a new means for students to complete course assessments**. Purpose: In this paper, we explored the degree to which generative AI impacted the frequency and nature of cheating in a large introductory programming course. We also estimate the learning impact of students choosing to submit plagiarized work rather than their own work. Methods: We identified a collection of markers that we believe are indicative of plagiarism in this course. We compare the estimated prevalence of cheating in the semesters before and during which ChatGPT became widely available. **We use linear regression to estimate the impact of students’ patterns of cheating on their final exam performance. Findings: The patterns associated with these plagiarism markers suggest that the quantity of plagiarism increased with the advent of generative AI, and we see evidence of a shift from online plagiarism hubs (e.g., Chegg, CourseHero) to ChatGPT. In addition,** we observe statistically significant learning losses proportional to the amount of presumed plagiarism, but there is no statistical difference on the proportionality between semesters. Implications: **Our findings suggest that unproctored exams [have] become increasingly insecure and care needs to be taken to ensure the validity of summative assessments.** More importantly, our results suggest that generative AI can be detrimental to students’ learning. It seems necessary for educators to reduce the benefit of students using generative AI for counterproductive purposes. |
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### **This is detrimental for the trust between students and teachers. Talbert ‘06 confirms:**

| Talbert, R. (2006) (Robert Talbert is a mathematician and educator with interests in cryptology, computer science, and STEM education. He is affiliated with the mathematics department at Grand Valley State University.). Four reasons why academic dishonesty is bad. [online] The Chronicle of Higher Education. Available at: https://www.chronicle.com/blognetwork/castingoutnines/four-reasons-why-academic-dishonesty-is-bad [Accessed 23 Feb. 2025]. // JA CCHS  **Academic dishonesty makes student assessment unreliable.** When I give a piece of work to be graded, the reason I do so is that the grades I get back constitute data -- data from which can extract information about how students are doing and adujst my teaching accordingly. If a student fakes his or her own work, through plagiarism or cheat notes or whatever, the data that I get don’t tell me truthful information that I can act upon. **More importantly, the intellectual needs of students go unmet because according to the data, everything is going well, when everything is not going well.** One corollary of this idea: It is not the case that academic dishonesty hurts only the students involved. It hurts all the students in the class who have the same needs as the cheater. **Academic dishonesty erodes the mutual trust between students and faculty that is at the core of higher ed. Students trust faculty to be knowledgeable in their fields and truthful in their teaching.** Faculty trust students to give true information about their progress via graded work. In other words, I’ll teach you what you truly need to know, and you tell me truly how you’re doing in your work. That combination of truthfulness and trust should create a sort of spiral where one by one, student misunderstandings are removed and true mastery is attained. **A breakdown on either end corrupts the entire process. And it only takes one instance of a breach of trust. If a student cheats or plagiarizes, that student’s work is suspect for the duration -- even if the student learned his/her lesson and the suspicion is misplaced.** |
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### **Trust is an essential part of learning, and losing it ruins the foundation of education for millions of students. Varthana ‘23 confirms:**

| Varthana. (2023) (Varthana was founded with a vision to transform affordable education in India by supporting the country’s many private school leaders.). Why is Building Trust Between Teachers and Students Essential? [online] Available at: https://varthana.com/school/why-is-building-trust-between-teachers-and-students-essential/ [Accessed 23 Feb. 2025]. // JA CCHS  **Trust is fundamental in a teacher-student relationship because it forms the basic foundation of learning. When students believe in their teacher, they feel safe to ask questions, share their thoughts, and take risks without judgement of others. Trust [because it] fosters open verbal exchange, allowing teachers to provide constructive feedback and support each student’s needs.** It additionally encourages collaboration and mutual appreciation, growing a sense of belonging within the classroom. **With trust, students are more inspired to actively engage in lessons and participate in class discussions.** Moreover, it strengthens the bond among teacher and student, leading to a supportive and nurturing learning environment where students can thrive each academically and emotionally. Through the development of trust and nurturing a healthy relationship, teachers and students begin to value each other’s individuality, show mutual respect, and exhibit polite behavior. Positive relationships with students help create a safe learning environment within the classroom. **In terms of academic learning, trust significantly promotes students’ acquisition of knowledge. Trust in the academic educational process goes beyond gaining knowledge; it also aims to help students become more confident.** Trust makes students feel safe and loved, enabling their minds to explore, play, and collaborate. |
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## **That is key to reducing poverty**

## **UNESCO 17** [UNESCO (global UN organization), "World poverty could be cut in half if all adults completed secondary education", 02/06/2017, UNESCO, https://www.unesco.org/gem-report/en/articles/world-poverty-could-be-cut-half-if-all-adults-completed-secondary-education, Accessed 03/07/2025] //ejs squad

## A new UNESCO policy paper shows that the global **poverty** rate **could be more than halved if all** adults **completed** secondary school. Yet, new data from the UNESCO Institute for Statistics (UIS) show persistently high out-of-school rates in many countries, making it likely that completion levels in **education** will remain well below that target for generations to come.

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## **Scenario 2 — Critical Thinking**

### **Smith ‘95 explains:**

| An Invitation to Cognitive Science. (1995). [online] The MIT Press eBooks. The MIT Press. doi:<https://doi.org/10.7551/mitpress/3966.001.0001>. No author quals old ahh author // JA CCHS  **‌The ability to solve problems is one of the most important manifestations of human thinking.** The range of problems people encounter is enormous: planning a dinner party, tracking deer, diagnosing a disease, winning a game of chess, solving mathematical equations, managing a business. This radical diversity of problem domains contrasts with the relative specificity of many human cognitive activities, such as vision, language, basic motor skills, and memory activation, which have a relatively direct biological basis and which all normal individuals accomplish with substantially uniform proficiency. **In the course of normal development we all learn, for example, to speak a native language, but without specialized experience we will never acquire competence in deer tracking or chess playing.** On the other hand, all normal people do acquire considerable competence in solving at least some of the particular types of problems they habitually encounter in everyday life. **We might therefore suspect that problem solving depends on general cognitive abilities that can potentially be applied to an extremely broad range of domains. We will see, in fact, that such diverse cognitive abilities as perception, language, sequencing of actions, memory, categorization, judgment, and choice all play important roles in human problem solving. The ability to solve problems is clearly a crucial component of intelligence.** |
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### **However, employing AI degrades educational quality and critical thinking. Ma ‘24 reports:**

| Ma, L., Lybi Ma is the Executive Editor of Psychology Today, (2024). AI Eases Our Mental Load at the Expense of Critical Thinking. [online] Psychology Today. Available at: <https://www.psychologytoday.com/us/blog/the-art-of-critical-thinking/202410/ai-eases-our-mental-load-at-the-expense-of-critical> [Accessed 23 Feb. 2025]. // JA CCHS  **A new study of students at a German university has found that employing ChatGPT in the search for information makes the work easier and reduces mental load, but it comes at the expense of quality arguments, grades, and critical thinking.** Ultimately, using it created superficial assignment results. The study was established specifically to measure both the cognitive load of students, and the quality and diversity of their arguments. It split students into two groups: those who used AI, and those who used traditional search methods, and tasked them with researching information about the safety of sun cream for their fictional friend “Paul.” Students were asked to draw conclusions and give advice to Paul, who had concerns over the safety of some ingredients. **The study found that: Students using AI (large language models - LLM) had a lower cognitive load and less stress** There was no significant difference between the diversity of their arguments, suggesting that AI does not specifically lead to homogenous conclusions Students that use AI have weaker reasoning in their arguments, likely because of lower engagement with the content and significantly reduced critical thinking. The ultimate conclusion was that use of AI can help improve student experience because it provides direct answers rather than needing a student to draw their own conclusions, but it currently comes at the cost of deep engagement and high-quality learning, with recommendation that the study be extended beyond the original pool of 91 students. What’s more, the study did not provide scope for evaluating the quality of their LLM queries, which could – in other studies – lead to misleading or misinformed answers. **The study highlights one of the key concerns over AI, in that individuals that default to [AI] using it may lose skills that are essential in recognising how accurate information is and whether the information could be being used to intentionally mislead (disinformation). Otherwise known as critical thinking skills, the pursuit of knowledge and accuracy [which] is essential in navigating the world of ever-increasing data points, and the flood of infor- mation we are receiving from real-world encounters, social media feeds, news engines, magazines, broadcast, and other forms of digital media.** AI offers a service of immediacy while aggregating multiple sources, but often loses or eliminates the nuance of that information and the opportunity for depth of learning. This is particularly important as highlighted by Rainie and colleagues, 2019, given that a large majority of participants from an American study (81 percent) report they rely on their own web research over friends and family (43 percent) or professional experts (31 percent) when gathering information before making an important decision. “While LLMs like ChatGPT offer an efficient way to reduce intrinsic and extraneous cognitive load, they may not always facilitate the deep learning necessary for complex decision-making tasks. Traditional search engines, by necessitating more active engage- ment, may promote a higher quality of learning, underscoring the need for educational practices that encourage critical engagement with diverse information sources,” study authors concluded. |
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### **Specifically, a research study by Zhang et al ‘24 illustrates:**

| Zhang, S., Zhao, X., Zhou, T. and Kim, J.H., Affiliated with Northeastern University (2024). Do you have AI dependency? The roles of academic self-efficacy, academic stress, and performance expectations on problematic AI usage behavior. International Journal of Educational Technology in Higher Education, [online] 21(1). doi:<https://doi.org/10.1186/s41239-024-00467-0>. /// JA CCHS  Conclusions To investigate the internal antecedents and potential consequences of AI dependency, this study examined the relationships among academic self-efficacy, academic stress, performance expectations, and AI dependency using the I-PACE model. **Using a sample of 300 college students in Seoul, South Korea, the results showed that academic self-efficacy was not significantly associated with AI dependency.** However, this association was mediated by academic stress and performance expectations. **The consequences of AI dependency varied; the top five negative effects were increased laziness, the spread of misinformation, decreased creativity, and reduced critical and independent thinking.** This study theoretically expanded on previous studies by providing potential intervention recommendations to reduce students’ AI dependency. |
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### **Luu ‘24 confirms:**

| Luu, E. Report for Los Angeles Times with multiple published articles(2024). The effects of AI on education. [online] HS Insider. Available at: <https://highschool.latimes.com/opinion/the-effects-of-ai-on-education/#:~:text=Another%20major%20disadvantage%20of%20AI,learning%20and%20developing%20their%20brains> . [Accessed 21 Feb. 2025]. // JA CCHS  One major consequence of newly created artificial intelligence on education is the lack of human interaction. Even though AI can give students personalized educational services, it cannot replace human teachers who provide face-to-face interactions. Teachers can humanly interact, discuss, and provide feedback unlike AI could ever. They are crucial in students’ development not only in their academic careers but also as they develop social skills, as advocated by Teachers of Tomorrow. Teachers provide a sense of physical interaction that artificial intelligence could never replace. As seen through the global pandemic, human interaction is necessary for an individual’s overall well-being. **AI could potentially result in decreased human interaction and end up leading to detrimental educational experiences. Another major disadvantage of AI in education is the dependence on it involving the educational process. Artificial intelligence can complete difficult, lengthy assignments almost instantaneously [thus] and students may become overly dependent on technology for tasks where they could be learning and developing their brains.** Students gain problem-solving skills and work ethic from completing assignments in their academic careers that prepare them for their futures. Relying on AI to complete these tasks where they should be learning **can be dangerous for individuals in the long run when they have no ability to think independently.** While the negative impacts of AI seem severe and hopeless, some solutions may work. For the first negative impact of decreased human interaction, current teachers could try using AI tools as a way to enhance their curriculums rather than allowing the programs to replace them entirely. Daniel Schwartz, the Dean of the Graduate School of Education at Stanford University, said in his opening remarks at the recent AI+Education summit, “I want to emphasize that a lot of AI is also going to automate really bad ways of teaching. So [we need to] think about it as a way of creating new types of teaching.” He perfectly described how educators should not run away from AI and try to avoid it entirely and rather use it as a way to better education and make it a resource students can benefit from. If this is done students will still have teachers and their human interactions and the enhanced content of education from artificial intelligence. |
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### **The impact is job loss.**

**Critical thinking is critical to getting jobs**

**Georgetown University 20** [Georgetown University (Georgetown University is a private Jesuit research university in Washington, D.C., United States.), "Recovery: Job Growth and Education requirements", 2020, Georgetown University, https://cew.georgetown.edu/wp-content/uploads/2014/11/Recovery2020.ES\_.Web\_.pdf, Accessed 03/07/2025] //ejs squad

**Of all occupations, 96 percent require critical thinking** and active listening **to be** either very important or **extremely important** to success.

**That’s terrible because employment is key to getting out of poverty**

**Vaalavuo 21** [Maria Vaalavuo (Finnish Institute for Health and Welfare, Helsinki, Finland), "Jobs against poverty: a fixed-effects analysis on the link between gaining employment and exiting poverty in Europe", 06/03/2021, Taylor & Francis, https://www.tandfonline.com/doi/full/10.1080/14616696.2022.2088821, Accessed 03/07/2025] //ejs squad

This article analyses the role of gaining employment in escaping poverty at the individual level by using EU-SILC pooled panel data for 2010–2017 for 30 European countries. We assess this in a dynamic research setting using individual fixed effects that take into account unobserved time-invariant heterogeneity between individuals. We focus on the type and intensity of employment and the role of gender, education, and age. Overall, gaining **employment increased the chances of exiting poverty by 33 percent**age points among men and 30 percentage points among women. Shorter employment spells and part-time employment were less effective routes out of poverty. The results also suggest that poor individuals with higher education were more likely to benefit from employment to exit poverty. We found substantial cross-country variation. However, the unemployment rate, prevalence of precarious employment or spending on active labour market policies did not moderate the association between gaining employment and exiting poverty. Further analysis is needed on the institutional factors supporting poor people’s employment and its effectiveness in significantly improving income level.

**Overall poverty is devastating,**

**PPC 23** [PPC (The Poor People's Campaign, launched by Martin Luther King Jr. in 1968, aimed to address economic inequality and poverty through nonviolent direct action, demanding economic and human rights for poor Americans of diverse backgrounds, and focusing on issues like jobs, housing, and healthcare. ), "2023 National Fact Sheet", 06/16/2023, Poor People's Campaign, https://www.poorpeoplescampaign.org/resource/2023-national-fact-sheet/, Accessed 03/07/2025] //ejs squad

These tens of millions of people live in every region, state and county in the country. Poverty was the fourth leading cause of death, claiming more lives than homicide, gun violence, diabetes or obesity. Long-term **poverty was responsible for 295,000 deaths a year – or over 800 deaths a day.**

# Contention 2: Costs

**Integration of gen AI is a blatant attempt at corporate takeover of schools**

**Professors Williamson from the University of Edinburgh finds in 2024** (Ben Williamson is a Chancellor’s Fellow at the Centre for Research in Digital Education and the Edinburgh Futures Institute at the University of Edinburgh. Alex Molnar is a Research Professor at the University of Colorado Boulder. Faith Boninger is NEPC's Publications Manager and Co-Director of NEPC's Commercialism in Education Research Unit and holds a PhD from Ohio State University. Williamson, B. Molnar, A., & Boninger, F. (2024). “Time for a pause: Without effective public oversight, AI in schools will do more harm than good.” Boulder, CO: National Education Policy Center.<http://nepc.colorado.edu/publication/ai>) //Bellaire MC

School administrators and teachers already use an array of digital educational technologies in teaching and management.10 Their use has increasingly **obscured educational decision-making**, made a mockery of student privacy rights, and allowed student data to be exploited for non-school purposes.11 In the absence of effective public oversight, the introduction of AI systems and applications in education will likely intensify these problems and **create many more**.12,13 As existing school-focused platforms and applications are updated to include AI, the immediate danger facing educators is not a future apocalypse. Instead, the danger is that AI models and applications will become enmeshed in school processes and procedures in ways that allow **private entities** to **increasingly control** the structure and content of public education, to **reinforce surveillance** practices, and to **amplify existing biases** and inequalities.14 For decades, academic researchers have worked on AI models for use in schools.15 Today, however, it is commercial enterprises that are **aggressively pushing AI** (and its attendant risks) into classrooms.16 The campaign to promote AI in education follows the logic of a half century of commercial, political, and ideological efforts to privatize and **commercialize education.**17 Given this logic it is not surprising that, despite the known dangers, corporations, private researchers, and governments are aggressively promoting the use of AI18 before a statutory and regulatory framework has been put in place to ensure that AI programs are transparent and subject to effective public scrutiny and control.19 This puts schools under tremendous pressure to accept AI as an inevitable upgrade to existing processes.20 Computer scientists and software developers focus primarily on technical engineering questions21 and corporate leaders and **investors prioritize profit** 22 over the common good. Nevertheless, educators are being asked to trust that these people, who have **no educational expertise** and who stand to **financially benefit** when AI is used in schools, are best suited to imagine and lead educational transformation.

**AI systems take money from poor districts.**

**Williamson et.al 24** (Ben Williamson is a Chancellor’s Fellow at the Centre for Research in Digital Education and the Edinburgh Futures Institute at the University of Edinburgh. Alex Molnar is a Research Professor at the University of Colorado Boulder. Faith Boninger is NEPC's Publications Manager and Co-Director of NEPC's Commercialism in Education Research Unit and holds a PhD from Ohio State University. Williamson, B. Molnar, A., & Boninger, F. (2024). “Time for a pause: Without effective public oversight, AI in schools will do more harm than good.” Boulder, CO: National Education Policy Center.<http://nepc.colorado.edu/publication/ai>) //Bellaire MC

Dangers in Administration¶ Increased Costs¶ Learning management systems already used in many schools, such as Google Classroom,¶ Blackboard, and Canvas, are beginning to integrate AI into their platforms.150 Google Classroom, with its suite of nominally “free” software and low-cost Chromebook hardware, dominates the market.151 It has already announced the launch of AI-based adaptive learning addons to Classroom, with associated additional costs for schools, as well as plans to upgrade¶ Classroom further with generative language AI.152 “Practice Sets” is Google’s AI-based adaptive learning system for education, and “Duet AI” is its “collaboration partner” for teachers.153 In addition to any pedagogical implications associated with using Google Classroom,¶ its integration of further AI and automation into many aspects of school functioning also¶ carries potentially significant administrative implications.154¶ The most significant of these is to obscure the rationale for administrative decisions about¶ critical institutional issues when decision-making is ceded to opaque machine learning systems controlled by tech firms. Google Classroom, for example, integrates with hundreds of¶ other ed tech products and can synchronize with a school’s student information systems.155¶ It offers Google cloud services such as single sign-on, identity management, and device management, as well as plagiarism detection, automated grading, teaching templates, student¶ grouping, and administrative analytics to facilitate “data-driven decisions.”156 Such management systems facilitate the **transfer of control** of schools from the **public to private** corporations by acting as central conduits through which all of a school’s digital activities must¶ pass—making it hard for educators or administrators to see how any decisions based on the¶ data have been made.157¶ Because running AI is costly, the use of AI programs in schools will necessarily require¶ schools to pay for operating costs for an increasing number of pedagogic and administrative¶ AI applications. The promise that AI can save schools money by reducing staffing costs is¶ likely illusory, as schools will probably be required to pay costly fees for accessing AI facilities. In other words, rather than saving money, administrative applications are more likely¶ to shift existing funds to monopolistic technology providers.¶ Khanmigo and Google Classroom already illustrate how this works. Khan Academy, when it¶ provides Khanmigo to districts, currently charges those districts **$60 per student** for annual¶ use, citing high computing costs associated with OpenAI’s GPT-4 as the justification for the charges.158 Likewise, districts must also pay for Google Classroom’s AI upgrades. To access¶ its latest adaptive learning application, Practice Sets, they must switch from the free basic¶ offering to a for-fee premium package.159 In other words, tech firms are **extracting value**¶ from school budgets to defray the high computing costs associated with AI (and grow company value).160

Increased Threats to Student Privacy¶ AI applications collect and aggregate data in order to function. In so doing, they normalize digital surveillance and privacy invasions in school.161 In practice, education technology¶ companies use applications like Google Classroom to routinely collect as much data as possible, well beyond that required to perform their assigned tasks.162¶ Although proponents of using AI in education tend to emphasize the efficiency of data-driven¶ administrative systems, privacy-related threats to equity are inherent in it.163 This is because¶ AI models are built using massive data sets that can be used to profile, compare, and assess¶ individuals who are then subject to potentially discriminatory decisions based on “statistical¶ dossiers” of their personal lives.164 Thus, a significant danger of digital technology in general,¶ and of the privacy-invasive model of AI in particular, is that they can reproduce and amplify¶ existing forms of inequality in education by using datasets containing examples of historic¶ bias and discrimination.165 For example, if a big data set indicates that certain marginalized¶ groups have underperformed historically, then a software application may be biased against¶ individuals from such groups in the future, singling out and targeting them as “at-risk” and¶ closing down or limiting their opportunities to access information and resources.166¶ Moreover, school data systems are vulnerable to breaches, hacks, ransomware, and denial-of-service attacks.167 A data breach at the student-tracking ed tech company Illuminate,¶ for example, compromised the educational data of at least a million public school students¶ and prompted New York City’s Department of Education to ask schools to stop using Illuminate’s products.168 School data systems feature highly detailed and intimate student¶ information, including personal and demographic data, grades, attendance, behavioral information, and other confidential information. Increasing AI capacity in ed tech products¶ may exacerbate these vulnerabilities, as student data are collected at even greater scale by a¶ wide range of companies—including AI companies—that offer only vague data privacy protections.169 Reduced Transparency and Accountability¶ Finally, enabling AI to play a role in school administration will reduce the transparency and¶ accountability of decision-making.170 Many digital products already used in schools are neither transparent nor accountable because current law and regulation allows companies to¶ shield the inner working of their products behind proprietary protections.171¶ AI is even more opaque than other digital programs.172 Black box machine learning and AI¶ models are so complicated that their outputs are often impossible to explain or interpret.173¶ Although in many cases simpler and more accessible statistical models can produce equally accurate results, companies benefit from selling access to proprietary models that require¶ customers to trust the systems and simply accept being unable to verify results.174 If the¶ system makes a mistake, it might never be identified or redressed and the public suffers the¶ consequences. For example, the facial identification systems used for remote testing often¶ fail to accurately identify individuals or mistakenly flag student behaviors as suspicious, but¶ they are very hard for students to challenge.175¶ In high-stakes decision-making in a sector like education, allowing such impenetrable models to assume responsibility for key administrative procedures necessarily means the creation of schools in which school leaders and teachers will be unable to exercise judgment,¶ provide a rationale, or take responsibility for classroom and institutional decisions.176¶ Considerations for the Future¶ Is AI Development Responsible?

The rapid creation of AI applications for schools raises the urgency of prioritizing ethics,¶ student rights, and social responsibility in their development.177 Responsible AI development would ensure that products are safe and trustworthy, designed to benefit people, communities, and society, and mitigate harms.178 As yet, there is little indication that such values are adequately addressed in education applications.179 Unfortunately, academic AIED¶ researchers have tended to ignore them or delegate addressing them to the educational tech¶ industry and policy centers.180 This complacency—along with the money and power held by¶ commercial actors—enables commercial rather than educational imperatives to guide the¶ development of AI and furthers political interests promoting relentless testing and school¶ surveillance.181¶ Responsible governance would require the companies developing AI to commit to transparent and responsible product design, and also to monitoring, understanding, and mitigating¶ the continuous impacts of AI in various contexts. Of particular concern is the automation¶ of decisions with “irreversible and severe consequences.”182 For example, technologies to¶ identify emotions are currently being developed to assess if a person is lying and cheating.183¶ These technologies are inherently inaccurate, however, and an inaccurate judgment that a¶ student has cheated or that a witness is lying could have dire consequences for their lives.¶ Responsible AI governance might lead to delaying or indefinitely pausing development of¶ such technologies.¶ Although several responsible AI initiatives have produced principles, frameworks or checklists for safe and trustworthy AI development and accountability,184 these agendas can be¶ manipulated through various forms of industry lobbying and efforts to water down their¶ scope or possibilities of enforcement.185 Expanding responsibility for product safety to include the wide range of people or organizations that build and use AI—rather than leaving it¶ to technicians and business alone—would mitigate such dangers.186¶ Among the many obstacles to the implementation of responsible policies governing AI is¶ their cost. The goal of profit-seeking business is to shift to the public as many costs as possible while garnering the highest possible private rate of return on investments. Public oversight of AI necessarily entails either public ownership or a comprehensive regulatory regime¶ adequately financed to achieve its mission. The question is, where will the money come¶ from?¶ Moreover, the required regulation flies in the face of 50 years of policy devoted to deregulation and privatization. It would demand a fundamental rethinking of the government’s¶ relationship to commercial interests. Such rethinking would, without a doubt, be attacked¶ by self-interested parties as not only too costly but also as stifling innovation and promoting¶ inefficiency. While these arguments may be relevant in individual circumstances, they are¶ neither generally nor self-evidently true.¶ From the perspective of education, responsible governance of AI therefore entails significantly more commitment than the simple principles of responsible development issued by¶ industry. It also requires costly and ongoing monitoring of the effects of AI in classroom¶ contexts. It may also require delays and indefinite pauses in development where warranted—such as, for example, in cases where commercial AI providers seek to introduce products into schools with insufficient evidence that they produce beneficial outcomes, or when¶ those products automate professional judgement with potentially negative consequences, or¶ when they inadequately address questions of AI ethics directly relevant to education.¶ Is AI Inevitable?¶ AI products are moving into schools at dizzying speed. As we have noted, this is in part the¶ result of the pressure on schools to “modernize” by adopting the latest products that the¶ technology industry offers. There is already a consensus of sorts that the move to AI is inevitable. The director of educational technology at Newark Public Schools made the case to the¶ New York Times when he explained why his district adopted Khanmigo: “It’s important to¶ introduce our students to it, because it’s not going away.”187¶ The de facto requirement that students serve as a technology company’s experimental subjects might be explained by the initially low entry cost for school districts. Struggling districts, especially, might be willing to gamble that a technological innovation might turn¶ things around for their students. However, before placing that bet it would be valuable to¶ first ask some fundamental questions. Computer scientist Joseph Weizenbaum posed such¶ concerns 50 years ago, essentially arguing that no technology—including AI—should be implemented unless we know that it is both necessary and good.188

**The impact is tradeoff – programs like special education will be cut first when AI saps public budgets.**

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Texas public schools unexpectedly lost $300 million per year in federal special education funding amidst rising costs, the Texas Health and Human Services Commission notified school districts on Dec. 15.¶ The cuts are to the School Health and Related Services (SHARS), a federal special education program that allows Texas local educational agencies (LEAs) and shared service arrangements (SSAs) to request reimbursement for Medicaid health-related services. School districts are eligible for partial reimbursements when they directly offer medical services to students with special needs, instead of relying on a doctor or nurse.¶ The loss in annual funding relates to Medicaid reimbursements for special education students. It followed a court ruling in a billing disagreement between school districts and the federal government, dating back to 2017.

**That hurts millions:**

**Jaracz 24** [Jill Jaracz, "Public School Students with Disabilities Lack Sufficient Support", 10/27/2024, AccessiBE, https://accessibe.com/blog/knowledgebase/assistance-for-public-school-students-with-disabilities-vaires-by-state#:~:text=The%20law%20covers%20a%20range,the%20public%20school%20student%20population., Accessed 03/07/2025] //ejs squad

“When you're a kid, going to school feels like a given—no matter how much you beg to play outside instead. But **for** school-aged **children with disabilities**, going to school wasn't always a guarantee. For decades, many states legally refused to properly support the educational needs of children with disabilities, often putting them in institutions that did little to impart vital knowledge and life skills. This unequal treatment also burdened their families, who rarely had other options or access to resources to educate children at home. That changed in 1975 when Congress enacted the law known today as the Individuals with Disabilities Education Act (IDEA). IDEA ensures that students with disabilities can access appropriate public school education free of charge from the ages of 3 to 21. The law covers a range of disabilities, the most common being learning disabilities and speech impairments. Nationally, **IDEA covers 7.3 million students representing 15% of the public school student population**. The vast majority go to regular schools, with just 5% enrolled in specialized schools, private schools, or other types of programs, according to the Department of Education. Also, 2 in 3 students with disabilities spend 80% or more of their school day in general classes—a practice that would have been unthinkable pre-IDEA.”

# Rebuttal

**AI is discriminatory and inherently can’t incorporate outlier data**

Eileen **O’Grady** (Eileen is the former managing editor of the The Scope at Northeastern University, an experimental digital magazine focused on telling stories of justice, hope and resilience in Greater Boston. She is also a former staff writer for The Shelburne News and The Citizen, with bylines in The Boston Globe, U.S. News & World Report, The Bay State Banner and VTDigger. She holds a BA in politics and French from Mount Holyoke College and a MA in journalism from Northeastern University.), 4-3-20**24**, "Why AI fairness conversations must include disabled people — Harvard Gazette," Harvard Gazette, https://news.harvard.edu/gazette/story/2024/04/why-ai-fairness-conversations-must-include-disabled-people/, accessed 2-25-2025 //ejs squad

“A lot of research so far has focused on how AI technologies discriminate against people with disabilities, how algorithms harm people with disabilities,” Shah said. “My aim for this project is to talk about how even the conversation on AI fairness, which was purportedly commenced to fix AI systems and to mitigate harms, also does not adequately account for the rights, challenges, and lived experiences of people with disabilities.” For his research, he’s interviewing scholars who have studied the issue and evaluating frameworks designed to maintain AI fairness proposed by governments and the AI industry. Shah said developers often consider disability data to be “outlier data,” or data that differs greatly from the overall pattern and is sometimes excluded. But even when it’s included, there are some disabilities — like non-apparent disabilities — that are overlooked more than others. If an AI is trained on a narrow “definition” of disability (like if data from people who stutter is not used to train a voice-activated AI tool) the outcome will be that the tool is not accessible.

**AI has implicit biases against people with disabilities.**

**Fetzer 23** [Fetzer, Mary. “Trained AI Models Exhibit Learned Disability Bias, IST Researchers Say | Penn State University.” *Psu.edu*, Penn State University, 30 Nov. 2023, www.psu.edu/news/information-sciences-and-technology/story/trained-ai-models-exhibit-learned-disability-bias-ist. Accessed 1 Mar. 2025.] //ejs squad

¶ UNIVERSITY PARK, Pa. — A growing number of organizations are using sentiment analysis tools from third-party artificial intelligence (AI) services to categorize large amounts of text into negative, neutral or positive sentences for social applications ranging from health care to policymaking. These tools, however, are driven by learned associations that often contain biases against persons with disabilities, according to researchers from the [**Penn State College of Information Sciences and Technology**](https://ist.psu.edu/) (IST).¶ In the paper “[**Automated Ableism: An Exploration of Explicit Disability Biases in Artificial Intelligence as a Service (AIaaS) Sentiment and Toxicity Analysis Models**](https://trustnlpworkshop.github.io/papers/5.pdf),” **researchers detailed an analysis of biases against people with disabilities contained in the natural language processing (NLP) algorithms and models they tested.** The work, led by Shomir Wilson, assistant professor in IST and director of the [**Human Language Technologies Lab**](https://shomir.net/research.html), received the Best Short Paper Award from the 2023 Workshop on Trustworthy Natural Language Processing at the 61st Annual Meeting of the Association for Computation Linguistics, held July 9-14 in Toronto, Canada.¶ “We wanted to examine whether the nature of a discussion or an NLP model’s learned associations contributed to disability bias,” said [**Pranav Narayanan Venkit**](https://ist.psu.edu/directory/pnv5011), a doctoral student in the College of IST and first author on the paper. “This is important because real-world organizations that outsource their AI needs may unknowingly deploy biased models.”¶ *“Organizations that outsource their AI needs may unknowingly deploy biased models.”¶* Pranav Narayanan Venkit, *doctoral student in the College of IST*¶ The researchers defined disability bias as treating a person with a disability less favorably than someone without a disability in similar circumstances and explicit bias as the intentional association of stereotypes toward a specific population.¶ A growing number of organizations are using AIaaS, or Artificial Intelligence as a Service, for easy-to-use NLP tools that involve little investment or risk for the organization, according to the researchers. Among these tools are sentiment and toxicity analyses that enable an organization to categorize and score large volumes of textual data into negative, neutral or positive sentences. ¶ Sentiment analysis is the NLP technique for extracting subjective information — thoughts, attitudes, emotions and sentiments — from social media posts, product reviews, political analyses or market research surveys. Toxicity detection models look for inflammatory or content — such as hate speech or offensive language — that can undermine a civil exchange or conversation.¶ The researchers conducted a two-stage study of disability bias in NLP tools. They first studied social media conversations related to people with disabilities, specifically on Twitter and Reddit, to gain insight into how bias is disseminated in real-world social settings.¶ They crawled blog posts and comments from a one-year period that specifically addressed perspectives on people with disabilities or contained the terms or hashtags “disability” or “disabled.” The results were filtered and categorized and then statistically analyzed with popular sentiment and toxicity analysis models to quantify any disability bias and harm present in the conversations.¶ “Statements referring to people with disabilities versus other control categories received significantly more negative and toxic scores than statements from other control categories,” said contributing author [**Mukund Srinath**](https://ist.psu.edu/directory/mus824), a doctoral student in the College of IST. “We wanted to test whether these biases arise from discussions surrounding conversations regarding people with disabilities or from associations made within trained sentiment and toxicity analysis models and found that the main source of bias disseminated from the models rather than the actual context of the conversation.”¶ The researchers then created the Bias Identification Test in Sentiment (BITS) corpus to help anyone identify explicit disability bias in in any AIaaS sentiment analysis and toxicity detection models, according to Venkit. They used the corpus to show how popular sentiment and toxicity analysis tools contain explicit disability bias. ¶ "**All of the public models we studied exhibited significant bias against disability," Venkit said. "There was a problematic tendency to classify sentences as negative and toxic based solely on the presence of disability-related terms, such as ‘blind,’ without regard for contextual meaning, showcasing explicit bias against terms associated with disability.”**

**Personalized AI fails – systems are still nascent.**

**Ali et al 24** Omar Ali, College of Business and Entrepreneurship, Abdullah Al Salem University. Peter A. Murray, University of Southern Queensland. Mujtaba Momin, College of Business Administration, American University of the Middle East. Yogesh K. Dwivedi, Digital Futures for Sustainable Business & Society Research Group, School of Management, Swansea University & Symbiosis International (Deemed University). Tegwen Malik, School of Management, Swansea University. Meta-analysis of 185+ published literature papers evaluating the key influences and implications of using AI models in the education sector. February 2024, "The effects of artificial intelligence applications in educational settings: Challenges and strategies", Science Direct,<https://www.sciencedirect.com/science/article/pii/S0040162523007618> DOA: 2/23/25 //ejs squad

4.2.3. Instructional input personalization **A fundamental challenge for AI generative model applications in the academic sphere is the restricted** **ability to personalize commands and instructions** (Kasneci et al., 2023). That is, **generative models cannot interpret personalized instructions/commands** to cater for individuals' needs (Baidoo-Anu and Ansah, 2023; Eysenbach, 2023), as **the machine driven mechanisms are not equipped to render customized services**. As **ChatGPT cannot cater to the personalized learning needs and experiences of each pupil**, its effectiveness as **an educational tool is questionable**. Some of the encounters associated with the limited ability to personalize instructions in ChatGPT include: (1) Limited information about students: In the absence of granular information concerning student needs such as learning formats, interests, and preferences, including strengths and challenges, the capacity of **the application** to offer a holistic and wholesome learning experience is ambiguous and questionable. In these circumstances, **ChatGPTs usability for ‘personalized’ learning experience and student inclusivity is under question** (Eysenbach, 2023). (2) Inability to provide feedback: ChatGPT **cannot harness feedback that is customized to individual learning needs** within a context meaning **that the AI tool is not currently viable for many educational institutions and their constituents** (Gao, 2021). Comprehensively, **it fails to offer individualized feedback to students' learning methods and challenges** (Ahsan et al., 2022; Baidoo-Anu and Ansah, 2023), which currently can only be offered by a human tutor. (3) Limited flexibility: AI tools **more generally fail to synergize the ever-transitioning needs of student cohorts and their latent learning needs** further diminishing their capacity to offer personalized learning experiences customized to individual students' distinctive learning aspirations (Gilson et al., 2023; Cotton et al., 2023). (4) Limited interactivity: Personalized learning experiences with the social and interactive nature of learning are limited and questioned (Dehouche, 2021; Kasneci et al., 2023).

**AI personalized learning is worse.**

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Since the widely acclaimed release of ChatGPT 4, **generative AI has been touted by many as the savior of education.** Case in point: British education expert Sir Anthony Seldon has predicted that by 2027, AI will replace human teachers on a global scale.

Unfortunately, more than **40 years of academic research exploring human cognition suggests that generative AI could also harm learning at all levels**, from online tutoring to employee training, for three reasons.

**Problem one: Empathy**

Intellectual heavyweights from Bill Gates to Sal Kahn have argued that the personalized tutoring enabled by ChatGPT and other generative AI tools based on large language models will close achievement gaps across education. However, **individualized instruction is not the most important driver of learning.** After **analyzing data from thousands of studies**, educational researcher John Hattie recently reported that **a strongly empathetic learner-teacher relationship imparts two and half times greater impact on learning than personalization.**

**The hormone oxytocin is the foundation of empathy. When two individuals connect and release oxytocin simultaneously, their brain activity** begins to **synchronize**—a process **known as “neuronal coupling” that leads them to not only learn from one another but to** quite **literally think alike.** Given that **algorithms have neither a brain nor oxytocin, it is biologically impossible for humans and AI to develop an empathetic relationship:** the transpersonal nature of empathy precludes its emergence in the digital realm.

**This is** one major reason **why students operating in purely digital environments perform worse and are significantly less likely to graduate than comparable students engaged in face-to-face instruction.** Without empathy, **students become passive receivers of information with little impetus to push through the requisite struggles inherent in the learning process.**

Even among highly skilled human educators, **failure to cultivate an empathetic relationship inevitably hinders learning.** And this only serves as a further warning against AI, as it reveals that **neither knowledge nor pedagogy** (presumably the forte of digital tutors) **are sufficient for effective teaching.**

Matthew **Rascoff** [Vice Provost @ Stanford University]. 10-13-20**23**. “Matthew Rascoff on Empowering Students with AI.” Stanford University. <https://digitaleducation.stanford.edu/matthew-rascoff-empowering-students-ai> //ejs squad

So I was listening very carefully this morning, and I did not hear a single time the term “personalized learning.” If we were doing this conference five years ago, personalized learning would have been the beginning, middle, and end of this. But it has not come up a single time. Why is that? I’m asking genuinely, why did we not talk about personalized learning today? Has anybody worked in the space long enough to know that fad, the rise of that fad, and then the decline of that fad? I see some nods. **Why did personalized learning fail at the Chan Zuckerberg Foundation such that they’ve just written off a $100 million investment in their Summit Learning platform, which was supposed to be the scalable mechanism for kids to do personalized learning in K-12 schools across the United States? They laid off all of their staff who were working on this. They’ve given up on this idea.** To me, this should make us somewhat skeptical of the kind of rhetoric that we heard from Ben [Nelson] and from George [Siemens] this morning, that, you know, there are some fads and some faddish behaviors in this system, that seek to chase the latest idea and sometimes lose track of the fundamentals that do not rise and fall on a five-year cycle, but are much more oriented towards the long term. And to me, that has to be our focus. You know, we were talking a little bit this morning about the patience that is required. John [Tsang], this came up with you, the patience that’s required to invest in this space. The investors don’t necessarily get that. They’re impatient. They want returns. Right? But if you’re an educator in this space, think about the deep impact for the long term that educators have had on you, individual teachers. And those are not fads. And so to me, you know, Zuckerberg and Chan Zuckerberg and Bill Gates talking about personalized learning — this was the Gates Foundation’s core investment thesis — they’ve basically given up on it, and Salman Khan has talked about it, too. **Personalized learning** allows students to progress through content at their own pace without worrying about you being too far behind and too far ahead of their classmates. Where’s that? **Where has that gotten us? Kids on computers, in classrooms with headphones on, who are not learning with one another, who are not being socialized, who are not being helped to create an identity, who are not building a learning community, they are not progressing.** And the data finally caught up. And I credit Chan Zuckerberg for at least being honest about the lack of results and being willing to write off a $100 million investment. So to me, the core fundamental does not change over time, no matter how advanced the technology is that you’re building, is that we need to be investing in great educators and great teachers. And they actually do do personalized learning. Great teachers are listening to a student’s needs and they are doing it systematically as part of what they do. This is an example from Dan Meyer, who’s an educator who I love, who I highly recommend. He’s a math educator who writes about math pedagogy, mostly in K-12. But I think a lot of these lessons are relevant to higher education as well. And he basically has argued that an educator like Liz Clark-Garvey in New York City public schools, she can start the lesson with a whole-class move. She’ll ask one question for the whole class and then through the class, moving around the class, listening to what the students say, listening to how they decipher this problem, she is able to understand where students are at and to meet their needs. The problem, I think the challenge, with a context like this, is it seems to depend on heroic individual teachers like this. And there has not been a systematic mechanism. Maybe in Singapore there is. Maybe in Hong Kong there is. But in the US there has not been a systematic mechanism to take a model like this from individual great educators and scale it to the order of the millions of teachers that we have, three million teachers in our schools, not to mention higher education. So to me, the challenge is not, How do we give every kid a laptop and a screen and headphones? **The challenge is how do we give them a great educator who cares about them, who will create a learning community in the classroom of people who will learn together, who will support one another?** That to me is the precious thing and the rare thing and the thing that has become even more precious and more rare **under the conditions of technology, seeming to take away some of the role for humanity in our classrooms.**