FROM CHALKBOARDS TO CHATBOTS: THE IMPACT OF AI ON K–12 EDUCATION

HEARING

BEFORE THE

SUBCOMMITTEE ON EARLY CHILDHOOD, ELEMENTARY, AND SECONDARY EDUCATION

OF THE

COMMITTEE ON EDUCATION AND WORKFORCE U.S. HOUSE OF REPRESENTATIVES

FIRST SESSION

HEARING HELD IN WASHINGTON, DC, APRIL 1, 2025

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C O N T E N T S

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Tuesday, April 1, 2025

House of Representatives,
Subcommittee on Early Childhood, Elementary,
and Secondary Education,
Committee on Education and Workforce,
Washington, DC.

The Subcommittee met, pursuant to notice, at 10:16 a.m., in Room 2175, Rayburn House Office Building, Hon. Kevin Kiley (Chairman of the Subcommittee) presiding.

Present: Representatives Kiley, Miller, Thompson, Owens, Rulli, Moylan, Mackenzie, Harris, Messmer, Bonamici, Hayes, Lee, Mannion, Wilson, Adams, and Scott.

Staff present: Vlad Cerga, Director of Information Technology; Maren Emmerson, Intern; Dara Gardner, Einstein Fellow; Amy Raaf Jones, Director of Education and Human Services Policy; Libby Kearns, Press Assistant; Campbell Ladd, Clerk; R.J. Laukitis, Staff Director; Danny Marca, Director of Information Technology; R.J. Martin, Professional Staff Member; Audra McGeorge, Communications Director; Eli Mitchell, Legislative Assistant; Ethan Pann, Deputy Press Secretary and Digital Director; Kane Riddell, Staff Assistant; Sara Robertson, Press Secretary; Brad Thomas, Deputy Director of Education and Human Services Policy; Ann Vogel, Director of Operations; Ali Watson, Director of Member Services; James Whittaker, General Counsel; Ellie Berenson, Minority Press Assistant; Bryan Gonzalez, Minority Grad Intern; Rashage Green, Minority Director of Education Policy & Counsel; Christian Haines, Minority General Counsel; Emanual Kimble, Minority Professional Staff; Raiyana Malone, Minority Press Secretary; Ben Noenickx, Minority Intern; Eleazar Padilla, Minority Staff Assistant; Véronique Pluviose, Minority Staff Director.

Chairman KILEY. The Subcommittee on Early Childhood, Elementary, and Secondary Education will come to order. I note that a quorum is present. Without objection, the Chair is authorized to call a recess at any time.

Good morning. Artificial intelligence has been advancing at such a rapid pace in recent months, weeks, and days, that by the end of this hearing anything we say this morning will probably be outdated. That is perhaps, a slight exaggeration, but it is the essential reality. Leading labs continue to put out new models each week, shattering benchmarks, demonstrating incredible capabilities and pointing toward still greater advancements ahead.

Indeed, there does not appear to be any limit to this progress in sight. This rapid acceleration toward the future has brought a host of anxieties, not least of which is geopolitical. At this moment America holds a clear, but precarious AI advantage. There are also concerns related to jobs, privacy, safety, control and more broadly, a sense of uncertainty about the social changes that come and break through the wall herald, and what our world will look like for the next generation.

As understandable and important as these concerns are, the bigger picture of one of opportunity, and a truly limitless sense of possibility. Even with the state-of-the-art, as it now exists, let alone what it will be next week, next year, or a decade from now, we suddenly have tools to address many long-standing challenges in new and powerful ways.

Education is one very clear example of that. I am a former high school teacher, and I believe one of the greatest failings in our country's modern history is the way millions of kids have been deprived of a decent education. Our school system has shameful achievement gaps, nowhere more so than in my home State of California.

Open to the neighborhood they were born into, far too many young people in this country are not receiving the education they deserve and are robbed of the opportunities that a quality education provides. Meanwhile, the educational attainment of the country has a whole has been on a sharp decline.

AI can change that. It has the potential to give every child in America a richer educational experience than any child in America had just a few years ago. It can give every teacher in America a greater ability to reach students than any teacher did in the past.

It can empower parents to follow their child's progress and guide it accordingly. For a glimpse of this potential, here is a short video.

[Video played.]

At the most basic level, AI tools like Khanmigo from the Khan Academy give every child access to a world class tutor in any subject. This is no small matter. Studies have shown that just a hear of high dosage tutoring can add up to a full 2 years worth of additional learning gains. This is a very special kind of tutor, one that is available any time of the day for unlimited amounts of time, and that cannot be stumped by any question.

It is a tutor that is thoroughly familiar with the student's strengths and weaknesses and baseline knowledge, enabling personalized instruction that compels critical thinking without giving away answers. Perhaps best of all, this tutor is low-cost or free.

For most of history, access to this kind of personalized instruction would have been completely unthinkable, yet, AI has made it commonplace. These tools can customize the learning experience for each student, adapting their content, pace and learning style to the student's performance and preferences.

They can also bring learning to life in new and dynamic ways. Learning physics from Albert Einstein or engaging with a fictional character when studying work of literature. We are already seeing AI widely adopted by students in limited ways. Nearly 50 percent K12 students use ChatGPT at least weekly.

Of the students who use AI, 35 percent use it to summarize information, 32 percent to generate ideas for assignments, and 26 percent to get initial feedback on their work. The question is not whether students will use AI, that is already happening. Rather, the question is how schools can support students in using AI responsibly and in unlocking its full potential to advance student achievement.

It is not just students who stand to benefit. AI can empower teachers and school leaders to fulfill their vision for their classrooms, and to connect with students in the highest impact ways. AI tools can help with tasks like lesson planning and grading and can free teachers to focus on the aspects of education that only a caring human can provide.

A recent McKinsey analysis found that AI can save teachers up to 13 hours per week. There are also, of course, risks when it comes to AI usage in the classroom. Recent studies show the ready availability of Chatbots has proven an irresistible temptation to many students.

Nearly 40 percent of middle and high school students admitted they used AI without teacher's permission to complete assignments, according to a survey last year. Now, while outright cheating is certainly a concern, the bigger challenge is to be vigilant in assuring AI never becomes a shortcut to avoid engaging in critical thinking, formulating original ideas and persevering through challenging content.

Student privacy is also a crucial issue. District leaders must be thoughtful about the data that gets collected and vigilant about securing that data. We will hear testimony today about how district leaders and administrators can use AI responsibility without endangering students' rights.

Finally, we must be mindful of excessively absorbing students into digital worlds. The negative effects of smart phone use for you people have become impossible to deny. The last thing we want to do is compound this problem. I suspect the most successful approaches to AI in the classroom will assure human interaction remains fundamental to the educational experience.

None of this, I should add, is a call for new mandates at the Federal level. Quite the contrary, education is fundamentally a State and local issue, and the best education solutions emerge when school leaders and teachers are given flexibility to do what is best for their students.

This is especially true given the infinite variety of ways AI can be utilized in the classroom, and the rapid pace at which it continues to evolve. The purpose of today's hearing is to cast light on the enormous potential that exists. We can continue to highlight outstanding examples of AI in education throughout the country, so best practices can be shared.

We have an excellent witness panel assembled to give us perspective on all of these questions, and I am looking forward very much to hearing their thoughts. With that, I will yield to the Ranking Member for an opening statement.

[The statement of Chairman Kiley follows:]

**Opening Statement of Rep. Kevin Kiley (R-CA), Chairman
Subcommittee on Early Childhood, Elementary and Secondary
Education
Hearing: "From Chalkboards to Chatbots: The Impact of AI on K-12
Education"
April 1, 2025**

(As prepared for delivery)

Good morning.

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This rapid acceleration towards the future has brought a host of anxieties, not least of which is geopolitical: at this moment, America holds a clear but precarious AI advantage. There are also concerns related to jobs, privacy, safety, control, and more broadly, a sense of uncertainty about the social changes that coming breakthroughs will herald and what our world will look like for the next generation.

As understandable and important as these concerns are, the bigger picture is one of opportunity and a truly limitless sense of possibility. Even with the state of the art as it now exists – let alone what it will be next week, next year, or a decade from now – we suddenly have tools to address many longstanding challenges in new and powerful ways.

Education is one very clear example of that. I'm a former high school teacher, and I believe one of the greatest failings in our country's modern history is the way millions of kids have been deprived of a decent education. Our school system has shameful achievement gaps, nowhere more so than in my home state of California. Owing to the neighborhood they were born into, far too many young people in this country are not receiving the education deserve and are robbed of the opportunities that a quality education provides. Meanwhile, the educational attainment of the country has a whole has been on a sharp decline.

AI can change that. It has the potential to give every child in America a richer educational experience than *any* child in America had just a few years ago. It can give every teacher in America a greater ability to reach students than any teacher did in the past. It can empower parents to follow their child's progress and guide it accordingly.

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is how schools can support students in using AI responsibly and in unlocking its full potential to advance student achievement.

And it's not just students who stand to benefit. AI can empower teachers and school leaders to fulfill their vision for their classrooms and to connect with students in the highest-impact ways. AI tools can help with tasks like lesson-planning and grading, and can free teachers to focus on the aspects of education that only a caring human can provide. A recent McKinsey analysis found that AI could save teachers up to 13 hours per week.

There are also, of course, risks when it comes to AI usage in the classroom. Recent studies show the ready availability of chatbots has proven an irresistible temptation to many students; nearly 40 percent of middle and high school students admitted they used AI without teachers' permission to complete assignments according to a survey last year. While outright cheating is certainly a concern, the bigger challenge is to be vigilant in assuring AI never becomes a shortcut to avoid engaging critical thinking, formulating original ideas, and persevering through challenging content.

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witness panel assembled to give us perspective on all these questions, and I'm looking forward to hearing their thoughts.

With that, I will yield to the Ranking Member for an opening statement

Ms. BONAMICI. Thank you, Chairman Kiley, and thank you to the witnesses for being here today. I am encouraged that all of the witnesses submitted testimony that recognizes the opportunities and the challenges of artificial intelligence in K12 education.

We are at a pivotal time in education, and the path we choose will determine whether we can equip students and educators with the tools, the critical thinking skills, and the knowledge they need to succeed in an ever evolving, technologically driven world.

Artificial intelligence is not in the distant future; it is in our schools right now. It is shaping how students are educated, and how they learn. Although this is an exciting prospect, it also presents significant challenges, particularly regarding equity and regulation.

Without a doubt, dismantling the Department of Education will exacerbate inequities, and set us back as a Nation. The Department of Education's not just a building. Through its programs it plays a pivotal role in closing achievement gaps, and helping to meet the goals that all students, including those in rural and low-income communities, and including students with disabilities, have an opportunity to access high-quality public education.

It is the Department of Education that helps level the playing field and provides critical resources that many districts are not able to afford without Federal funding. Title I for example, provides resources for schools with high concentration of poverty, a lifeline for the schools that need it the most. In fact, every witness here today mentioned in their testimony the importance of access, which is one of the main points of Title I.

It is unclear what will happen to Title I, but without experienced implementation at the Department of Education, it is likely, assuming it survives, we will see support severely cut or limited, and the prospect of waivers to block grant Title I, which some republicans are advocating for is troubling because without accountability systems we do not know if the dollars will go to the highest need schools, resulting in deepening inequities and academic gaps.

It is also important to mention that the Trump administration cut funding for a significant portion of Federal grants that support education, educator professional development, including the teacher quality partnership. Thankfully, Federal Courts have ordered the administration to restore these funds.

Professional development opportunities are crucial to equip educators with evidence-based teaching practices, as well as prepare educators on AI technologies and other necessary skills needed to educate students for the 21st Century.

It is no question that a loss of funding, or inconsistent funding, or delayed funding disbursement, will disproportionately harm struggling low-income and rural schools and students. Without a robust and equitable funding system with a strong accountability framework the digital divide will widen.

Technology disparities will mirror existing inequalities, and that will leave vulnerable students with fewer opportunities to benefit from AI integrated learning environments, or to learn proper guardrails surrounding the use of AI. During the 1990's and early 2000's as technology was rapidly evolving, it was the Department of Education that led efforts to close the digital divide.

Without Federal leadership we would have seen even greater inequities. Unfortunately, today the Department of Education is still reeling from a significant reduction in force, including the elimination of the Office of Educational Technology. This office was instrumental in guiding schools on the safe and ethical integration of new technologies like AI, providing resources on data security and best practices.

With the OET gone, we risk losing schools—leaving schools and students unprepared for AI's opportunities and challenges. Related to the topic today, the massive chainsaw cuts to IES, the Institute of Education Sciences is absurd. Research helps educators and policymakers make good decisions, and that is not something local school districts and states can easily replicate.

Several states, including Virginia, California and my home State of Oregon, have started developing guidance and policies about AI use in the classroom. Without the Department of Education's leadership, states are left to navigate this complex landscape on their own, which again creates inconsistencies and exacerbates achievement gaps.

We recognize that local schools and districts have the authority already to determine local decisions, whether it be teacher standards, class size, curriculum, that is local. It is this Federal investment in research and leadership that makes a difference.

As we grapple with the role of AI in education, we must equip students with the skills necessary to survive in today's society and economy. The jobs of tomorrow will demand proficiency in technology, including in AI.

Without proper education of students, especially those from underfunded districts, will find themselves at a disadvantage, unable to compete in an increasingly globalized economy. This issue is not just about access to technology. It is how we use the technology.

As AI is integrated into classrooms, we must be diligent, so that it does not reinforce existing biases, or create new ones. With the Department staffing cuts and an overwhelming caseload, The Office for Civil Rights in the Department of Education, which addresses discrimination in schools through investigation.

They are struggling to keep up. We need Federal leadership and research to help guide the use of AI in schools, so all students, regardless of their ZIP Code, income, race, have the opportunity to learn, grow and thrive in this new digital age.

That is clear from the testimony of the witnesses today, and it is also clear that eliminating the Department of Education, and for that matter, the National Science Foundation, and other research-based entities is antithetical to that goal.

As we move forward, Democrats are committed to providing equal access to public education for all students. We are looking for reasonable policymakers from either side of the aisle to join us in

strengthening local schools by preserving these important Federal investments in education and education research.

This should not be a partisan issue. It affects every student, teacher and family in the country, and it most certainly affects our potential for growth in competitiveness in a global economy. I look forward to the conversation, and I yield back the balance of my time.

[The statement of Ranking Member Bonamici follows:]

ED & WORKFORCE DEMOCRATS

OPENING STATEMENT

House Committee on Education and Workforce
Ranking Member Robert C. "Bobby" Scott

Opening Statement of Ranking Member Suzanne Bonamici (OR-01)
Subcommittee on Early Childhood, Elementary, and Secondary Education
"From Chalkboards to Chatbots: The Impact of AI on K-12 Education"
Tuesday, April 1, 2025 | 10:15 a.m.

Thank you, Mr. Chairman, and thank you to the witnesses for being here today.

 I am encouraged that all of the witnesses submitted testimony that recognizes the opportunities and challenges of Artificial Intelligence in K-12 education.

We are at a pivotal time in education, and the path we choose will determine whether we can equip students and educators with the tools, critical thinking skills, and knowledge they need to succeed in an ever-evolving, technologically driven world.

Artificial intelligence is not in the distant future — it's in our schools right now. It's reshaping how students are educated and how they learn. Although this is an exciting prospect, it also presents significant challenges, particularly regarding equity and regulation.

Without a doubt dismantling the Department of Education will exacerbate inequities and set us back as a nation. The Department of Education is not just a building; through its programs, it plays a pivotal role in closing achievement gaps and helping to meet the goal that all students, including those in rural and low-income communities and including students with disabilities, have an opportunity to access high-quality public education. It is the Department of Education that helps level the playing field and provides critical resources that many districts are not able to afford without federal funding.

Title I, for example, provides resources for schools with high concentrations of poverty, a lifeline for the schools that need it most. In fact, every witness here today mentioned in their testimony the importance of access, which is the main point of Title I. It's unclear what will happen to Title I but without experienced implementation at the Department of Education, it's likely – assuming it survives – we will see support severely cut or limited. And the prospect of waivers to block grant Title I, which some Republicans are advocating for, is troubling because,

without accountability systems, we won't know if these dollars will go to the highest-need schools, resulting in deepening inequities and academic gaps.

It is also important to mention that the Trump Administration cut funding for a significant portion of federal grants that support educator professional development, including the Teacher Quality Partnership. Thankfully federal courts have ordered the Administration to restore these funds. Professional development opportunities are crucial to equip educators with evidence-based teaching practices, as well as prepare educators on AI technologies and other necessary skills needed to educate students for the 21st century.

It's no question that a loss of funding, or inconsistent or delayed funding disbursement, will disproportionately harm struggling, low-income, and rural schools and students. Without a robust and equitable funding system with a strong accountability framework, the digital divide will widen and technology disparities will mirror existing inequalities, leaving vulnerable students with fewer opportunities to benefit from AI-integrated learning environments or learn proper guardrails surrounding the use of AI.

During the 1990s and early 2000s, as technology was rapidly evolving, it was the Department of Education that led efforts to close the digital divide. Without federal leadership, we would have seen even greater inequalities.

Unfortunately, today the Department of Education is still reeling from a significant reduction in force, including the elimination of the Office of Educational Technology (OET). This office was instrumental in guiding schools on the safe and ethical integration of new technologies like AI, providing resources on data security and best practices. With the OET gone, we risk leaving schools and students unprepared for AI's opportunities and challenges. And related to the topic today, the massive chainsaw cuts to IES, the Institute of Education Sciences, is absurd; research helps educators and policymakers make good decisions. And that's not something local school districts and states can easily replicate.

Several states – including Virginia, California, and my home state of Oregon — have started developing guidance and policies about AI use in the classroom. But without the Department of Education's leadership, states are left to navigate this complex landscape on their own, which again, creates inconsistencies and exacerbates achievement gaps. And we recognize that local schools and districts already have the authority to determine local decisions whether it be teacher standards, class size, curriculum. That is local but it is that federal investment in research and leadership that makes a difference.

As we continue to grapple with the role of AI in education, we must equip students with skills necessary to survive in today's society and economy. The jobs of tomorrow will demand proficiency in technology, including AI. Without proper education, students – especially those from underfunded districts - will find themselves at a disadvantage, unable to compete in an increasingly globalized economy.

But this issue isn't just about access to technology. It's also about how we use that technology. As AI is integrated into classrooms, we must be diligent, so it does not reinforce existing biases or create new ones. With the Department's staffing cuts and an overwhelming caseload, the Office for Civil Rights in the Department of Education —which addresses discrimination in schools through investigations— is struggling to keep up.

We need federal leadership and research to help guide the use of AI in schools so all students—regardless of their zip code, income, or race—have the opportunity to learn, grow, and thrive in this new digital age. That's clear from the testimony of the witnesses today, and it's also clear that eliminating the Department of Education – and for that matter, the National Science Foundation and other research-based entities – is antithetical to that goal.

As we move forward, Democrats are committed to providing equal access to public education for all students. We are looking for reasonable policymakers, from either side of the aisle, to join us in strengthening local schools by preserving these important federal investments in education and education research. This should not be a partisan issue— it affects every student, teacher, and family in the country, and it most certainly affects our potential for growth and competitiveness in a global economy.

I look forward to the conversation and yield back the balance of my time.

Chairman KILEY. Pursuant to Committee Rule 8-C, all members who wish to insert written statements into the record may do so by submitting them to the Committee Clerk electronically in Microsoft Word format by 5 p.m., 15 days after this hearing. Without objection, the hearing record will remain open for 14 days to allow such statements and other extraneous material noted during the hearing to be submitted to the official hearing record.

I note for the Subcommittee that some of my colleagues who are not permanent members of the Subcommittee may be waving on for the purpose of today's hearing. I will now introduce our distinguished witnesses.

Our first witness is Dr. Sid Dobrin, the Chair of the Department of English at the University of Florida in Gainesville, Florida. Our second witness is Dr. Julia Rafal-Baer, the CEO of the ILO Group here in Washington, DC. Our third witness is Ms. Erin Mote, the CEO, for InnovateEDU in Brooklyn, New York.

Our fourth witness is Mr. Chris Chism, the Superintendent of the Pearl Public School District in Pearl, Mississippi. We thank the witnesses for being here today, and we look forward to your testimony.

Pursuant to Committee rules, I would ask that you each limit your oral presentation to a 3-minute summary of your written statement. The clock will count down from 3 minutes as Committee members have many questions for you, and we would like to spend as much time as possible on those questions.

However, pursuant to Committee Rule 8D and Committee practice, we will not cutoff your testimony until you reach the 5-minute mark. I would like to remind the witnesses to be aware of their responsibility to provide accurate information to the Subcommittee, and I will first recognize Dr. Dobrin for your testimony.

STATEMENT OF DR. SID DOBRIN, CHAIR, DEPARTMENT OF ENGLISH, UNIVERSITY OF FLORIDA

Mr. DOBRIN. We were not given technical instructions. Mr. Chairman, Ranking Committee Member, and distinguished members of the Committee and others in attendance, I want to thank you, first, for the opportunity to speak with you today about artificial intelligence and generative artificial intelligence in education specifically within K through 12 education.

As noted, my name is Sid Dobrin. I am Chair of the Department of English at the University of Florida where I have been faculty for 28 years now. My primary focus of research falls to writing studies specifically in terms of emerging technologies such as augmented reality, virtual reality, and artificial intelligence.

I will not bore you with my other bonafides, since you have them in front of you, other than to say over the last 2 years I have had the opportunity to speak to more than 70 campuses worldwide about integrating artificial intelligence into curriculum.

I have to tell you, I very much appreciate getting those invitations, and the invitation to speak with you today because it usually goes something like this. Hey Sid, could you come talk to us about artificial intelligence and generative artificial intelligence in education in these massive, galactic subjects, and if you can do us a favor and wrap it up in 3 minutes.

These are big, complex subjects, no matter what I say today we'll only be scratching the surface of the conversations we need to be having. Since the subject of, and research about artificial intelligence and generative artificial intelligence in the workplace is such a complex and extensive conversation, what I am going to talk about now really is just sort of introductory.

The introduction of generative AI tools like ChatGPT have marked a turning point in education. While many became aware of these technologies in November 2022, the groundwork for AI education was laid much earlier. Initiatives such as the Artificial Intelligence for K12 Initiative, developed by organizations like the Asso-

ciation for the Advancement of Artificial Intelligence, and the Computer Science Teacher Association, aimed to create national guidelines and resources for AI education.

However, the rapid evolution of AI necessitates a broader approach beyond computer science alone. Today, integrating AI into K through 12 education is crucial for several reasons. First, technological advancements have made powerful AI tools widely accessible, and as was noted in the opening statements, access is a key conversation that we must be having.

It has also changed how students learn to interact with information. It is not enough for students to merely consume these technologies, they must also understand how they work. This comprehension will prepare them for the modern workplace where AI is becoming increasingly integral.

Incorporating AI literacy into curriculum fosters critical thinking and problem-solving skills essential for success in any career path. Employers are increasingly looking for candidates who can navigate complex AI tools, analyze data, and make informed decisions.

By embedding AI education across subjects, we can equip students with these vital competencies, building a more adaptable, innovative workforce ready to meet the demands of a rapidly changing job market. Moreover, as we transition into an AI driven economy, workforce readiness will hinge on our educational systems' ability to prepare students for these new realities.

We must ensure that our students are not just passive users of technology, but proactive participants who can leverage AI to enhance their creativity and productivity. Thus, in my comments today, and in my written statement, I urge the Committee to prioritize AI integration into K through 12 education to prepare our students for the future.

By doing so, we not only enhance individual career prospects, but also contribute to American innovation and economic competitiveness on a global scale, which I address in my written testimony. I want to thank you for your time, and for the opportunity to speak with you about this pressing issue. Thank you.

[The statement of Dr. Dobrin follows:]

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April 1, 2025

Testimony for the Committee on Education and Workforce
United States House of Representatives
Sid Dobrin, PhD
Professor and Chair

Chairman Walberg, Ranking Member Scott, distinguished members of the Committee, and other attendees, thank you for the opportunity to provide testimony about Artificial Intelligence (AI) and Generative Artificial Intelligence (GenAI) within the context of K-12 education.

My name is Sid Dobrin, and for the last 28 years, I have been a professor in the Department of English at the University of Florida. For the last ten years, I have served as Chair of the Department. For ten years prior, I served as Director of Graduate Student Teaching, overseeing the Department's teacher development program and working with hundreds of new teachers. Broadly speaking, one of my primary research areas focuses on writing studies and, more specifically, on the role of emerging technologies in how we communicate through writing (Augmented Reality, Virtual Reality, and Artificial Intelligence, for example). Over the past two years (or thereabout), I have become one of the world's most sought-after academic experts on AI and GenAI, having delivered approximately 70 talks worldwide to academic administrators and educators, helping to demystify AI technologies for educators and assisting in developing strategies to integrate AI into their curricula. I work closely with the University of Florida's AI Initiative, serving on UF's AI Blue Sky Task Force. I am the Founding Director of the Trace Innovation Initiative at UF and was named a Digital Thought Leader by Adobe. I serve as a member of the Florida Institute for National Security, and I serve as a member of the Florida AI Learning Consortium (FALCON) Steering Committee. I have been invited to and have attended meetings about AI organized by the DoD (Project Lima) and the DoE. I am the author and editor of numerous books and articles, including *Talking about Generative AI: A Guide for Educators* (the second edition of which is scheduled to be published next month) and *AI and Writing*. My current research examines enduring questions about AI and the role of AI in education. I am a MIT-certified AI Strategist and am the owner of Flying-Fish AI, LLC, an AI strategy service that serves the outdoor recreational fishing industry, an industry that contributes over $148 billion in economic output in the US.

In my testimony today, I will provide information about the importance of AI integration in K-12 education within the context of AI literacy, workplace readiness, and American innovation in the global economy. Since the subject of and research about AI/GenAI in education and workforce are extensive and complex, this testimony can only serve as a rudimentary overview of this important topic.

A Brief Contextualization
While much of the country (or more accurately, the world) became alert to AI and GenAI in education in November 2022 when Open AI released ChatGPT, many educators and industry leaders have been considering AI and GenAI for much longer. For example, five years before the drop of ChatGPT, The Association for the Advancement of Artificial Intelligence (AAAI) and The Computer Science Teachers Association (CSTA) co-sponsored the development of The Artificial Intelligence for K-12 initiative (AI4K12) in order to assist in "developing (1) national guidelines for AI education for K-12, (2) an online, curated resource directory to facilitate AI instruction, and (3) a community of practitioners, researchers, resource and tool developers focused on the AI for K-12 audience." At that time, these efforts focused almost exclusively on computer science; however, the velocity at which GenAI technologies have expanded across nearly all disciplines and industries now requires more encompassing approaches to K-12 education than just computer science approaches. While organizations such as AI4K12, CSTA, and AAAI are phenomenal resources that deserve our support, we need to be more comprehensive in our thinking and development regarding K-12 AI education.

To oversimplify, we can point to four key developments that have led to the surge in attention to AI in K-12 education: a

combination of technological advancements, societal concerns, economic demands, and proactive initiatives. First, we must acknowledge that the release of ChatGPT (and the subsequent releases of other platforms like Gemini and Co-Pilot) provided widespread, affordable access to powerful generative AI models that power large language models (LLMs) like ChatGPT and Stable Diffusion image generation. Because early releases of ChatGPT were free, the rapid adoption of the platform (ChatGPT logged 100 million monthly users within two months of its release, faster than any digital application had ever achieved) also dramatically shifted public perception by making these tools accessible and visible rather than the prevue of computer science and technology specialists. I should note, as well, that the rise in the availability of *Generative* AI platforms also shifted attention from AI as analytical technologies to GenAI as productive technologies, thereby making writing (and art, to an extent) the proving ground for AI in education. Technological advances continue this trend. Second, public conversations and (often knee-jerk) reactions regarding the perceived potential risks of AI use in industry and education exacerbated the rush in attention to AI. Rightly, public perception has intensified the need for conversations about misinformation, job displacement, security, responsible use, and the potential for misuse, further provoking the need for serious attention not just to the role of AI in education but specifically to new kinds of AI literacies and awareness. Third, as AI and GenAI become more ubiquitous across nearly every industry, US educational institutions have had to rapidly attend to making accountable connections between education and workplace readiness (more about this in a moment). Fourth, government agencies, educational organizations, and private sector companies have begun developing and providing resources and initiatives to promote AI literacy, contributing to an overall sense of necessity and support for AI in K-12 education, lending, perhaps, too, to a sense of urgency. Some states have begun to provide guidance through their boards of education for AI curriculum development (notably, Alabama, Arizona, North Carolina, West Virginia, Virginia, Oregon, and Washington), and California has made moves to mandate AI and media literacy as part of K-12 curricula. I will address state and federal legislation in further detail later in this testimony.

The Focus of AI/GenAI in K-12 Education
Given the limits of this testimony, it is impossible to address everything that must be considered in developing conceptual and pragmatic strategies for AI education. These are, as I have said, extensive and complex matters with far-reaching implications. Nonetheless, it is critical to understand the core issues as they have been introduced thus far and, given the context of this testimony, to take the opportunity to push the conversation forward to provide students in the US with the best possible educational and workforce opportunities.

The uptick since late 2022 in attention to AI in education was clearly triggered by the availability of GenAI models like ChatGPT, which rapidly captured the attention of educators, administrators, and policymakers. Most of these conversations maintain focus on subjects that have been discussed in education since the mid-20th century about AI which have focused on (1) how we might teach students *about* AI—what might be identified as basic AI literacy; (2) how we might teach *with* AI—which requires significant consideration of what AI tools are viable and how we prepare teachers to work with these tools; (3) how students might use AI to enhance learning, research, and thinking skills; (4) how to teach responsible AI use—including how to address matters of data privacy, academic and professional integrity, bias, and the potential impact on human interaction in the classroom and workplace; and (5) how to implement professional development for teachers effectively. Each of these is critical to the success of integrating AI into K-12 education; however, in the current context, there are many other aspects of AI integration that must be addressed, such as: (1) access: including but not limited to student and teacher access to broadband (I note the March 26, 2025 Supreme Court implication that the federal E-rate program is likely to remain as a critical part of this discussion), the development and cost of platform access, and the cost of servers and computer equipment (note that laptops, the device most used by students for educational work, are expected to increase in price by no less than 10% in the coming months, not to mention the cost of other supporting technologies); (2) cognitive impact: specifically further research and understanding regarding how long-term interaction with AI-generated content and automated problem-solving might affect students ability to think critically, analyze information, and develop original ideas; this is a tricky subject because these "soft skills" are difficult to quantify and evaluate, primarily because their definitions are always contextual; (3) agility: tied to matters of cognition and soft skills, curriculum will need to account for the rapidly evolving AI landscape to recognize that the capabilities of these technologies will continue to progress throughout a student's academic experiences and so students will need to learn strategies for adapting their skillsets to what comes next rather than relying on stagnant competencies. This includes teaching students how to recognize AI's limitations and when to rely on their own cognitive abilities; this will include developing curricula that promote deep thinking over complete reliance on AI outputs. (4) Augmentation over

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automation: curricula will need to focus on helping students understand that AI technologies augment their own abilities and do not replace them by automating them; (5) human-machine collaboration: by all indications, we can anticipate that the evolving workforce will require workers in nearly every field be able to work with AI technologies in one capacity or another (a survey of 400 Fortune 1000 executives show that 82% of those surveyed identify human-AI collaboration as an employee talent imperative); therefore, educators need to develop methods for teaching students how to collaborate effectively and responsibly with AI tools, understand their capabilities and limitations, and communicate effectively in AI-mediated environments, including teaching students how to provide clear and precise prompts and how to evaluate the outputs of AI tools. This extends beyond basic AI literacy and delves into the complexities of human-AI interaction. (6) Personalization: one of the most potentially valuable aspects of AI-integrated education is the possibility of developing customized learning pathways to enhance learning success; however, educators must also account for the ways in which AI personalization can shape student identity and self-perception, potentially creating echo chambers; therefore, educators must understand how AI influences student worldviews and belonging and develop curricula that will ensure that AI-driven learning promotes exploration and growth.

Workplace Readiness/Industry to Curriculum
In my professional opinion, education's sole (or even primary) purpose is not career preparation; education is citizen preparation. (I also acknowledge that my professional opinion does not necessarily align with my home state's position on such matters.) However, I recognize the inextricable connections between education and workplace readiness and see significant value in those connections, as workplace readiness is certainly a vital aspect of citizen preparation.

Historically, much of our curricula has emerged in support of career preparation, what we might identify as an "industry to curriculum" relationship. Many of our disciplines are designed specifically to provide students with credentials and skill sets to enter particular industries or career paths (i.e., pharmacy, nursing, engineering, HVAC, aviation, law, criminal justice, computer science, culinary arts, agriculture, and so on), and much of our K-12 curricula is designed to provide students with the transferable skills needed to succeed in those learning paths. In this way, industry has a significant influence on education.

Anyone who has been attentive to the connection between education and the workplace knows that for many years employers have consistently identified communication and writing skills as the number one skill they look for in new employees. While the tools and methods of communication have evolved, the underlying need for effective communication skills has remained constant in the eyes of employers. However, recent survey data shows that while the second most sought-after skill has traditionally been identified as critical thinking, problem-solving, and/or teamwork, many employers now identify AI literacy as the second most important skill set they look for. Specifically, employers tend to identify these skills as important under the heading of "AI Literacy": (1) understanding of core AI concepts; (2) data-security awareness; (3) data literacy; (4) ethics and responsible use; (5) critical thinking and problem-solving; (6) programming fundamentals; (7) platforms; (8) collaboration; (9) domain-specific AI knowledge; (10) continuous learning and agility; and (11) critical evaluation. While many of these skills may exceed the purview of K-12 education, the foundations for students developing an interest in, learning the logics and skillsets of, and acclimating to AI environments are established in K-12 education.

We might think of this moment in AI-based education reform in relation to workplace readiness as being akin to the restructuring of the US education system following the 1957 Sputnik launch and the subsequent 1958 National Defense Education Act (NDEA) which provided substantial federal funding to improve science, mathematics, and foreign language education in schools at all levels, as well as providing student loans and graduate fellowships to increase the number of highly trained scientists and engineers. This is our Sputnik moment.

Legislation and Government
The role of federal and state government in AI education is currently in flux. Executive Order 14179, "Removing Barriers to American Leadership in Artificial Intelligence," charges a host of government officials (see the EO for the full list) to develop an AI action plan by July 22, 2025, 180 days after the EO was signed (about 112 days from this testimony). Likewise, the EO charges officials, in coordination with the heads of all agencies as they deem relevant, to review "all policies, directives, regulations, orders, and other actions taken pursuant to the revoked Executive Order 14110 of October

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30, 2023." While EO 14179 does not mention education specifically, we can assume that the EO will inevitably affect AI development and deployment across all industries and, in turn, necessitate that educators begin to anticipate how such actions will likely impact education, specifically regarding workforce readiness.

EO 14179 implies a degree of deregulation of federal oversight of AI development, likely pushing AI guardianship to state administration or, more radically, eliminating oversight altogether. In the 2024 legislative session, at least 45 states introduced AI bills; none are directed toward education, instead focusing on matters of consumer protection, deepfakes, government use of AI, automated decision-making, and some sector-specific use of AI (such as finance and healthcare). The new EO suggests that the logic behind deregulation is to inspire innovation by removing regulatory roadblocks. Of course, the motivation here is more directed at developing competitive advantages in industry, particularly when competing with other nations such as China (see the next section). However, such deregulation is also going to affect how education might rethink approaches to the development and deployment of AI technologies in terms of educational institution-wide integration, curricular development for student workplace readiness, and educational innovation.

While there is no concrete data about how many new AI and GenAI platforms are released each week, estimates show that anywhere from a few dozen new platforms to several hundred per week are entering the market. Many of these are designed to answer industry-specific needs, including the needs of educators. Federal deregulation will likely increase the development and availability of discipline- or curriculum-specific platforms. While deregulation might benefit education by increasing the availability of education-facing platforms, it will also exacerbate already challenging compliance concerns. Consequently, educators and policymakers—particularly at the state level—should begin to develop adoption and compliance policies in anticipation of the increased availability of platforms and the likelihood that teachers will want to onboard a wider range of platforms specific to their classroom and curricular objectives. Educators need to be actively involved in conversations about such policies. I point to the Florida Artificial Intelligence Learning Consortium (FALCON) as an example of educators actively working together across a state to address these matters to potentially collaborate with state officials to help develop informed policies about AI and education.

As the effects of deregulation become ingrained in the practices of every industry, educators will also need to rethink their approaches to supporting workplace readiness. This will likely include finding ways to streamline the approval of curricular changes calibrated to rapidly changing industry use cases and AI platform adoption. Educators and policymakers need to be aware that the fast-paced evolution of AI and industries' uses of these technologies will likely run headlong into the notoriously slow process of curriculum development and approval. All levels of education need to reevaluate their systems for developing and altering curricula and programs to account for the new high velocity at which these technologies unfold. Approaches to efficient, continuous curriculum revision in conjunction with industry trends and emerging best practices should be integrated into all curriculum development and approval processes. Such systemic upgrades should unfold hand in hand with creating an educational culture of continuous faculty development.

AI Education and China
Clearly, EO 14179 is designed to encourage competitive advantages in industry, particularly internationally, and it is also clear that in the AI landscape, China is the US's primary competitor. Informed AI K-12 education will be critical to continued success in this arena.

In 2017, China introduced the "Next Generation Artificial Intelligence Development Plan," which emphasizes the importance of promoting AI education to promote the next generation AI talent pool. The plan makes evident that AI is now a central pillar to China's national strategy. China's Ministry of Education (MOE) developed the "Education Informatization 2.0 Action Plan," incorporating AI education in K-12 curricula. In February 2024, the MOE selected 184 schools as pilot bases to explore philosophies, models, and programs in AI education, with the goal of scaling successful approaches nationwide. Likewise, the Beijing Municipal Education Commission has mandated AI education for all primary and secondary students starting in the fall of 2025. Beijing is one of three municipalities in China with the largest student populations. As part of China's effort to improve its AI-ready workforce, there is a nationwide effort toward increased teacher development in AI that combines recruiting university and technology company professionals to serve

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as part-time teachers with preparing new teachers for working in AI-rich curricula. China's efforts in AI education, particularly in teacher preparedness, are more rigorous and unified than our approaches.

The US has no federal mandate (there is value and risk in this). Currently, about 25 states have or are developing official guidelines and/or policies for K-12 AI education, exemplified by Florida's K-12 Artificial Intelligence Education Program. However, there is varied implementation from state to state, contributing to a fragmented landscape, which further complicates policy and resource development and allocation.

AI @ UF
As noted above, Florida is among the first states to adopt a K-12 artificial intelligence education program to prepare students for the growing global demand for an AI-enabled workforce. The University of Florida is a global leader in AI education, research, and industry. UF has pioneered the effort to integrate AI education across the curriculum and serves as an example for developing AI educational initiatives at all levels. UF's robust AI Initiative leverages its partnership with NVIDIA to integrate artificial intelligence across all disciplines, empowering students and researchers to lead in the AI-driven future. Faculty from UF's Herbert Wertheim College of Engineering and College of Education have provided remarkable leadership in designing the framework for the Florida public schools' AI coursework. Based on guidelines established by the National Science Foundation (NSF) and the aforementioned AAAI and CSTA, UF faculty have been at the vanguard of the nascent conversation about AI and K-12 Education and Workforce.

Concluding Statement
Again, I am grateful for the opportunity to provide this testimony. As I identified at the outset, these complex issues deserve rigorous professional attention facilitated by educators, policymakers, and industry stakeholders. This testimony barely scratches the surface of a few of the pertinent issues.

I am available for further consultation.

Sincerely,

Sidney I. Dobrin
Professor and Chair
Adobe Digital Thought Leader
Faculty, Florida Institute for National Security (FINS)
Steering Committee, Florida Artificial Intelligence Learning Community (FALCON)

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Chairman KILEY. Thanks very much. We shall now recognize Dr. Rafal-Baer for your testimony.

STATEMENT OF DR. JULIA RAFAL-BAER, CEO, ILO GROUP, WASHINGTON, D.C.

Ms. RAFAL-BAER. Thank you. Chair Kiley, Ranking Member Bonamici, and members of the Committee, thank you for the opportunity to testify today regarding the integration of artificial intelligence in K12 education.

My name is Dr. Julia Rafal-Baer, I am the CEO of ILO Group. We are a women owned, women led policy and strategy firm. We work with over 200 districts and states nationwide.

Our work impacts one in three students in the country. I am also the founder of Women Leading Ed. We are the largest national nonprofit network for women in educational leadership. We have members in every State in this Nation. Today, I advise education leaders nationwide.

I serve on multiple Federal and national boards, including the National Assessment Governing Board. AI is rapidly becoming one of the most impactful innovations across all industries. It has the power to transform how educators teach, how students learn, how schools operate, and how prepared our future workforce will be to leverage emerging technologies.

However, Women Leading Ed did a survey of hundreds of women across the country, and what we learned is that 81 percent of leaders feel that AI is significantly impacting their systems. However, fewer than 10 percent report that they have the adequate resources for effective and safe implementation.

Given this reality, we must ensure that every student, educator, caregiver and community member is equipped not merely with digital literacy, but with AI literacy.

The 2024 bipartisan House Task Force on AI rightly recognizes the importance of AI literacy, and the need for resources for it. Our work has also found that to establish robust foundations for responsible AI usage there must be meaningful and ongoing community engagement.

Based on ILO Group's specific work on AI for the past two and a half years, I offer you three specific recommendations for Federal policy. First, the Federal role should be intentionally limited. It should allow states and districts the flexibility and the autonomy to lead AI integration efforts that reflect their unique context.

Given the rapidly evolving role and the nature of these technologies, decisions about AI literacy specifically, should remain local, rather than federally defined. Second, strengthening data security and privacy protections must be an immediate priority as AI adoption accelerates.

Here the Federal Government has an appropriate role to provide consistent cybersecurity and data guidance across all states, and across all agencies. Education systems increasingly face sophisticated AI enhanced cybersecurity threats, making standardized protections essential.

Federal policymakers could develop a comprehensive data privacy bill that supports effective policies and best practices related

to online safety and data privacy that are broadly disseminated to states.

Third, the Federal Government has a critical role in funding research that rigorously assesses AI's impact on education. The Federal Government is uniquely positioned to research and evaluate where rapidly evolving AI tools enhance educational quality, relevance and efficiency, and also to evaluate its risks, and conduct cost benefit analyses at scale.

Federal support is essential for analyzing and sharing evidence-based practices and ensuring that educator and student privacy is adhered to. We recommend convening a White House Summit on AI and Education to examine both the opportunities and these limitations.

In conclusion, thoroughly integrated AI can transform educational outcomes, but achieving this is going to require careful planning, prioritizing deep stakeholder engagement, comprehensive AI literacy, and robust security measures. Thank you again for your leadership on this critical issue, and for the opportunity to speak with you today.

[The statement of Dr. Rafal-Baer follows:]

ILO Group

From Chalkboards to Chatbots: The Impact of AI on K-12 Education

Testimony before the House Education and Workforce Early Childhood, Elementary, and Secondary Education subcommittee.

April 1, 2025

Julia Rafal-Baer, Ph.D.

Chair Kiley, Ranking Member Bonamici, and Members of the Committee,

Thank you for the opportunity to testify today regarding the integration of Artificial Intelligence (AI) in K-12 education. My name is Dr. Julia Rafal-Baer, and I am the CEO of ILO Group, a women-owned national education policy and strategy firm supporting over 200 state and district superintendents, collectively serving more than 1 in 3 students in America. I also founded Women Leading Ed, the largest national nonprofit network in the country for women in education leadership. My experience spans twenty-one years in education—beginning as a special education teacher and progressing through roles as a researcher, policymaker, and executive across government, nonprofit, and private sectors. Today, I advise education leaders nationwide and serve on multiple federal and national boards, including the National Assessment Governing Board.

Beyond these professional roles, I speak to you as a mother of two children in public schools, which deepens my commitment to ensuring AI technologies serve students safely, ethically, and effectively.

Artificial Intelligence is rapidly becoming one of the most impactful innovations across all industries. It has the potential to transform how educators teach, how students learn, how school systems operate, and how prepared our future workforce will be to leverage emerging technologies. However, realizing AI's benefits demands intentional, strategic, and careful implementation. Without careful oversight and research, AI technologies could inadvertently compromise student or employment data privacy or create unintended consequences within educational settings.

Recent findings from our Women Leading Ed Insight Survey reveal both the rapid adoption and concerning preparedness gaps in education:

- 81% of education leaders anticipate AI significantly impacting their systems, a 25% increase from last year
- Two-thirds of superintendents report AI is already shaping daily operations, compared to just 30% last year

- Despite this acceleration, fewer than 10% of education leaders report they have adequate resources or clear guidelines for effective, safe implementation
- Only 16% of districts have explicit policies allowing student AI use, while 33% report students using AI tools without formal governance

Given this reality, we must ensure every student, educator, caregiver, and community member is equipped not merely with digital literacy but comprehensive AI literacy. The 2024 Bipartisan House Taskforce on AI rightly recognizes the importance of AI literacy and the need for resources for it. AI literacy goes beyond understanding how to use a device or app; it encompasses critical thinking, ethical reasoning, the ability to examine the accuracy of AI-generated outputs, and informed decision-making about when and how to delegate tasks to AI tools. This preparation is critical for safeguarding our students' futures and ensuring their success in an increasingly AI-driven world.

At ILO Group, our specialized AI-focused [AiLO division](#) develops practical solutions for the safe, responsible implementation of AI in K-12 education. Our work includes:

- Publishing two comprehensive AI implementation frameworks—one tailored for [K-12 districts](#) and another for [state education agencies](#), across all divisions inside these systems, from academics to school improvement, to compliance, to research, to communications, and beyond
- Releasing the [AiLO Coach for Education Leaders](#), a unique, free customized chatbot resource offering personalized, on-demand guidance for leaders addressing real-world AI challenges in their schools and systems
- Partnering directly with superintendents to navigate the political, operational, technical, and fiscal complexities of AI integration

Through ILO Group's work across communities nationwide, we've identified key approaches to risk mitigation, professional development, and research-based implementation that balance innovation with responsible oversight.

First, it is essential to establish robust foundations for responsible AI usage through meaningful community engagement. AI implementation should reflect local priorities and values, making community involvement not just beneficial but essential to establishing practical guidelines and ethical guardrails. States are ideally positioned to support districts in making locally grounded decisions that align with their unique goals, context, and community expectations. States can ensure their efforts align with their unique workforce and economic strategies. At ILO Group, we support districts and states through vision-setting forums, community surveys, and facilitated stakeholder sessions to ensure AI is introduced transparently, ethically, and with broad community input. These efforts foster trust, alignment, clear accountability structures, and ethical guidelines, enabling successful long-term adoption.

Second, comprehensive AI literacy initiatives must extend far beyond educators and students alone, encompassing families, caregivers, and entire communities. Effective AI literacy ensures everyone understands how to responsibly leverage AI tools, critically evaluate AI-driven

information, and maintain accuracy, fairness, and objectivity in all interactions. A student recently engaged by our team in supporting a local school system emphasized that her district needs to operate at "a 9 or 10" in AI readiness. She explained that jobs have already evolved, and her classmates are missing out on critical upskilling opportunities. She emphasized that students who lack preparation now risk losing future opportunities to better-prepared peers elsewhere. Policymakers at the state level must define and support AI literacy broadly and ground it in clear state-level data collection and research agendas.

States can play a powerful role in both advancing effective implementation within their own systems and setting a foundation for the success of local districts in doing the same. In a number of states, we see teams exploring AI to support customer service functions by providing easier access to shared information typically found across multiple databases and documents, such as certification and reciprocity information. States also hold an important role in convening task forces, launching research agendas, and promoting comprehensive digital and AI literacy across communities. States can conduct AI and cyber-readiness assessments, create specialized AI assurance labs, and explore innovative funding approaches, all in efforts to ensure state-approved AI use cases are implemented safely to support public trust and transparency. This should focus on safety and privacy, transparency (how an AI system communicates its actions), explainability (the decision-making processes it followed), and interpretability (the comprehensibility of its outputs).

Based on ILO Group's AI-specific work over the past two and a half years as practitioners working with researchers, experts, and districts and states across the nation, I will offer three specific recommendations for federal policymakers to consider:

First, the federal role should be intentionally limited, allowing states and districts the flexibility and autonomy to lead AI integration efforts that reflect their unique contexts. Given the rapidly evolving nature of AI technologies, decisions about AI literacy specifically should remain local rather than federally defined. When communities engage directly in determining what AI literacy means for their students, they can establish more relevant frameworks for the skills and knowledge students will need for life beyond the classroom and to successfully navigate real life in the real world. This approach ensures that AI education responds dynamically to evolving technologies while AI literacy and its standards and curriculum remain grounded in local educational priorities and workforce needs.

Second, significantly strengthening data security and privacy protections must be an immediate priority as AI adoption accelerates. Here, the federal government has an appropriate role to provide consistent cybersecurity and data guidance across all states and agencies. Education systems increasingly face sophisticated AI-enhanced cybersecurity threats, making standardized protections essential. Recently, district leaders we advised highlighted innovative community-led initiatives, such as a Tech Data Privacy Coalition involving local parents and technology experts who actively guide data security practices. States can amplify these effective strategies by promoting similar local coalitions, instituting clear cybersecurity protocols, and implementing rigorous practices like data minimization and identity anonymization—similar to approaches used by defense agencies. Federal policymakers could develop a comprehensive

data privacy bill that supports effective policies and best practices related to online safety and data privacy that are broadly disseminated down to Governors and state education leaders, helping to mitigate risks from deepfakes and emerging cyber threats, thereby safeguarding our students and school communities nationwide.

Third, the federal government has a critical role in funding research that rigorously assesses AI's impact on education, and helps to build a national agenda. This research must evolve to maintain relevance as technologies advance. The federal government is uniquely positioned to research and evaluate where AI tools enhance educational quality, relevance, and efficiency—and to evaluate emerging applications, assess risks, and conduct cost-benefit analyses at a scale states cannot achieve independently. States cannot navigate these complex issues in isolation. Federal support is essential for analyzing and sharing evidence-based practices while ensuring all research rigorously protects student, teacher, and school privacy in accordance with federal regulations. We recommend convening a White House Summit on AI and Education to examine both opportunities and limitations. The federal role is vital in monitoring AI applications nationwide and establishing processes for rapidly disseminating critical information when impacts require broader consideration.

In conclusion, thoughtfully integrated AI can transform educational outcomes, but achieving this requires careful planning, prioritizing deep stakeholder engagement, comprehensive AI literacy, and robust security measures. In doing so, we can safely and effectively harness AI's immense potential and learn to work alongside AI. The future success of our students—and by extension, that of our communities and economies—depends on how effectively we navigate this pivotal moment.

Thank you again for your leadership on this critical issue and the opportunity to speak with you today about issues we take very seriously at ILO Group. For more detailed information and resources, please visit https://www.ilogroup.com/services/ailo/. I look forward to your questions and working with you going forward.

Chairman KILEY. I will now recognize Ms. Mote for your testimony.

STATEMENT OF MS. ERIN MOTE, CEO, INNOVATEEDU/EDSAFE AI ALLIANCE, BROOKLYN, NEW YORK

Ms. MOTE. Good morning, Chairman Kiley, Ranking Member Bonamici, and members of the Committee. Thank you for the time

and attention today. I appreciate the chance to address you about the State of AI in K12 education. My remarks are shaped by decades of work at the intersection of education and technology.

As a technologist, and enterprise architect, I have been using AI and engineering technology for schools, including the charter school that I founded in downtown Brooklyn for more than a decade. My comments today are informed by my experience working alongside State Chiefs, District Administrators, educators, families, communities, through the EDSAFE AI Alliance and InnovateEDU.

The Alliance fosters collaboration and knowledge to prioritize student well-being, and effective learning outcomes through the SAFE framework, safety, accountability, fairness and transparency, and efficacious use of AI in education. Though, my most important role is that of a mother of two school-aged children.

Like some of you, and all parents across this country, I want to ensure that my children are safe, that they are known and cared for, that their data is safe, their teachers are supported, and they have a pathway to join a future workforce where a pre-requisite for any career, from a lawyer to doctor, to plumber, will be of how you work alongside, and manage artificial intelligence.

Artificial intelligence is an arrival technology. Arrival technologies, like electricity, social media, or the internet, are massively disruptive, and rapidly reshape how we teach, how we learn, how we live. Right now, AI's use is uneven and limited across school communities, with only about 25 percent of educators reporting that they have used AI in the classroom, or even in their preparation.

Access to this technology, and the resources to support building AI literacy are unevenly distributed. How we support AI in education and its adoption, must be about embracing opportunity, access, fairness, especially for under resourced rural, urban, and suburban schools and communities. The story of AI in education is one of both promise and peril.

AI offers the promise of personalized learning and improves student outcomes. AI's growing capacity to tailor content to each student's pace, including those with disabilities, represents a significant advancement in education technology. However, to unlock personalized learning, AI needs a vast amount of data.

This need can raise significant risks regarding how the data is stored, who has access to it, and the potential for its misuse. AI promises to enhance the efficiency of educators and administrators by supporting them with through a range of time-consuming administrative tasks. However, tools must be reliable, safe, and effective.

We must work to mitigate the existing biases that exist in these tools, increase algorithmic reliability, and trust in the outputs. A critical aspect to balancing this promise and peril, as my fellow witnesses have said, is AI literacy, and investing in professional development for educators, and support for students to ethically use this technology.

America's education is at a critical juncture hindered by significant gaps in our own public infrastructure that present barriers to innovation that put our economic prosperity, and frankly, our national security at risk. Relying solely on State level action for AI

literacy and AI deployment, is a recipe for fragmentation and missed opportunity.

In education we have seen this before with a patchwork of student privacy and data laws that create market failures for industry, stifle startups, and limit our ability to harness technology to support educators, students, and families. AI's nature transcends State lines, making a Federal framework critical for interState commerce, and essential for maintaining national competitiveness.

Industry alone cannot carry this burden. Across the board cuts to the U.S. Department of Education, National Science Foundation, Department of Commerce, and other Federal agencies pose a significant threat to our Nation's ability to meet these demands, including vital education technology support directly to states and districts.

Imagine an education system empowered by artificial intelligence. A force that is transformative as electricity, the automobile, the internet. With decisive national action America can create robust infrastructure for AI in education, unlocking personalized learning, enhancing teacher effectiveness, and securing our global leadership by supporting schools and districts.

The stakes could not be higher. Either the United States boldly leads, securing prosperity, human flourishing, and technological sovereignty for future generations, or we lose a race as important to this Nation as the race for space was. Thank you.

[The statement of Ms. Mote follows:]

Artificial Intelligence in Education: Opportunities, Challenges, and Policy Considerations for Congress

Testimony by Erin Mote

Introduction

Artificial intelligence (AI) is an arrival technology. Arrival technologies—like electricity, social media, or the internet—are massively disruptive and rapidly reshape how we teach, learn, and live. They create extraordinary opportunities but also demand that we confront critical questions about disruption, opportunity, access, safety, and efficacy. Right now, AI is disproportionately accessed and implemented across school communities - only 25% of educators have used AI in the classroom or in their preparation, and access to this technology and the resources to support building AI literacy are unevenly distributed[1]. How we support AI in education and its adoption - must be about embracing opportunity, access, and fairness - especially for under resourced schools and communities. Our decisions today will profoundly impact the future of education, our nation's economic prosperity, national security, and society.

The advent of AI marks a significant turning point in technological advancement, potentially reshaping all aspects of our society. Among these, the education sector stands poised for - and is already witnessing - a profound transformation in how our education systems operate and what they need to do to ensure that every child is "AI literate" and prepared to thrive in an AI-empowered world. This testimony aims to provide a comprehensive and objective overview of the current state of AI in education, exploring its potential benefits, inherent risks, ethical considerations, existing policy frameworks, diverse stakeholder perspectives, and future trajectory. The goal is to provide this Committee and Congress with the necessary information to work on a bipartisan basis to make informed decisions regarding supporting AI's safe and responsible adoption into our nation's education system by supporting and empowering states, districts, families, and educators. Innovation and safety are not in opposition in an AI-empowered future; instead, by balancing both, we can build trust and knowledge of this technology within our communities, foster accelerated development from industry that is beneficial to all students, and drive needed improvements in student outcomes. **To that end, my remarks today will highlight AI's potential benefits and challenges to our education system and suggest five specific policy recommendations as you begin drafting and considering legislation.** These recommendations for Congress include the need to invest in critical public infrastructure including digital access; support essential research, development, and data to empower the field; establish foundational national frameworks for the safe and responsible AI use while promoting innovation; support AI literacy programs, including both for students and educators through professional development, and foster collaboration and

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[1] Julia H. Kaufman, Ashley Woo, Joshua Eagan, Sabrina Lee, and Emma B. Kassan, *Uneven Adoption of Artificial Intelligence Tools Among U.S. Teachers and Principals in the 2023–2024 School Year*, RAND Corporation, RRA134-25, 2024. https://www.rand.org/pubs/research_reports/RRA134-25.html

dialogue to center districts, states, educators, and parents alongside industry to shape congressional engagement and policy.

Because AI presents unprecedented opportunities and significant challenges for the United States, a crucial element in effectively navigating this evolving landscape is a robust and adaptable education system capable of fostering AI literacy, preparing a future-ready workforce, and addressing this technology's ethical and societal implications. No state or district has the resources to do this on its own. Across-the-board cuts to the US Department of Education, National Science Foundation, Department of Commerce, NIST program, and others pose a significant threat to the nation's ability to meet these demands. **These cuts could result in a decline in national innovation, weakening our global competitiveness in AI, putting our nation at a significant disadvantage in the global AI race, and widening existing educational disparities.**

The rapid proliferation of AI within educational technology presents unprecedented opportunities alongside critical challenges concerning the safety, privacy, access, and ethical implications for students and educators alike. Recognizing the urgent need for guidance in this evolving landscape, the EDSAFE AI Alliance was formed in 2021, predating the widespread public availability of sophisticated generative AI models. This proactive initiative led to development of the "SAFE" framework, which centers on Safety, Accountability, Fairness, Transparency, and Efficacy. The framework serves as a vital compass for navigating the complexities of AI in education by synthesizing over twenty-four established global standards and guidelines, including GDPR and UNESCO's recommendations. Its fundamental purpose is to foster well-informed discussions among diverse stakeholders spanning education and industry, streamline the often-fragmented process of policy development, and ensure that the integration of AI in education adheres to core principles that safeguard students, protect parental rights, empower educators, and promote responsible development and deployment of these tools.

InnovateEDU is a nonprofit, nonpartisan organization proud to house and support the EDSAFE AI Alliance. The EDSAFE AI Alliance framework and the Alliance are crucial for navigating the rapidly evolving landscape of artificial intelligence in education. The Alliance fosters collaboration and knowledge sharing by bringing together diverse stakeholders, including educators, policymakers, researchers, and technology companies, ensuring that AI innovations prioritize student well-being, equity, and effective learning outcomes.

The EDSAFE AI framework is not merely a beneficial tool but an imperative necessity for the responsible and effective integration of AI in education because it furnishes a structured roadmap and a common language for policymakers, educators, and technology developers navigating this fast-paced domain. By prioritizing the safety of student data and establishing clear guidelines for accountability, fairness, and efficacy, the framework directly addresses key ethical and practical concerns inherent in AI applications within learning environments. It aims to build trust with parents, students, educators, and industry partners to accelerate AI literacy and AI innovation and adoption. Initiatives such as the EDSAFE AI Policy Labs network - a network of 12 school districts across the country from Georgia to California to Colorado - develop practical, open-source policy resources aligned with the SAFE framework so that

schools and districts can use the framework to support implementation. In addition, over 160 companies have articulated demonstrable alignment to the framework, including major LLMS and educational technology providers, signaling the critical and necessary partnership between industry and the education sector. Ultimately, the EDSAFE AI Alliance and its framework aim to build trust in AI within the education sector, promoting its **potential benefits** to enhance teaching and learning while mitigating **potential risks**.

Potential Benefits of AI in Education

As mentioned, the benefits of AI for education are potentially transformational, and I offer three main areas where AI can, and already is, helping educators and students:

Personalized Learning and Improved Student Outcomes: AI's growing capacity to tailor educational content and learning pace to each student's unique needs and individual learning pathways represents a significant advancement in educational technology. This personalized approach has been shown to increase student engagement and overall motivation in the learning process, reducing chronic absenteeism and accelerating positive student outcomes[2]. Furthermore, AI systems can provide students with immediate and detailed feedback on their work, which enhances their understanding of concepts and ultimately leads to improved learning outcomes[3]. By analyzing vast amounts of data on learners' progress, strengths, and weaknesses, AI, alongside an educator, can create customized educational pathways that allow students to learn at their best speed and concentrate on specific areas to maximize cognitive range. The promise of AI and its application to students with disabilities and learning differences is particularly notable. AI education models are being developed to support earlier, more accurate, and widely available screening technology for disabilities like dyslexia. There is early promise from an IES and NSF-funded research project focused on AI at the University of Buffalo. We have evidence that AI can significantly accelerate the ability to offer universal screening for dyslexia in our classrooms, speeding up a process that would take weeks to a single afternoon while keeping an educator in the loop. Not only does this free up teacher time, it also allows for earlier intervention[4]. While personalized learning holds tremendous promise for revolutionizing education, its effectiveness is intrinsically linked to the quality and impartiality of the AI algorithms and the data they analyze. It is critical to ensure fairness and to actively prevent the perpetuation of biases in these systems to achieve genuinely equitable opportunities for improvements in student outcomes. AI could inadvertently reinforce or exacerbate pre-existing achievement gaps among student groups if the data utilized to personalize learning pathways reflects algorithmic inequalities. Therefore, the implementation of robust data governance frameworks, data infrastructure, and the integration of effective bias detection mechanisms are of paramount importance.

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[2] Joseph, A.R. (2024). *The Impact of Personalized Learning on Intrinsic Motivation, Academic Proficiency, and Behavioral Issues*. ProQuest LLC. ERIC Number: ED651862.
https://eric.ed.gov/?q=sTUDENT+AND+ACADEMIC+AND+MOTIVATION&ff1=dtyIn_2023&id=ED651862
[3] U.S. Department of Education, Office of Educational Technology, *Artificial Intelligence and Future of Teaching and Learning: Insights and Recommendations*, Washington, DC, 2023. https://www.ed.gov/sites/ed/files/documents/ai-report/ai-report.pdf
[4] University at Buffalo. "National AI Institute for Exceptional Education - University at Buffalo". https://www.buffalo.edu/ai4exceptionaled.html

Importantly, technology, in and of itself, is not a panacea for educational challenges. A study conducted using the Kyron Learning platform, an AI-assisted learning tool, revealed that while students who engaged with the platform reported favorable experiences, no statistically significant improvements in overall academic outcomes, such as assessment pass rates or time taken to complete the course[5]. This finding suggests that adopting AI-powered tools does not automatically translate into improved student outcomes. The effectiveness of AI in education is likely mediated by several crucial factors, including the quality of its integration into the existing curriculum, the strategies employed to ensure student engagement with the technology, and the level of support provided to educators in utilizing these new tools. Successful implementation of AI in education necessitates a holistic approach that carefully considers established pedagogical practices and the specific needs of both students and educators within the learning environment.

Enhanced Efficiency for Educators and Administrators: AI can significantly enhance the efficiency of educators and administrators by automating a range of time-consuming administrative tasks. These tasks include grading student assignments, managing class schedules, and generating various reports, freeing up valuable time to redirect towards more meaningful interactions with students[6]. This automation allows teachers to dedicate more time to building relationships with their students. A recent study from the Centers for Disease Control on youth mental health revealed that with just one meaningful connection with an adult in school - a teacher, a coach, even a bus driver - could reduce suicidal ideation in young people by 33%[7]. Compare that to a recent Stanford study on Replika AI - a service that allows you to create an AI companion or virtual twin. This study found that suicidal ideation was reduced by 3%[8]. When we consider what we want for young people to meet the burgeoning mental health crisis in this country, creating opportunities to strengthen the human element of education remains paramount. AI should augment, not replace, the human relationships that drive improved student learning and student well-being.

Furthermore, AI tools can assist educators in the often time-consuming processes of lesson planning and content creation, saving them valuable time and effort. By analyzing student performance data, AI can provide educators with valuable, data-driven insights to better inform and tailor their teaching strategies and interventions to meet each student's needs or unlock their passion for the given topic. Automating routine administrative tasks through AI can alleviate teacher burnout and enable educators to concentrate on their profession's more complex and human-centered aspects, such as providing mentorship and fostering critical thinking skills in their students. Addressing the significant concern of teacher workload, AI can

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[5] The Impact of an AI Tool on Student Outcomes | WGU Labs, accessed March 27, 2025, https://www.wgulabs.org/posts/the-impact-of-an-ai-assisted-learning-tool-on-student-outcomes-research-brief

[6] AI in Schools: Pros and Cons | Illinois, accessed March 27, 2025, https://education.illinois.edu/about/news-events/news/article/2024/10/24/ai-in-schools--pros-and-cons

7 School Connectedness and Risk Behaviors and Experiences Among High School Students — Youth Risk Behavior Survey, United States, 2021MMWR - CDC.

[8] Maples, J., et al. "Loneliness and suicide mitigation for students using GPT3-enabled chatbots." PubMed. https://pubmed.ncbi.nlm.nih.gov/38609517/

be a valuable tool in redistributing various tasks, allowing teachers to dedicate more time and energy to student well-being and facilitating more profound learning experiences.

Improved Accessibility and Engagement: AI-powered tools offer significant potential for improving accessibility in education, particularly for students with disabilities. Technologies such as text-to-speech and speech-to-text can enable these students to engage more fully with classroom materials and participate more actively in learning activities[9]. Furthermore, AI can enhance student engagement by generating tailored content that directly resonates with their unique needs and individual progress within the curriculum. While AI holds considerable promise for making education more inclusive and engaging for a broader range of learners, the design and implementation of these tools must be carefully considered to avoid creating unintended barriers or inequities in access. Ensuring that AI-powered tools are user-friendly and readily available to all students is paramount for maximizing their potential to improve accessibility and engagement in education.

Potential Risks and Challenges of AI in Education

At the same time, AI presents several potential educational risks and challenges. I highlight three main areas where Congress should focus:

Data Privacy and Security Concerns: The implementation of AI systems in education necessitates the collection and analysis of substantial amounts of sensitive student data, including personal information, academic records, and behavioral patterns. This need can raise significant risks regarding how these data are securely stored, who is authorized to access it, and the potential for its misuse or exposure through data breaches. At the same time, there are bedrock privacy laws in place (including Family Educational Rights and Privacy Act (FERPA) Protection of Pupil Rights Amendment (PPRA) and Children's Online Privacy Protection Act (COPPA)), that, when adhered to, can address some of these issues; more support, training, and partnership between industry, government, and the education ecosystem are needed. History has shown that educational technology platforms, school districts, and state education systems can be vulnerable to cyberattacks, as evidenced by past data breaches in online exam proctoring services or cyberattacks on districts like LAUSD[10]. Schools, districts, and states continue to need cybersecurity assistance[11], and reestablishing the MS-ISAC is critical to protecting schools and children from bad actors. Cybersecurity is expensive, and schools often lack the necessary resources to address these risks. To mitigate these risks, it is crucial to implement robust data protection measures, including advanced encryption techniques, data anonymization protocols, and transparent mechanisms for obtaining informed consent from students and parents regarding data collection and usage. In addition to the technical protections that need to exist, data privacy and security must be protected, and a partnership between industry and education technology platforms and their school partners must be

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[9] Smith, J. (2024). AI and Learning Disabilities. In A. Editor & B. Editor (Eds.), *Artificial Intelligence and Educational Inclusion* (pp. 120-145). Oxford Academic. https://academic.oup.com/book/58946/chapter/493006717

[10] UpGuard. (2025, January 8). *Why is the Education Sector a Target for Cyber Attacks?* UpGuard. Retrieved from https://www.upguard.com/blog/education-sector-cyber-attacks

[11] The 74. (2025, February 10). *Kept in the Dark: Inside a Trio of Los Angeles School Cyberattacks*. The 74. Retrieved from https://www.the74million.org/article/kept-in-the-dark-inside-a-trio-of-los-angeles-school-cyberattacks/

established that accounts for the training and AI literacy necessary to ensure these tools are used correctly. Given the increasing sophistication of cyber threats and the sensitive nature of student data, cybersecurity and data protection in schools require a consistent federal approach with clear guidance to ensure national security and the well-being of students.

Another significant challenge is the lack of transparency surrounding how personal data is processed by AI algorithms, often referred to as the "black box" problem[12]. This opacity can limit individuals' understanding and control over their data or the data they use. Transparency in AI algorithms and the processes involved in data handling is essential for fostering accountability and ensuring that AI is utilized ethically and in full compliance with established privacy regulations and parental rights. Understanding how AI systems arrive at their decisions is crucial for identifying and effectively mitigating potential biases embedded within the algorithms and ensuring overall fairness in their application within educational contexts.

Algorithmic Inequities: No education technology tool currently used in America's classrooms is free of bias. Instead, we must work to mitigate the existing bias and increase reliability and trust in the outputs. These biases can arise from the data used to train the algorithms, which may reflect and even perpetuate existing human biases prevalent within society, including for the one in five students in this country with a learning disability[13]. For example, studies have indicated that AI inequalities can negatively impact non-native English speakers, with their written work sometimes being falsely flagged as AI-generated, potentially leading to unfair accusations of cheating[14]. A lack of algorithmic reliability can manifest in unfair grading systems, admissions decisions that unintentionally exclude or privilege certain groups, or learning tools that may work more effectively for some demographics than others[15]. Examples of bias have been observed in facial recognition technology, which may not accurately recognize Black students, and in language models that can perpetuate harmful stereotypes, such as a lower grade for a writing assignment where there are dialectical differences for rural students[16]. Addressing algorithmic inequalities requires a comprehensive and multi-faceted approach. This includes utilizing diverse and genuinely representative training data, empowering industry with the data and frameworks to regularly audit AI algorithms to identify and mitigate biases, ensuring transparency in developing these algorithms, and establishing ongoing monitoring processes to detect and address any discriminatory outcomes that will arise. Current edtech evaluation frameworks and procurement guidelines may not be sufficient for AI tools, and

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[12] Zednik, C. (2019). *Solving the Black Box Problem: A Normative Framework for Explainable Artificial Intelligence.* arXiv. Retrieved from https://arxiv.org/pdf/1903.04361/1000

[13] CoSN (Consortium for School Networking), & CAST. (2024, September 18). *CoSN report explores strategies for navigating AI and accessibility in education.* DATIA K12. Retrieved from https://www.datiak12.io/research/article/15684249/cosn-report-ai-can-enhance-accessibility-for-students-with-disabilities-but-also-carries-risks

[14] D-Lab. (2025, January 21). *The Creation of Bad Students: AI Detection for Non-Native English Speakers.* UC Berkeley. Retrieved from https://dlab.berkeley.edu/news/creation-bad-students-ai-detection-non-native-english-speakers

[15] World Journal of Advanced Research and Reviews. (2025). *Algorithmic bias in educational systems: Examining the impact of AI-driven decision making in modern education*, *23*(02), 253-263. Retrieved from https://journalwjarr.com/sites/default/files/fulltext_pdf/WJARR-2025-0253.pdf

[16] NEA. (2024, February 22). *Does AI Have a Bias Problem?* National Education Association. Retrieved from https://www.nea.org/nea-today/all-news-articles/does-ai-have-bias-problem

districts have cited the need for new standards, especially ones that integrate educator and student feedback to ensure the tools being procured and used are reliable, fair, and efficacious.

Furthermore, AI can potentially deepen the digital access divide that dominates our rural communities, mainly if access to the necessary technology and adequate AI literacy training is not provided equitably across all socioeconomic levels and geographies[17]. Students from disadvantaged backgrounds in rural, urban, and suburban schools may face significant barriers in accessing the required devices, reliable internet connectivity, and support to utilize AI-powered educational tools effectively. To prevent this, policies must be implemented to ensure equitable access to AI tools and comprehensive AI literacy training for all educators and students, regardless of their zip code. AI literacy, a form of digital literacy, is the knowledge, skills, and competencies needed to safely use and understand artificial intelligence and critically evaluate the implications, limitations, and ethical considerations of AI use. Ensuring universal access to reliable internet services and appropriate technological devices is a fundamental prerequisite for guaranteeing that all students can benefit from integrating AI in education to adequately prepare them to work within an AI empowered workforce and remain globally competitive.

Impact on the Role of Teachers: With the increasing integration of AI into education, concerns have been raised about the potential for AI to replace human teachers in the classroom. However, we know from the science of learning and development, from our experience in the COVID pandemic, and early research on AI that teachers are and will continue to be essential in building relationships, personalizing pathways, and leading the teaching and learning that can help every student achieve their full potential. The prevailing perspective suggests a shift in the traditional role of the teacher, moving from being primarily a deliverer of content to becoming more of a facilitator, guide, and mentor for students[18]. To effectively navigate this evolving landscape, teachers will require adequate training and ongoing support to integrate AI tools seamlessly into their existing teaching practices. While AI can undoubtedly automate specific routine tasks, the essential human element of teaching, which includes providing mentorship, offering crucial support, and fostering the development of critical thinking skills, remains irreplaceable. Therefore, the focus should be on leveraging AI to augment the capabilities of teachers rather than viewing it as a direct replacement for their vital role in education. Investing in comprehensive professional development opportunities for educators, such as through Title II and Title IV funds for professional development are contained within the Every Student Succeeds Act (ESSA), is critical to ensure they are well-equipped to utilize AI tools effectively and enhance their students' overall teaching and learning experience. Another potential challenge associated with the increased use of AI in education is the concern about reducing human interaction between teachers and students. This decrease in face-to-face communication could negatively impact the social-emotional aspects of learning and potentially

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[17] Mindell, D. A., & Reynolds, E. (2024, February 21). (PDF) Artificial Intelligence and Inequality: Challenges and Opportunities. *Qeios*. Retrieved from
https://www.researchgate.net/publication/378376537_Artificial_Intelligence_and_Inequality_Challenges_and_Opportunities
[18] ResearchGate. (2024). *Facing New Challenges: The Role of Teachers as Agents of Change in the 21st Century*.
https://www.researchgate.net/publication/383725046_Facing_New_Challenges_The_Role_of_Teachers_as_Agents_of_Change_in_the_21st_Century

hinder the development of crucial interpersonal skills in students[19]. It is therefore essential to maintain a careful balance between AI-mediated learning experiences and opportunities for direct, face-to-face interaction to ensure the holistic development of students. Educational strategies should intentionally incorporate activities and projects that foster human connection and collaboration alongside the integration of AI tools, thereby safeguarding the critical dimensions of learning.

Other Challenges: Implementing AI technologies in education can involve significant financial costs, varying wildly depending on the specific AI type being deployed. These expenses often encompass the initial costs of procuring AI software and hardware, the ongoing costs associated with system maintenance, necessary software updates, and the potential need for repairs[20]. These costs can be prohibitively high for schools and districts with limited financial resources, particularly those in under-resourced communities. To address this, it is crucial to develop comprehensive funding and resource allocation plans that ensure all schools, regardless of their geographic location, have the opportunity to access the potential benefits of AI in education. Without adequate financial support, the widespread adoption of AI could inadvertently exacerbate existing inequities in school resources, further disadvantaging already vulnerable student populations.

There is also a risk of over-reliance on AI in education, which could undercut the essential role of educators and potentially hinder the development of critical thinking skills and independent learning abilities in students[21]. Recent studies have shown that overreliance on AI tools diminishes young people's critical thinking[22] and creative problem solving[23] - two critical skills the Fortune 500 CEOs say are essential for their future workforce[24]. Students may become overly dependent on AI tutoring systems to solve problems or complete tasks, reducing their capacity or motivation to engage in deep, analytical thinking[25]. Critical thinking is a fundamental skill that students need to cultivate, as it equips them to analyze information objectively, make reasoned judgments, and solve complex problems effectively. To counter this potential challenge, curricula should be intentionally designed to foster critical thinking and problem-solving skills alongside the integration of AI tools. The goal should be to ensure that AI is a valuable tool to augment human intelligence and learning, rather than allowing it to replace the essential development of higher-order cognitive skills. Educational practices should therefore

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[19] ResearchGate. (2023). *Communication Competency: The Impact of Interpersonal Communication on Student's Learning Activities*. Retrieved from https://www.researchgate.net/publication/374090271_Communication_Competency_The_Impact_of_Interpersonal_Communication_on_Student's_Learning_Activities

[20] Eastes, S. (2024, July 3). Navigating the High Costs of AI in EdTech. The Learning Agency. Retrieved from https://the-learning-agency.com/the-cutting-ed/article/navigating-the-high-costs-of-ai-in-edtech/

[21] Gerlich, M., & Gerlich, R. (2023). AI Tools in Society: Impacts on Cognitive Offloading and the Future of Critical Thinking. Technologies, 15(1), 6. https://doi.org/10.3390/technologies15010006

[22] Kausar, S. (2024). The Impact of Artificial Intelligence (AI) on Students' Academic Development. Education Sciences, 15(3), 343. https://doi.org/10.3390/educsci15030343

[23] Essel, H. B., Amankwah, F., Cobblah, A. A., & Baafi, R. A. (2024). Risks of AI-Assisted Learning on Student Critical Thinking. ResearchGate. Retrieved from https://www.researchgate.net/publication/382878289_Risks_of_AI-Assisted_Learning_on_Student_Critical_Thinking

[24] Roberson, D. (2024, January). Must-Have Skills For The Workforce Of The Future. Chief Executive. Retrieved from https://chiefexecutive.net/must-have-skills-for-the-workforce-of-the-future/

[25] Gerlich, M., & Gerlich, R. (2023). AI Tools in Society: Impacts on Cognitive Offloading and the Future of Critical Thinking. Technologies, 15(1), 6. https://doi.org/10.3390/technologies15010006

emphasize activities and assessments that require students to engage in deep analysis, synthesis, and evaluation, even when utilizing AI for specific tasks. As an education system, we need to double down on the human elements of learning, reasoning, and thinking so that young people can work alongside AI and not be replaced by it.

Finally, it is essential to acknowledge the unpredictability of AI and its potential to generate inaccurate or even misleading information. In their current state, AI models can sometimes fabricate information, a phenomenon called "hallucinations"[26]. Right now, AI is like conversing with a brilliant person you cannot trust. Given this inherent limitation, students must be explicitly taught how to evaluate any content generated by AI critically and to verify information obtained from these tools using multiple reliable sources. Developing strong AI literacy skills including the knowledge, skills, and competencies needed to safely use and understand artificial intelligence and critically evaluate its implications, limitations, and ethical considerations is essential for navigating the potential pitfalls of using AI for research and learning, ensuring that students do not blindly accept AI-generated content as factual or accurate.

Future Trends and Implications of AI for the Education System

Short-Term Impacts: The immediate future of education will be significantly shaped by the rapid advancements and integration of AI, requiring the establishment of clear guidelines and proactive and thoughtful approaches to maximize its benefits while effectively mitigating potential risks. We will likely witness an increased adoption of AI for personalized learning experiences and the widespread use of adaptive learning platforms that can tailor educational content to individual student needs. We can also anticipate a greater integration of AI tools designed to automate routine administrative tasks for educators and to assist them in the often time-consuming processes of lesson planning and grading student work. Students will likely continue to increase their use of AI for various academic purposes, including conducting research, drafting written assignments, and seeking help with homework. This growing prevalence of AI in education will necessitate that educators adapt their teaching practices and acquire the skills needed to integrate these new technologies into their classrooms effectively. Furthermore, there will be an increasing focus on addressing the ethical concerns associated with AI in education and developing clear guidelines and policies to govern its responsible use.

Long-Term Implications: Looking further into the future, AI has the potential to fundamentally reshape the entire education system, moving away from more traditional, one-size-fits-all models towards learning experiences that are significantly more personalized and dynamically adaptive to individual learners. The roles of teachers are also likely to evolve considerably, with a potential shift towards a greater emphasis on mentorship, providing individualized guidance to students, and fostering the development of higher-order thinking skills such as critical analysis and problem-solving [15]. There will be an increasing need to prioritize the teaching of AI literacy to students, equipping them with the essential skills required to navigate and succeed in an increasingly AI-driven workforce. We can also anticipate the continued development of even

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[26] Li, J., Lyu, T., Zhang, Z., & Li, Z. (2024). AI hallucination: towards a comprehensive classification of distorted information in artificial intelligence-generated content. [1] *Humanities and Social Sciences Communications*, *11*(1), 217. https://doi.org/10.1057/s41599-024-02707-3

more sophisticated AI-powered educational tools and platforms that offer enhanced capabilities and functionalities. Throughout these long-term transformations, the ongoing need to address critical ethical considerations, ensure equity of access and outcomes for all learners, and carefully consider the impact of AI on the crucial element of human interaction within the educational experience will remain paramount. In the long run, the integration of AI holds the promise of creating a more personalized, efficient, and ultimately more equitable education system for all learners. However, realizing this ambitious vision will necessitate careful planning, sustained investment, and an unwavering commitment to proactively addressing the various challenges and ethical dilemmas that arise along the way.

Impact of Recent Actions on AI Innovation in K12 Education

The US education system's ability to effectively prepare students for an AI-driven world hinges on developing and implementing relevant and high-quality AI tools and capacity across all levels of education. This requires critical capacity in research, data, technology, and more at the Department of Education, National Science Foundation, Commerce Department, and other agencies.

The operational capacity of the Department of Education has been significantly impacted by a reduction in its workforce by nearly 50% since January[27]. Certain offices within the Department have experienced near-complete staff elimination, potentially rendering them non-functional[28]. Notably, offices overseeing critical functions such as protecting federally guaranteed student rights, research, and data collection have been significantly affected[29]. The Institute for Education Sciences (IES), the Department's research arm, has seen most of its research contracts terminated and over three-quarters of its staff cut, and the National Center for Education Statistics (NCES) has been reduced to a minimal number of employees[30]. Such drastic reductions in these key areas could severely hinder the ability to gather reliable education data, conduct rigorous research on effective practices (including in AI education), and ensure equitable access to educational opportunities, all of which are foundational for navigating the challenges and opportunities presented by artificial intelligence.

Through multiple administrations, the Department has played a vital role in informing state and local action on AI and other education technologies. In October 2024, for example, the Department released "Empowering Education Leaders: A Toolkit for Safe, Ethical, and Equitable AI Integration."[31] This toolkit signified a recognition of the increasing role of AI in education and an effort to guide education leaders on how to incorporate AI responsibly and

[27] U.S. Department of Education. (2025, March 21). *U.S. Department of Education initiates reduction in force.* Retrieved from https://www.ed.gov/about/news/press-release/us-department-of-education-initiates-reduction-force

[28] Binkley, C. (2025, March 25). *Education Department layoffs gut civil rights office, raise concerns over enforcement.* Associated Press. Retrieved from https://apnews.com/article/trump-education-department-layoffs-civil-rights-8cbf463cce765f497c10d688ab4d51e1

[29] American Educational Research Association, & Other Education Research Associations. (2025, March 25). *Joint Letter to Congress.* Retrieved from AERA and Other Education Research Associations Issue Joint Letter to Congress

[30] American Educational Research Association, & Other Education Research Associations. (2025, March 25). *Joint Letter to Congress.* Retrieved from AERA and Other Education Research Associations Issue Joint Letter to Congress

[31] U.S. Department of Education, Office of Educational Technology. (2024, October). *Empowering education leaders: A toolkit for safe, ethical, and equitable AI integration* (ED661924). U.S. Department of Education. https://files.eric.ed.gov/fulltext/ED661924.pdf

ethically. This resource was an invaluable guide for states and districts that did not have sufficient technical expertise or capacity to take on this emerging technology.

Furthermore, the Office for Civil Rights within the Department had issued guidance to avoid discriminatory uses of artificial intelligence in schools[32]. This guidance demonstrated an understanding of the potential for AI to exacerbate existing inequalities and the importance of ensuring its equitable application in educational settings, from college admissions decisions to allocating funding. Beyond internal initiatives and guidance, the Department of Education has also engaged in research partnerships related to AI. Notably, it has collaborated with the National Science Foundation (NSF) on the "AI-Augmented Learning for Individuals with Disabilities" initiative[33]. This partnership underscores the potential of AI to address specific educational needs, particularly for learners with disabilities, and leverages the research expertise of the NSF in technology-driven innovation. The NSF also leads the National Artificial Intelligence Research Institutes program, which focuses on AI-augmented learning[34], and the EducateAI initiative aimed at expanding AI education nationwide[35].

The loss of the Office of Educational Technology (OET) presents a particular challenge. This office plays a crucial role in informing the effective integration of technology, including AI, into educational practices. The dissolution of OET will leave a void in leadership and support for AI education initiatives, **potentially leaving the US behind other nations in fostering AI literacy and advancements among students and educators.**

Reduced investment in education, particularly in areas related to science, technology, engineering, and mathematics (STEM), and specifically AI, carries significant long-term consequences for the United States. It risks causing the nation to fall behind other countries prioritizing AI education and research as crucial for future economic competitiveness. A**s nations like China[36], Singapore[37], and South Korea[38] actively introduce AI curricula and AI literacy into their education system, a decline in US investment will lead to a loss of global leadership now with generational consequences in this critical technological domain.**

A less prepared workforce, resulting from inadequate investment in AI education and workforce development programs, would hinder the nation's ability to innovate and compete effectively in

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[32] U.S. Department of Education, Office for Civil Rights. (2024, November). *Avoiding the discriminatory use of artificial intelligence* (ED661946). U.S. Department of Education. Retrieved March 29, 2025, from https://eric.ed.gov/?ff1=subComputer+Software&id=ED661946&q=uses&utm_source=chatgpt.com

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AI. A shortage of skilled AI professionals could stifle technological advancements, limit economic growth, and even impact national security, as AI is increasingly recognized as a vital technology for defense and intelligence. Furthermore, federal budget cuts to research and development, including those affecting education, could significantly undermine America's long-term leadership in artificial intelligence innovation. Foundational research, often supported by federal funding, is crucial for major technological breakthroughs, and reducing this investment could have severe consequences for the nation's future competitiveness in AI.

Recommendations for Congressional Action

1. **Invest in Research and Development:** Congress should allocate federal funding to support rigorous research to advance several goals, including a deeper understanding of the multifaceted impact of AI on learning outcomes, teaching practices, and overall student development across all age groups and diverse subject areas. Investing in developing robust ethical AI frameworks and effective bias detection and mitigation tools tailored explicitly for applications within the education sector is also crucial. Furthermore, funding should be directed towards promoting research into the most effective pedagogical strategies for integrating AI in ways that demonstrably enhance student learning and foster the development of critical thinking skills. This work could be done through more rapid cycle research and development mechanisms, including supporting a vehicle like NCADE - a proposed center within the Institute of Education Sciences (IES). It is envisioned to function similarly to the Defense Advanced Research Projects Agency (DARPA) but focused on **education research and development**. The goal of NCADE would be to develop and scale innovative approaches and tools for teaching and learning through rapid testing and iterative development. Likewise, special attention should be paid to supporting the development of state and local research and development capacity so that R&D is contextually appropriate to the local community's needs. Furthermore, funding should be directed towards promoting research into the most effective pedagogical strategies for integrating AI in ways that demonstrably enhance student learning and foster the development of critical thinking skills. Finally,

2. **Support Investment in Public Data Infrastructure and Data Systems: Federal** support for education data systems is crucial for informed decision-making at all levels, from classrooms to state and national policy. Standardized, interoperable data systems allow educators and policymakers to track student progress, identify achievement gaps, and allocate resources effectively to address specific needs. In the age of artificial intelligence, robust federal support for education data systems is crucial to unlock the transformative potential of AI for learning and workforce development and make AI models more reliable and trustworthy. Public data infrastructure that allows for anonymized student data, protecting privacy while supporting better tool development, provides industry access to large-scale datasets essential for training and validating AI models, fostering innovation, and reducing development costs. Ultimately, this investment in data infrastructure empowers evidence-based practices that lead to improved educational outcomes and better educational AI tools for all students.

3. **Develop National Guidelines and Policies:** Congress should take the lead in establishing clear and comprehensive guidelines and highlighting best practices

concerning the use of AI in education to support states and districts. This includes directing NIST to develop robust zero-trust drafts and standards specifically tailored to the educational context, ensuring full compliance with existing regulations while proactively addressing emerging challenges posed by AI technologies. This will allow both the districts and schools to navigate building knowledge and use of this technology, and also empower industry to develop safe and responsible tools by reducing regulatory burdens, building public infrastructure, and reducing development costs through alignment and coherence. Additionally, a clear definition of AI literacy [39]and a strategy to address the development of students' and educators' AI literacy to ensure a baseline level of understanding of the technology and its responsible use.

4. **Support Educator Professional Development:** To ensure that educators are well-prepared to navigate the evolving landscape of AI in education, Congress should provide dedicated funding to support comprehensive professional development programs, such as through existing Title II and Title IV programs. These programs should equip teachers with the essential knowledge, practical skills, and ongoing support needed to utilize AI tools in their classrooms effectively and to adapt their teaching practices to leverage the unique capabilities of these technologies.

5. **Promote Equitable Access:** Congress should invest in crucial public connectivity infrastructure and targeted programs to ensure that all communities have access to the necessary technology, reliable internet connectivity, and adequate technical support required to benefit from AI in education fully. Special attention and resources should be directed towards supporting underserved schools and students, including students with disabilities and those in rural communities, to bridge the digital access divide effectively.

6. **Foster Collaboration and Dialogue:** Congress should actively promote collaboration and open dialogue among key stakeholders to facilitate a thoughtful and effective approach to integrating AI in education. This includes convening educators, students, parents, technology experts, policymakers, and researchers to share their perspectives, insights, and concerns regarding the responsible use of AI in educational settings.

Conclusion

Artificial intelligence presents a transformative force with the potential to significantly impact the education system, offering both remarkable opportunities and considerable challenges. Proactive and informed policymaking at the congressional level is essential to ensure that AI is harnessed responsibly, ethically, and equitably to enhance learning outcomes for all students across the nation. By balancing the potential benefits of AI with the critical need to safeguard student privacy, address algorithmic bias, provide robust support for educators, and preserve the indispensable human element in education, we can collectively work towards ensuring our shared economic prosperity, global competitiveness, and human flourishing.

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[39] AI literacy, a form of digital literacy, is the knowledge, skills, and competencies needed to safely use and understand artificial intelligence and critically evaluate the implications, limitations, and ethical considerations of AI use.

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Chairman KILEY. Thank you very much. Last, I will recognize Mr. Chism for your testimony.

STATEMENT OF MR. CHRIS CHISM, SUPERINTENDENT, PEARL PUBLIC SCHOOL DISTRICT, PEARL, MISSISSIPPI

Mr. CHISM. Chairman Kiley, Ranking Member Bonamici, and the rest of the members that are here today, I just want to say thank you for the opportunity. It has been a really interesting 18 hours of getting here. I did not think I was going to make it with the flight cancellations, but I am here, and I am honored to be here to answer a few questions for you guys.

I want to take this in a little different direction. You have my written testimony, but my written testimony goes all over the place. There are 10 or 12 topics there, so I really want to cover a couple today that I think are the most important. First and foremost, is workforce development. That is something that we need to be focusing on in the K–12 world.

I can tell you this, I did a presentation a couple of weeks ago for business and industry. It was open to anybody that could come, or who wanted to come. We had people from IT, we had people from insurance, we had people from banking, we had people from all walks of life coming into this.

Really, the point of all of this is AI is going to be involved in every branch of business moving forward. It does not matter where we go or what we do, and that is global. That is not just Mississippi, that is not just the U.S., that is globally as well. We are going to see AI in everything that we do. It is going to be the new industrial revolution.

A lot of times in education we are the last ones to change. You know, it takes us a long time to get things moving, so I have really tried to be on the front end of this, in doing a lot of training in our State and teaching people how to use this, and the right ways to use it.

The second thing is I really want to touch on efficiency. This is a big part of what I do in giving these presentations to other school districts, to other states as well. Efficiency is where this train is driven from.

AI can make all of us so much more efficient, and that is teachers, that is students, that is administrators, that is central office personnel, everything that we do creating our own agents that can do things for us is how we create that efficiency.

Again, it is not as hard as people think it is to create these things, so in the end, ultimately that's what we are trying to do is create efficiency within schools. Again, I agree with a lot of things that have been said here already. I am not going to rehash a lot of those. A lot of those are in my written testimony as well.

In the end, what we need to do is continue to move forward. This is not going anywhere, and so we in the K–12 world, we need to respond to this as quickly as possible. I want to end with a story quickly, and I have an English teacher who for 29 years, she can retire anytime that she wants. In fact, she called me this fall and said I am going to retire. I said I need you to come and talk to me for a few minutes. I do not need you to retire.

She came over and had a discussion with me, and she said I just cannot do it anymore. She said I am grading papers every night for three and 4 hours a night. It is taking me eight to 10 days to get this information back to kids. I just cannot do it. I need to be a mom. I need to be a wife. I just cannot do it anymore.

I said well, can you spend about an hour with me? She did. We created an agent for her. We uploaded the State writing rubric, and basically, we took everything that she teaches in writing from introductory paragraphs, to conclusions, transitions, sentence structure, all of these things, and we created an agent for her to use in the classroom.

Now she does not have to take those papers home and grade them, and understand that AI is not doing the grading, that AI is a tool that she is using to help grade.

I think again, that just gives you an example of where we can be so much more efficient in the classrooms, as administrators, as teachers across the board, and again, I will certainly take any questions.

Again, I am so very proud and honored to be here with you guys. Thank you.

[The statement of Mr. Chism follows:]

Testimony on the Use of Artificial Intelligence in K–12 Education

Introduction

Chairperson, Ranking Member, and Members of the Subcommittee, thank you for the opportunity to speak with you today about the use of Artificial Intelligence (AI) in K–12 education. My name is Chris Chism, and I serve as the Superintendent of Pearl Public School District in Mississippi. I have dedicated 29 years to public education as a classroom teacher, a principal at the middle and high school levels, and now as a superintendent. I also have a background teaching mathematics, science, and technology courses. Over the past year, I have conducted more than 150 AI training sessions for educators and administrators and participated in national conversations about AI in schools. I come before you not only as a school leader but as a lifelong educator who has seen firsthand the transformative potential of AI in our classrooms and offices. My testimony will outline the promise and potential of AI for personalized learning, student engagement, and efficiency; how AI improves administrative functions across various school roles; real examples of AI implementation in my district; the pros and cons of classroom AI use; concerns regarding equity, teacher training, over-reliance, and student data privacy; and recommendations for federal policymakers to support the responsible and equitable integration of AI in K–12 education.

The Promise and Potential of AI in Education

Personalized Learning and Student Engagement: AI holds extraordinary promise to tailor education to each student's needs in ways we could only dream of in the past. Instead of a one-size-fits-all approach, AI can help expedite learning by giving students an individualized path to proficiency. For example, modern AI tutoring systems act as always-available digital tutors that never sleep, offering examples and adapting to a learner's needs in real time. We now have tantalizing glimpses of this potential becoming reality through tools like Khan Academy's AI assistant, which can guide a student through a math problem step-by-step or provide personalized feedback on their writing. These systems can increase student engagement by making learning more interactive and relevant. Many students find AI tools novel and motivating—for instance, an English class used AI to translate Shakespeare into modern language, freeing class time to dive deeper into discussion of themes and meaning. When educators harness AI in these ways, students become more engaged and active in their own learning, because it is customized to the individual. Using these AI tools will allow educators to close gaps in student progress faster than ever before.

AI in classrooms can take many forms, from adaptive learning software to AI-assisted tutoring. When implemented thoughtfully, these technologies promise to engage students by providing interactive, personalized learning experiences. An AI-powered platform might present each student with practice questions at just the right level of difficulty, offering hints or adjusting the lesson based on the student's responses. Students can also receive instant feedback from AI tutors—essentially a "teaching machine" that is responsive to their individual needs. Such personalized support keeps learners motivated and allows teachers to spend more time on higher-level instruction and one-on-one mentoring, rather than delivering broad lectures.

Efficiency and Teacher Support: The potential of AI is not just about student learning—it is also about empowering teachers and making their workload more sustainable. AI can automate or accelerate many of the routine tasks that fill a teacher's day, from drafting lesson plans to developing quizzes and assessments. For example, with the help of a generative AI tool, a teacher can generate a first draft of a lesson plan or a set of discussion questions in seconds, when it might have taken hours otherwise. One recent analysis found that using AI, like ChatGPT, can significantly reduce the number of minutes a teacher wastes by automating the first draft of time-consuming tasks. In my district, teachers have used AI to brainstorm creative project ideas, adapt reading materials for different reading levels, change languages of texts, run data analyses, and generate sample quiz questions for quick assessment. By handling initial drafts of instructional materials or parent communications, AI tools allow educators to focus on refining and personalizing the material, rather than starting from scratch. This is the key to efficiency. Used responsibly, ChatGPT and similar AI can be a powerful time-saver for teachers, helping them find resources to supplement lessons or summarize reports they must submit to administrators. This efficiency means teachers can redirect their energy toward engaging with students and planning more meaningful learning experiences. In short, the promise of AI in education is a classroom where each student gets more individualized attention and each teacher has more time to do what humans do best – inspire, mentor, and innovate.

AI for Administrative Efficiency in Schools

Beyond direct classroom instruction, AI is also transforming the administrative and operational side of education. In a school district, every role – teachers, principals, IT staff, counselors, and even the Chief Financial Officer – can benefit from AI-driven efficiency improvements:

- **Teachers:** AI assists teachers with planning, grading, and communication. Educators are using AI to generate unit outlines aligned with standards, create slide presentations with built-in quiz questions, and even devise creative instructional approaches on demand. All of these items are customizable to our district's standards and requirements. Routine tasks like drafting homework instructions or writing parent newsletter updates can be handled in moments by AI. For example, instead of writing a lengthy email response to a common parent question, a teacher can ask an AI assistant for a professional draft, then quickly customize it to add a personal touch. Teachers in my district have also leveraged AI to differentiate instruction – one teacher had AI instantly produce a simplified version of an article on current events for a student who was an English language learner, helping that student participate fully in class. By taking care of these repetitive tasks and providing on-demand resources, AI frees up teachers' time and reduces burnout, allowing them to concentrate on student interaction and creative teaching.
- **Principals and School Leaders:** School administrators juggle a wide range of responsibilities, from analyzing data to communicating with stakeholders. AI can help principals quickly analyze attendance and behavior data to spot trends, or compile and summarize stakeholder feedback from surveys. In Pearl Public School District, our principals and assistant principals have used AI to draft school improvement plan outlines and even to get a head start on writing complex reports. As one of our high school assistant principals noted, AI can build a rough draft of a document "within seconds" – a draft that might have taken days to compile manually – which the leadership team can

then refine together. This speeds up strategic planning and decision-making. Additionally, AI tools can assist in writing routine announcements or creating schedules. For instance, if a principal needs to craft an emergency weather closure message or a detailed orientation guide for new families, AI can generate a well-structured draft in moments. The administrator can then edit for accuracy and tone, ensuring the final communication is both timely and appropriate. These efficiencies mean school leaders spend less time behind a computer screen and more time supporting teachers and students directly.

- **District Administration (Operations, Finance, and HR):** AI is proving invaluable in the central office as well. One innovative use we are exploring in-house is optimizing bus routes and finding cost savings in transportation – a complex puzzle that AI can analyze faster than any human. By training an AI model on our routing data, we can identify more efficient bus routes, saving fuel and reducing student travel time without compromising safety. Our Chief Financial Officer (CFO) can use AI tools to analyze budget spreadsheets for anomalies or to project future costs under different scenarios. AI can sift through years of purchasing data to suggest where we might negotiate better deals or even examine energy usage data from our schools to recommend conservation strategies. In human resources, AI can assist with scanning teacher applications to quickly highlight candidates who meet our criteria or even draft a first version of job descriptions and interview questions. While these administrative tasks happen behind the scenes, making them more efficient has a direct impact on students: dollars saved through AI-identified efficiencies can be reinvested in classrooms, and time saved means administrators can devote more attention to educational quality. In essence, AI is becoming an on-demand assistant that every administrator needs – crunching numbers, compiling information, and generating useful insights on demand.

Real-World Examples from Pearl Public School District

Theory and potential are important, but I'd also like to share real examples from my own district where AI is already making a difference. Pearl Public School District has not only embraced AI in concept – we have actively put it into practice in ways that benefit our educators and students, all while safeguarding privacy. Here are a few key examples:

Teachers Developing New Ideas with AI

When I first introduced AI tools like ChatGPT to our staff, there was understandable caution – one staff member even asked if the AI was "going to replace me". But that hesitation quickly gave way to excitement as teachers discovered that AI is a *partner*, not a threat. Erin Jostes, our behavior specialist who works with grades 9–12, described AI as being like a "best friend" to bounce ideas off of. In her role, she often faces challenging student behavior cases and must come up with interventions. Now, she can input details of a difficult situation into an AI assistant and immediately get a list of possible strategies and interventions. She told me that the AI will suggest a wide range of approaches – she can check off the ones she's already tried and often find a new idea in the list that she hadn't considered, saying "Hey, we haven't done this... maybe this is something we should try". This has rejuvenated our approach to student behavior support by injecting fresh ideas and evidence-based practices.

Teachers in our district are also using AI to invigorate their lesson plans. A math teacher might ask AI for a creative way to teach algebraic concepts and receive a suggestion like a real-world project or a fun analogy that makes the concept click. An English teacher can use AI to generate a bank of journal prompts or discussion questions tailored to a novel her class is reading. These ideas spur the teacher's own creativity. At the elementary level, our teachers have turned AI into the actual authors of different works so students can have a Q&A session. Importantly, the teacher remains in control in every aspect of use – they review AI's suggestions and choose what best fits their students. By serving as a brainstorming partner and instant resource library, AI has helped our teachers expand their instructional toolkit.

Custom GPTs to Save Time and Share Knowledge

One innovation we have pursued in Pearl is the creation of custom GPT-powered agents for specific tasks. Using readily available technology, one can actually build a specialized AI agent (a "custom GPT") that is preloaded with a defined knowledge base or given specific instructions. That created agent could then be shared with others in the district or abroad. We have experimented with this concept by creating a custom AI assistant trained on our district's curriculum standards and teaching resources. This means a teacher can ask our custom AI, "Give me an idea for a 5th grade science lesson about the water cycle aligned to our state standards," and get a useful answer that aligns with our local curriculum priorities. Another custom GPT we built contains our school board policies and procedures. Our administrators can query this AI for quick answers instead of flipping through policy manuals – for example, "What is the policy number and summary for student use of technology?" – *saving time when minutes matter*. Essentially, we are creating **"mini brains"** in the form of AI agents that serve as on-demand experts for our district employees. This not only saves time but also democratizes knowledge across the district: a new teacher can ask the AI questions that they might have been hesitant to ask a busy colleague and get accurate answers instantly. We believe this approach holds great promise for scaling expertise in areas like special education legal compliance, emergency procedures, and even IT support, by encapsulating the knowledge base into an AI that any staff member can consult 24/7.

Let me give you one last example. This fall, I had one of my English II teachers call me. She has been doing this for 29 years. She told me she was tired and was ready to retire. I asked her to come meet with me about this decision. I asked what I could do to change her mind. She relayed to me that she has a high school student in band now, and she just does not have the time to grade papers for hours each night. We spent the next 2 hours creating a GPT (mini brain) for her to use with her students. We uploaded the state writing rubric, and we spent a lot of time defining what good writing looks like in her classroom. She can now take this GPT into the classroom with her and share it with students. They now receive instant feedback using this GPT instead of waiting 7-10 days for that feedback from the teacher. Our English teacher can now spend time with each student on individual writing styles in class, and she never has to grade a paper at home. Our kids now write 3X as much each week, because feedback is given immediately. Most importantly, our English teacher is staying. This is just another example of the power AI can give to both students and teachers within a classroom.

In-House AI Infrastructure to Protect Privacy (FERPA Compliance)

One of our proudest initiatives – and something quite cutting-edge for a K–12 district – is that we have created our own **in-house AI server** that can run multiple AI languages. The reason is simple: we wanted to harness AI's power without compromising student privacy. Public AI platforms like the free version of ChatGPT pose a risk because if you accidentally input student names or other identifying information, that data goes to an external server, potentially violating privacy laws like FERPA. We needed a solution that keeps our data within our control. By building an in-house AI system, essentially a private server for AI, we no longer have those limitations. Our server is not connected to the open Internet; it's a closed system available only to our district. We can safely train models on our own data – for example, feeding in anonymized student performance data or curriculum materials – and use AI analysis internally. This means we could ask the AI questions that involve sensitive data (like an internal analysis of which students might benefit from additional reading support) and be confident that no outside entity can access that information. We believe we are one of the first school districts to do this, and it is drawing interest from others.

With our local AI server, the possibilities are expanding. We plan to use it for operational efficiencies that directly impact our budget and services. As mentioned, one use case is analyzing transportation routes; our internal AI can crunch the numbers on bus routes, bell schedules, and neighborhood data to suggest more efficient bus routes and potential cost savings, something we expect to refine our operations. We're also exploring using AI to help with data-heavy tasks like budgeting projections and inventory management for supplies. All of this is done with strict adherence to student data privacy – because the AI is housed on our own server, it operates under FERPA compliance by design. For districts like ours, this approach offers a promising path to leverage AI's strengths while upholding our legal and ethical responsibility to protect student information. I would encourage federal support for initiatives that help more districts develop secure, privacy-preserving AI infrastructures similar to ours.

Pros and Cons of AI Use in the Classroom

AI is a powerful tool, but like any tool it comes with both advantages and potential drawbacks in the classroom context. It is important to weigh these pros and cons as AI is integrated into teaching and learning:

Key Pros:

- **Personalized Learning:** AI can adapt to each student's needs, providing tailored instruction and practice. An AI tutor can give immediate feedback and adjust rigor in real-time, helping advanced students move ahead and allowing struggling students to learn at their own pace with extra support. This personalization was once an unattainable ideal in a busy classroom, but AI makes it feasible to give every student more individual attention.
- **Increased Student Engagement:** The novelty and interactivity of AI-based activities can boost engagement. Students are excited to use tools like ChatGPT to create something fun and thus become more invested in the material. Teachers report that students are highly motivated when asked to fact-check or critique AI-generated answers, turning a potential cheating tool into a lesson in critical thinking; in fact, some teachers said their

students "have never been so engaged in writing" as when they had to critique an essay written by AI.

- **Teacher Efficiency and Effectiveness:** AI can take over routine tasks and reduce teacher workload. It can rapidly grade objective assessments, draft lesson outlines, or produce a summary of a text for teachers, saving hours of time. This allows teachers to spend more time on lesson refinement, student mentorship, and professional learning. AI can also serve as a "second pair of eyes," helping teachers check for errors or bias in their materials and suggesting improvements. For example, one of our specialists uses AI to double-check her behavior intervention plans, helping "take the human error or emotion out" and ensure strategies are evidence-based.

- **Data-Driven Insights:** AI systems can analyze mountains of educational data far faster than a human counterpart. This analysis can help identify patterns, such as which skills a class is struggling with, enabling timely interventions. It can also support individualized recommendations – for instance, an AI might analyze a student's performance and recommend specific resources or activities to help with a concept he has not mastered. These insights help educators make informed decisions backed by data.

- **Future-Ready Skills:** Allowing students to work with AI in guided ways prepares them for a future where AI will be ubiquitous. Just as we teach students how to use search engines or spreadsheets, using AI tools in class (under supervision) helps them develop digital literacy and critical thinking about technology. In our district, we explicitly train older students (10th-12th grades) on ethical and effective AI use, recognizing this will likely be integral to their future jobs. This gives students a leg up in college and the workforce, where AI competencies are increasingly in demand. Currently, there are careers and jobs in our local area that will not hire a new employee without these advanced skills. The reality is this: AI is coming like a speeding train down the tracks. It will be a part of everything we know and do in the next few years. It is incumbent on all of us to lead this charge to make sure our students are prepared for what is to come.

Key Cons and Challenges:

- **Cheating and Academic Integrity:** Perhaps the most immediate concern with AI in classrooms is the ease with which students might use it to cheat or plagiarize. AI can produce essays, solve math problems, or do homework at the click of a button, which tempts students to submit AI-generated work as their own. We have seen reactions ranging from suspicion to outright bans of AI tools in some schools across the state and country. If assignments are not designed with AI in mind, it can undermine the learning process. Educators must adapt by focusing more on in-class work, oral presentations, and process-oriented assessments, as we have done in Pearl. For example, we place greater weight on in-class writing now, knowing take-home essays could be altered by AI.

- **Inaccurate or Biased Content:** AI systems like ChatGPT can sometimes produce incorrect or misleading information. These systems are only as good as the data and algorithms programmed into them. If a student or teacher relies on an AI's answer without verification, it could propagate errors. Moreover, AI models have been shown to exhibit biases – for instance, they might reflect societal or historical biases present in their training data. Without careful oversight, there is a risk of AI inadvertently reinforcing stereotypes or providing one-sided perspectives. This means teachers must

fact-check AI outputs and teach students to critically evaluate AI-provided information. We stress that AI's answers are a starting point, not an ultimate authority. A key point to remember is with most publicly available AI systems, there are ways to customize preferences for outputs that alleviate biases and also fact-check the information provided.

- **Over-Reliance and Erosion of Skills:** There is a concern that both educators and students could become over-reliant on AI, to the detriment of fundamental skills. For teachers, if one leans too heavily on AI to plan lessons or solve problems, one might skip developing a deeper understanding of pedagogy or content that comes from manual creation. As one education expert warned, technology should not drive teaching; rather, sound teaching practice must drive how we use the technology. For students, if they turn to AI for every answer, they may not develop critical thinking, writing, or problem-solving skills as fully. We must ensure AI is used to supplement learning, not replace it. Maintaining a healthy balance is key; students should still struggle productively and learn to think for themselves, while using AI as a support tool, not a crutch.

- **Privacy and Data Security:** AI technologies often require data to function well, and in education this means student data – from personal information to academic work – could be involved. Using external AI services raises serious privacy issues, since sharing student data with a third-party service can violate confidentiality or laws like FERPA. Even prompts that seem harmless might include context that identifies a student or teacher. Additionally, AI systems might store or learn from the data entered, creating long-term privacy concerns. Our district addressed this by developing an in-house AI system, but most districts do not have that capability. Without strong safeguards, the use of AI could put sensitive student information at risk. This is a con that needs to be managed with clear policies, possibly regulation, and technological solutions (like encryption or on-premises options). Some companies are now making a concerted effort to take care of these privacy issues. OpenAI has recently released an "education" version of ChatGPT that addresses these privacy concerns.

- **Equity Gaps:** To many, there is the concern AI in education could exacerbate inequities if not handled carefully. However, I am a firm believer that AI can and will help students and school districts bridge the divide that can sometimes be caused by inequality in funding. Cost-effective AI can take the place of many very expensive programs. Many of these AI programs are free to users, and the paid versions of these programs have very little cost to the end user. As we move forward with this technology, I see these costs dropping even further.

- **Teacher Training and Readiness:** Introducing AI into education without proper teacher training is a recipe for frustration and uneven results. Many teachers are understandably not familiar with how AI works or how to integrate it into their teaching. Without professional development and support, some may misuse AI or avoid it altogether out of fear. There is also the concern mentioned earlier: focusing on training teachers to use AI tools without strengthening their underlying foundational skills. We must train teachers both in the technology itself and in the instructional strategies to use that technology effectively. This takes time and resources. In my district, we have invested time and continuous coaching for our staff on AI, but we are fortunate to have leadership support and some technical capacity within the district. Many school systems will need help to bring their educators along so that AI's benefits can be utilized widely and consistently.

In summary, the pros of AI in the classroom – personalization, engagement, efficiency, data insights, and future skills – are exciting and substantial. The cons – cheating, inaccuracies, over-reliance, privacy risks, and training needs – are real challenges we must address head-on. The goal is to maximize the benefits while mitigating the risks, through thoughtful implementation and support.

Recommendations for Federal Policymakers

AI's transformative potential in education will only be realized if we act intentionally to support and guide its implementation. I respectfully offer the following recommendations to Congress and federal education policymakers to help schools like mine navigate this new era. These recommendations focus on funding, privacy, equitable access, and professional development:

1. **Please DO NOT Regulate this Out of K-12 Education:** In most of the places I present, the first question I am asked is this: "What policies do you have in place?" We do not currently have any policies on using AI. Why? I do not want to stifle creativity and innovation. We will put a policy in place when we need one – not just to say we have one. Everything currently falls under our Acceptable Use Policy, and if students get caught cheating, it falls under our discipline policy. We have no current need for a policy. Some states have already "regulated" this out for all state employees on all state computers – this includes students and teachers. A federal policy that limits AI usage would be detrimental to students and educators moving forward. The need for regulation should be centered around the misuse of the technology – such as "deep fakes".

2. **Potentially Shift Funding to AI Infrastructure and Research in Education:** Provide opportunities for dedicated funding streams to help K–12 schools acquire and implement AI tools and the necessary technology infrastructure. Many promising AI applications (from adaptive learning platforms to internal data analytics tools) require high-speed internet, modern devices, and sometimes expensive software or computing power. Federal programs (similar to how E-Rate helped schools get internet access) could ensure even high-poverty and rural schools can afford AI innovations. This includes state and local agency support as well. Additionally, investigate pilot programs and research to identify what AI-driven approaches improve student outcomes. Congress should also consider supporting the development of open-source AI tools for education to reduce long-term costs and dependency on big vendors. In short, strategic leadership can accelerate AI benefits while ensuring they reach all corners of the country, not just those who can afford them.

3. **Modernize Student Data Privacy Laws and Guidance:** Update and strengthen laws and regulations to address the unique privacy challenges of AI. FERPA, which was written long before AI, may need clarifications or amendments to cover scenarios like cloud-based AI services handling student information. Clear federal guidelines should define how educational data can be used to train AI models, and what safeguards must be in place. I urge support for efforts such as establishing privacy and ethics standards for AI in education. This could involve certification of AI products that meet stringent privacy criteria, giving districts confidence in choosing approved tools. Consider legislation that requires AI companies to allow schools to opt-out of data collection or to provide local hosting options. The recently issued Executive Order on AI in Mississippi is a step in the

right direction, and education should be a key component of its implementation. We need robust enforcement of privacy protections so as AI usage grows, student rights are never compromised. Federal leadership in privacy will help create a trust framework, so educators and families feel safe using AI for learning.

4. **Promote Equitable Access to AI Tools and Close the Digital Divide:** During the COVID years, funding was made available for technology and infrastructure. This funding was a great start on the road to access for all. As you all are aware, those needs are recurring since computers do not last forever. Continuing to fund Title programs will be paramount to bridge this divide for students. Also, rewriting or amending guidance on federal spending for these AI programs would be very helpful in many districts. Districts will need more freedoms to select vendors and to spend Title funding for AI programs and equipment.

5. **Professional Development and Teacher Training for AI:** Federal, state, and local education agencies need to invest the time and resources needed to push ahead with this technology. This could take the form of grants to provide AI-focused professional development workshops, coaching programs, and the creation of instructional materials. Universities and teacher prep programs need support in adding AI-in-education to their curriculum for new teachers. A federally supported clearinghouse of best practices – perhaps an "AI in Education Resource Center" – could collect and disseminate successful lesson plans, policy guidelines, and instructional strategies, so each district isn't reinventing the wheel. We also need to update certification and ongoing education requirements to include technology competence, including AI literacy for educators. Another idea is a National AI Fellows program for K–12 teachers: identify master teachers who are doing great work with AI in their classrooms and provide mentoring opportunities to other teachers locally or even nationwide (through webinars or an online community of practice). These teacher leaders can accelerate peer-to-peer learning. Additionally, consider investing time and resources into research-practice partnerships where schools work with researchers to develop AI tools in real classrooms – this builds capacity among staff and yields practical insights. At the policy level, integrating AI training into existing federal programs like Title II (which funds professional development) would ensure sustainability. The bottom line is that without well-prepared educators, AI tools by themselves accomplish little. By investing in our teachers and leaders, we ensure that AI is used wisely, creatively, and with pedagogical purpose. This will maximize positive outcomes for students and minimize misuse or unintended consequences. Teachers are eager to learn when given the chance – I have seen the lightbulb come on for veteran educators in my trainings, when they realize AI could save them time or help a student in a new way. Let's empower our 3 million teachers and 90,000 principals nationwide to be confident, knowledgeable users of AI. It will pay dividends in student learning and system efficiency.

In addition to these five areas, I also suggest Congress encourages the development of ethical guidelines and research around AI in education. For instance, support for ongoing evaluation of AI impacts on student learning, critical thinking, and mental health will be important. Setting up an advisory panel or task force on AI in education could help coordinate efforts across federal agencies and keep focus on the issue.

Conclusion

In conclusion, artificial intelligence represents a profound opportunity to advance K–12 education if we approach it with wisdom, care, and urgency. In my district, we often say that AI is "coming like a freight train" – its advance is rapid and cannot be ignored. We have chosen to embrace it and "run with it," in the words I have shared with my team. Because we believe with the right guardrails, AI can help us achieve our mission of educating every child to his highest potential. Through personalized learning experiences, greater student engagement, and streamlined operations, AI has already started to lighten the load on our educators and enrich the learning environment for our students. At the same time, we remain clear-eyed about the risks and challenges: we have proactively adjusted our practices to prevent misuse, invested in training our people, and built systems to protect privacy. We are not alone in this journey – schools across America are experimenting with AI, and teachers and students are finding both pitfalls and promise. It is incumbent on us as leaders and policymakers to support them.

Education has weathered many technological waves – from the introduction of calculators to the advent of the internet – and each time we learned success lies in empowering educators, safeguarding our values, and ensuring all students benefit. AI is no different. It will not replace teachers, but teachers who use AI may well replace those who do not. We want our teachers to use it, and use it well, which means they need our support and trust. We want our students to use AI in a thoughtful and responsible way, as well.

My voice today is that of a seasoned educator who has seen what works in the real world. What we need from federal policymakers is a partnership in this endeavor; help us by providing the resources, the policies, and the leadership to integrate AI in a way that upholds our highest ideals of education. This includes funding the infrastructure and research, updating privacy protections, making sure no school is left behind due to cost or access issues, and training our educators at scale. With these supports, districts like mine can focus on innovating in pedagogy and curriculum with AI as an aid. Without the foundations listed above, we risk a patchwork of haphazard adoptions, inequitable outcomes, and legitimate fears taking root.

I firmly believe if we get this right, AI can be a great equalizer and accelerator in education. It can free teachers from the tyranny of paperwork and allow them to be the creative, compassionate professionals they signed up to be. AI can provide students with personalized mentorship and practice that supplements the guidance of their teachers. It can help administrators make smarter decisions that channel more resources to students. Most importantly, it can prepare a generation of young people who are not only consumers of AI technology but also shapers of its future.

Thank you again for the opportunity to testify. I am hopeful about what we can achieve by working together on this new frontier. I look forward to answering any questions you may have and to continuing the conversation on how we can harness AI's potential securely, ethically, and effectively for our nation's schools.

Chairman KILEY. Under Committee Rule 9, we will now question witnesses under the 5-minute rule, and I will now recognize Mr. Rulli for 5 minutes, the Representative from Ohio.

Mr. RULLI. Thank you so much, Chairman. I appreciate that. Mr. Chism, I think everyone is a little nervous about AI, just in general, but also optimistic for what the future could possibly hold. Could you share some of your stories with you about students and this toll and ability to excel them as a student in America?

Mr. CHISM. Absolutely. I am happy to do that. It really begins with the teacher, you know, and again, I do not want you to think that I am saying that we need to teach elementary and middle school students how to use AI, that is not what we are doing. We are really focused on kids that are in 10th, 11th and 12th grade.

Again, the idea is to teach them to use this, but also to teach them to use this in an ethical way. In our trainings, in the things that we do with teachers in training students, what we talk about are really two things, and that is if you can use this as the perfect assistant, and the perfect search engine.

You know, you are using it in an ethical way. There is a big difference between having an AI program write for you, and an AI program write with you. Those are two completely different things. What we have seen, especially in the writing. I just gave you that example from that teacher, right? You know, she can now do these things.

What I was not paying attention to at the time I was helping her, but what we are now doing instead of writing a paper every 10 days, we are writing a paper almost every day. Again, and then this opens up other things, you know, in some of our tech classes as well.

It gives them new ideas and new ways to take this, and I think that is the power of AI, is the idea that it can give you ideas that you have not thought up because it has got access to the full internet. Again, there are 1,000 stories that I can share, but that just gives you an overview of the direction that we are going, and the way that we are using it.

I will tell you it starts with the teachers. It starts with administrators and teachers. If they are not onboard first, our kids are not going to use it in the right way.

Mr. RULLI. I really appreciate that. You know, being a parent, and also looking back in my own mind's eye, when you look at a subject like AI, it is a little contradictory in my own mind about the love and the hate and the scariness of it. I think, you know, the idea that could cure cancer with AI, you could have these kids learn in ways they never possibly could.

Do you have a little, quick piece of advice for mom and dad that maybe are a little bit worried about the guardrails? You know, some of us were raised, you know, watching the terminator, and I mean that is obviously hopefully not going to ever happen, but do you have anything to calm down mom and dad?

Mr. CHISM. You know, I get that a lot in every presentation I give is there is a healthy fear, and I think we should have a healthy fear of it. You know, I think for parents, it is the communication piece with their own kid, and it is making sure that they are also teaching good habits to kids with this.

You know, I think one of the scary things is, and there are models out there that are completely open that have no guardrails, and I think that is one thing that scares me a little bit. You know, you can actually go to Ollama.com and you can download any model that you want, and some have the guardrails taken off.

If a kid is in the tech world and knows how to do this, that can be a scary proposition for a child. I think again, monitoring what your kids do, and having good conversations on what good behavior on this looks like is no different than social media or using the internet in general.

Mr. RULLI. I appreciate that also. Finally, probably one of the most passionate questions I have for you, I was on the school board for 8 years, and I worked with students very closely. I was very

hands on approach, especially when I was the President of the School Board.

I wanted to take focus on AI, and I want to concentrate on an IEP or a 504 Plans, are probably my top priority that I have always been in school. I know a lot of moms out there, and dads are worried about this. Can you talk about AI, and the potential to help our students with disabilities, and how exciting that can be for their future in learning?

Mr. CHISM. Oh my goodness, that is fabulous. My wife is actually a special education director in the district, so I have created several things for our teachers to use, and I think the best part of this is you can take a student's data, and again this is something we may bring out at some point.

We have our own AI server in the district, so we do not have to worry about FERPA laws, OK. We can take the students' assessment scores, and we could match those to State assessments, and then we can use the power of these AI's to actually script an individual plan for that kid with a path to proficiency.

I think that is the exciting part about this, and literally that is done in 20 or 30 seconds. We upload a couple of PDFs; we tell it what we want it to do. I have already pretrained this in the background to do what I want it to do, and in the end, it gives that kid a short-term, medium-term and long-term plans that are developed around that individual child, as opposed to just the entire classroom.

Again, that is one of the things that excites me the most about this.

Mr. RULLI. That could probably be even flipped onto like higher ed. It could go to the University or whatever, because it is so individualized for that particular student. It could be a growing tool that that child grows into adulthood with, correct?

Mr. CHISM. Yes, sir. 100 percent. I do not think this stops at K–12. Honestly, I do not think this stops at college. I think we are going to see this moving into the business world. Knowledge is going to be something for everybody now, and I think that is what is changing in the world of AI.

You know, we used to pay—we pay doctors lots of money, right, but now everybody is going to have access to the specialized training that they have had for years, so again, I do not think it stops in K12, and college. I think that rolls right into adulthood as well.

Mr. RULLI. How exciting. Thank you. I yield my time back, Chair.

Chairman KILEY. Thank you very much. The Ranking Member, Ms. Bonamici of Oregon, is recognized for 5 minutes.

Ms. BONAMICI. Thank you, Mr. Chairman. Ms. Mote, we spoke about the Trump administration's plans to dismantle and abolish the Department of Education, and what that would mean to not only the K–12 system, but institutes of higher education, informed policymaking, civil rights, et cetera.

Could you summarize what, in your opinion, from your work as a technologist, what would dismantling the Department of Education mean for students, and our locally driven public education system, especially regarding the use of AI in K–12 schools? Then

I want to have time for another question too about professional development.

Ms. MOTE. Absolutely. Thank you so much. I think we have to recognize that as you shared in your opening statements, conversations about curriculum, conversations about what is happening in the classroom are inherently a local context. The Department of Education provides critical support to districts across this country, and resources particularly around education technology.

There are over 13,000 public school districts in this country. Not all of them can have a Mr. Chism, who builds his own AI server. They need cybersecurity expertise. They need interoperability and privacy expertise. They need the ability to pick up the phone and call someone at the Office of Civil Rights and ask questions about whether or not the use of this tool is within the bounds of the law.

We cannot expect that expertise and capacity to be built in every school district in this country. If we remove those supports, if we remove the critical research and development function about what works for whom and under what conditions at the U.S. Department of Education, I worry that local schools and districts will not actually be empowered to make the decisions that they should be making about what is taught, what tools, and how we support educators and students throughout this country.

Ms. BONAMICI. Thank you. I am sure everyone here recognizes the importance of professional development, and you know, educators have various levels of skills when it comes to technology. I want to ask you. You noted in your testimony that at one point there was a risk of overreliance on AI that may in fact diminish critical thinking, and creative problem solving.

I also want to just acknowledge Dr. Dobrin said something about the importance of the most sought-after skills, communication, critical thinking, problem solving, teamwork. How would professional development, how does that make a difference, and how would it prevent, or present new opportunities for educators?

How can it inform educators about the risks of AI, and how does elimination of the Office of Educational Technology and cuts to these professional development programs affect opportunities for teachers who are using or want to use more AI?

Ms. MOTE. I am going to introduce a critical concept I hope to this Committee called, Humans in the Loop, in terms of technology. This is the idea that when an IEP is generated by AI, there is still a special education teacher, or a special education coordinator who is looking at that IEP and saying does this match the student that I see in front of me?

AI is never going to replace the fundamental human enterprise that is education, so how do we equip every teacher with the necessary literacy skills to work alongside this technology, to be stewards of minor data, to protect data privacy and security, to choose the right tools, and to stay engaged in this technology?

We can only do that if we support AI literacy and professional development for educators throughout this country. Let us be honest, when I was running my school, I had a lot on my plate. Frankly, like teachers have more on their plate today than they did when I was running my school in Brooklyn. There are challenges with

youth mental health. There are ways to meet the workforce demands. There are questions from parents.

There is increased need to close academic achievement gaps. We need to be able to support educators and not just add another thing to their plate. They need the learning, they need the skills, and they need the understanding of this technology if we expect them to adopt it for the efficiencies that we are talking about here today, the personalization, but also the ability to move forward.

Ms. BONAMICI. Thank you. You mentioned data security and privacy, key issues. I also serve on the Committee on Science, Space, and Technology, and was a member of the bipartisan AI Task Force, and I hope everybody in this building is listening to all of the testimony here today.

Everyone is emphasizing the importance of data security and privacy, and I hope that we can get that done on a bipartisan basis. I just in my remaining few seconds, I want to ask Dr. Rafal-Baer, you talked about the importance of Federal research. Where have you seen the most beneficial research being done when it comes to artificial intelligence in education?

Ms. RAFAL-BAER. I think in the role of Federal research is absolutely critical. Federal research helps to signal what is important. It provides that scale and ability to look at whether things are truly relevant under what conditions they are working, and whether or not we are getting the kind of return on investment that we would expect from that level of research.

Ms. BONAMICI. Where are you seeing that research? The beneficial research, what agencies have been doing that?

Ms. RAFAL-BAER. What agencies at the Federal level?

Ms. BONAMICI. Yes.

Ms. RAFAL-BAER. Are doing that? I think a number of different agencies on the Federal level who have been doing strong research. I think for states, it is about the signaling that the Federal Government does in putting out that research and being able to stand behind that research.

Ms. BONAMICI. Thank you. As I yield back, Mr. Chairman, when it comes to artificial intelligence, I always have 5 hours of questions, and I only get 5 minutes, so.

Chairman KILEY. Thank you. The Representative from Pennsylvania, Mr. Thompson, is recognized for 5 minutes.

Mr. THOMPSON. Chairman, Ranking Member, thank you so much for this hearing. First of all, Ms. Mote, I want to say I couldn't agree with you more. I mean AI is an incredible opportunity, but it does not replace our teachers. It makes them more effective.

AI without either HI or RI, human intelligence, or real intelligence, is just not going to get it done, and it may mislead us. As we have heard today, artificial intelligence presents a unique opportunity to rapidly advance the educational landscape for students with disabilities. In just the last two decades we have seen enormous growth and success of assistive technology in aiding these students, and I believe AI presents the next frontier in helping to ensure all students have access to a high-quality, appropriate education that bests fits their abilities.

Maybe that is why we have not gotten around to doing our job of reauthorizing Individuals with Disability Education Act. You

know because with this new frontier, we would be taking into consideration, as we actually do the reauthorization of IDEA, it is long overdue.

Dr. Rafal-Baer, I know AI is making possible the development of new screening tools and assistive technologies, such as screen readers. Given your previous experience as a special education teacher, and thank you for doing that, could you talk more about the benefits AI adoption might have for students with special needs?

Ms. RAFAL-BAER. Yes. Thank you for that question. I am really excited as a former special education teacher about some of the power and the potential, particularly when it comes to things like screeners. I think there are so many opportunities to learn more about our students, and to be able to use that information in connected ways to give us a fuller picture about each individual student, helping to unlock new ways to think about supporting them.

I also think that like all things, this is very new, and I think being able to really understand and look at the impact of this, and see whether or not these screeners, and these tools are working the way that we would expect, and for what types of students, and under what conditions is such an important research function that we need to continue to explore.

I think that there has been some really promising early research recently out of Ector County in Texas, where they were looking at the way in which AI could support not the students, but the actual tutors, the individuals who are going in and providing support to those students, and looking at tutors at different skills level.

Those who were lower on their skill level, those who were medium in their skill level, and those that were said to be higher performing. What they found was that AI supported all of them, but particularly those that were lower and middle performing.

As a special education teacher, that is really exciting. That means that once we have that information from these screeners, and we can better pinpoint areas that we need to support our students, that there are promising and encouraging results from the research around how AI might help all of the adults who were working with our students, but particularly those that need more support themselves to better differentiate and scaffold for those students, and that is something that really excites me.

Mr. THOMPSON. Do you believe that both teachers and schools at this point have the resources they need to ensure students with disabilities can take advantage of these potential benefits?

Ms. RAFAL-BAER. I think the resource question is always a really tricky one. There is a role at every level in terms of resources. There is a Federal role. There are states prioritizing resources. I think the private sector has a really critical function to play in this world of AI. I think being able to bring everyone together, and doing so in ways where they are partnering effectively, and sharing research and information is a vital function, and it is a vital function of our states.

It is imperative that our states are leading on this, and that our states are collecting data and information, and reporting transparently and publicly so that individuals understand what this looks like, and how those resources are being used and to what impact.

Mr. THOMPSON. Well, with benefit usually comes some type of risk, and so for example in managing the risk of AI generated images, the spread of bullying tactics, or even AI that has not been properly programed to work with specific learning disabilities, could impact special needs students more than others.

I look forward to talking with you offline because I am going to run out of time here but basically looking to see what risk do you see AI adoption posing, particularly for those students who you would advise school leaders to balance those risks with the AI benefits. I think that is a conversation that we need to have as we pursue this, so.

Ms. RAFAL-BAER. I look forward to speaking with you further about this. I think it is one of the most important and critical topics that you all could undertake.

Mr. THOMPSON. Thank you so much, and Chairman, I yield back.

Chairman KILEY. The Representative from New York, Mr. Mannion, is recognized for 5 minutes.

Mr. MANNION. Thank you, Chairman Kiley, and Ranking Member Bonamici, for holding this hearing today. Thank you to the witnesses for your detailed testimony and recommendations. AI holds potential in the classroom and outside of the classroom, and it can improve, I believe, you know, K12 education, and be an important tool for teachers that utilize it, particularly as it relates to students entering the workforce.

I, of course, share the same concerns of many members of this Committee, that we must be thoughtful in our approach, and that the opportunities that come with AI, also come with a variety of risks. As we further integrate AI into the classroom, we have to ensure that it supports and not supplants the essential roles of teachers, and the broader purpose of education.

As a former teacher, I believe that it is much more than academics. It is about developing well rounded individuals that can think critically, constructively engage with their peers, and communities, and successfully navigate an ever-complex world. My question is for Ms. Mote.

Your testimony mentions a common concern about AI, that if not used properly may negatively impact students' social, emotional development. Could you elaborate on that please?

Ms. MOTE. Absolutely. I think all the witnesses have talked about the skills that employers are going to demand in an AI empowered world, critical thinking, working in multi-functional teams, thinking about how to do creative problem solving.

That happens when you work alongside, and with humans. I am just going to ask you about the future that we might want. Recently a Stanford study found that a tool called Replica AI, which allows young people to create a digital twin to engage in conversations with reduced suicidal ideation by 3 percent. That is great, 3 percent.

If we get any change in young people's mental health and suicidal ideations that is great. Last year the CDC released a study which said one meaningful connection with a human in a school, a bus driver, a teacher, a coach, reduces suicidal ideation in young people by 33 percent.

Do we want 3 percent or 33 percent? I would prefer for my young children, to have those meaningful connections with adults who are helping them navigate this technology, work alongside it, and thinking about how to have those skills that employers will demand.

Mr. MANNION. Thank you for that. My followup question was actually going to be about the identification of suicidal warning signs, so I think I am going to leave your testimony right there and yield back to the Chair.

Chairman KILEY. The Representative from Indiana, Mr. Messmer is recognized for 5 minutes.

Mr. MESSMER. Thank you, Mr. Chairman. Dr. Rafal-Baer, in your written testimony you said that states are ideally positioned to support districts in making locally grounded decisions that align with their unique goals. You touched on this during your testimony, but what role do you think states can play uniquely in an AI adoption where individual districts might struggle?

Ms. RAFAL-BAER. Thank you for that question. States are first and foremost, the ones who set the vision for where things are going within their State, and they do so through deep community engagement, and understanding where their constituents are. That is only more true in this moment around AI.

I think states also play a critical data collection role. We saw this with internet access, and the differences in the kind of quality of access and the unevenness between what students had access to, even within a school setting versus what they might have at home or an after school.

We need to look at that in the same way with AI. We know that students are going to have very different experiences, and we are already seeing that in early survey work where we are seeing higher socioeconomic students, who have more access to paid versions of AI. Those are important things that states should be looking into and should be collecting data about.

The second area that we suggest in ILO Group's framework for State education agencies is the concept of an AI assurance lab. We think states are uniquely positioned to set up a lab that creates public transparency around what tools are being vetted by scientists and researchers from within the State, thinking about bringing task forces with other representatives on it, including having parents and caregivers a part of those labs.

Not just doing the approvals on the front end, but also rigorously and often doing more research on the outputs of tools that are approved can help to give people more confidence and just understanding about all of this, and we think it is an important role that states can play.

Mr. MESSMER. Thank you. Dr. Dobrin, you mentioned that about 25 states have, or are developing, official guidelines and policies for K–12 AI education. On a whole, do you think these states are rising to the challenge, and giving the districts the information they need, or do these guidelines lack specificity and clarity?

Mr. DOBRIN. Thank you for that question. In regarding what different state's legislation, like I had mentioned in the written, there are about 45 states now that are considering AI. Most of those are not directed specifically at education. However, the trickle down

will inevitably be that that will affect education. The thing that I think that comes out clear, and I can point to yesterday's Florida Senate discussion in the Commerce Committee about AI, is that the majority of these states are focusing on further research, which is, as my panelists have—other witnesses have noted, that is the important part at this point.

We need more data before we make these decisions. Those states that are beginning to really look at what AI deployment looks like, both in workplace, and in education, they are the ones who are going to—excuse me, they are the ones who are going to lead that conversation.

Mr. MESSMER. Have there been pretty robust collaborative efforts between states that you've seen?

Mr. DOBRIN. I honestly do not know how states are talking to other states.

Mr. MESSMER. Thank you. I yield back the rest of my time.

Chairman KILEY. The Representative from Connecticut, Representative Hayes is recognized for 5 minutes.

Mrs. HAYES. Thank you. Thank you to our witnesses for being here today to testify. Advanced instructional technologies can be transformative, enhancing both teaching and learning. However, any implementation of AI technology in the classroom should maximize both safety and privacy, while also advancing equity and fairness.

Ms. Mote, recently the Office of Education Technology, or OET, at the Department of Education was eliminated as part of a reduction in force at the agency. OET played an integral role in developing and implementing policies and initiatives on education technology. What has been the role of OET, and how has this office assisted states in the implementation of AI technologies in the classroom from your perspective?

Ms. MOTE. Well, I think it is important to name that OET really puts out guidelines, and really best practices for states and districts to follow, providing that necessary expertise and knowledge that frankly would be impossible for there to be an AI expert in every district to be able to do.

Ways to communicate to parents who say that their schools right now are not communicating with them about AI. 83 percent of parents have said in a commonsense survey that they have not heard anything from their schools about generative AI. As a parent, we know that we need to be working alongside our educators to provide that critical guidance.

I want to talk to you about something very quickly, which is a foundational layer of data privacy, security and inter-operability, which every technology needs, whether it is AI, or it is cybersecurity. From 2002, sorry from 2022 to 2023, there was a 105 percent increase in known ransomware attacks against K–12 and higher education institutions.

State and local cybersecurity grant programs were provided not only by the Department of Education, but also by CISA and other entities that provided critical support for not just AI, but technology as a whole. Without that guidance, without that knowledge, without that expertise, states and districts will have to navigate this changing technology on their own.

Mrs. HAYES. Thank you. I appreciate that. To your point it is very important. This is something I have been saying all month that people understand the role of the Department of Education in providing frameworks and guidelines. These things are implemented at the local level, but in many districts, they do not have the resources or the knowledge, or even basically the skill set to pursue aggressively emerging technologies and things like that, especially in a field that is moving as quickly as AI.

Earlier this month the Department of Education eliminated half of their staff. Additionally, President Trump signed an executive order calling for the dismantling of the Department. Ms. Mote, again, how does the elimination of OET, and the cost to dismantle the Department entirely, impact the role of the Federal Government in supporting access and deployment of safe AI technologies in the classroom?

Ms. MOTE. Well, I think everyone here has talked about access, and how important it is for us to be thinking about access. I want to think about the role of the essential frameworks and connectivity that have powered our communities, and the ability to use that technology.

The U.S. Department of Education has provided that support. The U.S. Department of Commerce has provided that support. CISA has provided that support. We talk about the need for states to be able to drive connectivity, to drive access, but they would not have been able to do that without universal service funds.

They would not have been able to do that without the Digital Equity Act, Title II, Title IV dollars, in order to lead professional development. If we really want there to be the type of infrastructure that allows all students to thrive, we need to invest in institutions that can provide that capacity.

Mrs. HAYES. Thank you. I appreciate that because I can tell you even within the school district where I worked in my school, our computer and technology classes were taught by teachers, not practicing professionals in the field, so the ability to have outsiders come in with additional support, or professional development, which is something that the Department of Education provides for school districts across the country is not only critical and fundamental, but it is necessary.

Especially when we are talking about something like AI where the technology is advancing so quickly. The safety of our students has to be a critical focal point. I do not have much time, but I am going to ask a question. If maybe you could submit the answer for the record, that would be great. Just some ideas on steps that local school districts can take when vetting AI technology to ensure that student access is tailored to educational content, and improves engagement, but also does not allow disruptions in learning, or many of the other things that we saw.

Thank you, and with that I yield back.

Chairman KILEY. The Representative from Utah, Mr. Owens, is recognized for 5 minutes.

Mr. OWENS. Thank you. I want to first of all thank the witnesses for participating in this very timely use of AI in education. If we want our children and our education to be the forefront of the world, we have to start adapting the latest technologies of use in

classrooms in a safe, responsible manner, and I look forward to again, talking with the witnesses about this.

It is probably one of the more important conversations we are going to have in a bipartisan way. Dr. Dobrin, one trick aspect of AI adoption in schools is assessing the cognitive impact. You mentioned that further research might be helpful to understand how AI generated content and automated problem solving might affect a student's ability to think critically.

That has a real concern. What is obviously a rapidly growing field, how does research based tell us so far of AI's impact on critical thinking, and what type of additional research would be helpful?

Mr. DOBRIN. Thank you for that. Yes, indeed, that as other witnesses have said, research right now is one of the keys. What we do not have regarding cognitive development right now is long-term affect research. We have data that both shows the improvement in critical thinking and problem-solving skills when AI is in use, and we also have data that also shows that some students are turning to the technology to do the work for them.

I think that the real key here for educators has a lot to do with demystifying how these technologies actually work. In the conversation we have had thus far, we tend to talk about AI as a single thing. AI does this, AI can do this. AI is an umbrella term for a lot of different kinds of technologies.

When we start looking specifically at cognitive development, part of what we have to think about is how we are using those various kinds of AIs in various context. This is one of the reasons that in my work, and this was also brought up by one of the other witnesses earlier, that I emphasize that this is about augmentation, not automation.

All AI—all AI requires three things, fantastic computing process, lots of data and human expertise, what was referred to as human in the loop a moment ago. If we can influence that, then part of what we are inherently influencing also is that role of cognitive development. That the human is the one running the process.

That to me is where the research has to unfold, is how that expertise gets manifest.

Mr. OWENS. OK. Thank you so much. Dr. Rafal-Baer, you highlighted the importance of State autonomy and implanting AI literacy and integrating AI tools into the K through 12 education. As AI adoption grows across school systems, how can we ensure that all states can develop the necessary frameworks and support structures to ensure the safe and effective AI integration?

Ms. RAFAL-BAER. Well, ILO Group has built though two frameworks. One that has been developed for State education agencies, and one for district superintendents. That was based off work that we have been doing with the working group of 40 different districts and states across the country.

Beyond creating these frameworks, which are grounded within the political operational, technical and fiscal realities of AI implementation, and giving department by department questions to start to consider, we have also rolled out a three-tiered process that begins with deep stakeholder engagement.

Our belief is that there is no work that should be getting done on AI that is not starting first with an incredible amount of listening within your community and within your State. We think that you go from that part of the process to developing ethical guardrails and principles based on the kinds of conversations that are coming up in your community, using that to then develop guidance.

Then from there you can go into larger scale optimization. I think what ends up happening so often though is that states start to feel pressure and in turn, districts start to feel pressure that they need to do something. They need to show that they are being responsive.

Well intentioned organizations will provide templates of resources, and then often you will hear all these data points that, you know, 90 percent of states have guidance that is up on their websites, but it has not trickled down.

To the comment that was made earlier about the reality that many parents do not feel like they are even hearing about AI, that is because there are too many templatized guidance and resources being provided without starting with deep stakeholder engagement, and listening, and bringing these conversations to our communities.

We are hearing over and over again from the leading providers that we are moving closer to AGI, right? The idea that artificial intelligence will have human-like capabilities. That means that we have to be doing even more around stakeholder engagement and communication to make sure that all parents and citizens really understand that.

Mr. OWENS. Well, thank you. Thanks so much. I just wanted, and I am running out of time here, I just want to say real quick, to the point of the Department of Education. That ship has sailed. We now make sure that innovators like yourself are part of this conversation, and not bureaucrats of D.C. I am excited about the fact we are finally going to be putting this power back in the hands of parents and schoolteachers, and those in local levels, so I am excited about that process. With that, I yield back.

Chairman KILEY. Representative Lee of Pennsylvania is recognized for 5 minutes.

Ms. LEE. Thank you, Mr. Chairman. Thank you so much to the panel for your testimony. Artificial intelligence and its algorithms are built by humans, and they are trained on data that is created by humans, which means it should not come as a surprise to anyone that AI often reinforces the same implicit and explicit biases that humans carry, classism, or sexism, racism, ableism.

I just want to really lift up, that we cannot ignore the capacity of AI to deepen the systemic inequalities already facing marginalized communities, and AI in K through 12 schools is not any different. With a dismantled Department of Education, where a drastically reduced Office of Civil Rights, or Office for Civil Rights is being weaponized to undercut students' civil rights.

K to 12 schools are unprepared to address the vast inequities that can come with AI. We should be especially concerned about rapidly expanding school surveillance AI, that includes facial recognition technology with error rates of 35 percent for black girls,

an online chat monitoring and so-called aggression detection that is layered with racialized assumptions about communication.

Much of this surveillance technology is an extension of histories of scientific racism and eugenics. Ms. Mote, in your testimony you referenced a resource created last year by the Department of Education on avoiding discriminatory use of artificial intelligence.

The Department of Education, under the last administration, created this resource to inform schools of how AI can violate students' civil rights. It included examples like facial recognition, consistently misidentifying black students and predicted algorithms flagging black students as more likely to carry out disciplinary infractions.

Without resources like this from the Department of Education, are schools equipped to keep students' civil rights intact when deploying AI surveillance?

Ms. MOTE. It is important to name that there is no tool as you mentioned in education that is without bias. Every tool in use in America's classrooms today has algorithmic in reliability or bias built in because it is built by humans. As you so aptly mentioned, it repeats the bias that is already in existing datasets, or the bias that is held by the developers themselves.

There are tools to mitigate this effect, something called reweighting, which allows you to actually index for students with disabilities, or students from subgroups. In order to do that, to have the data to be able to train those models to be more equitable, to be more fair, to offer opportunity for every student, you need data and data infrastructure.

Right now, we are seeing a dismantling of our data infrastructure at the Federal level. The very datasets that would allow industry, that would allow researchers, that would allow others to use that data to be able to train these tools to mitigate bias. It is really important that we name that there is no way to eliminate bias, but we can provide guidance, like the guidance you mentioned, provide data for training, and work alongside industry to mitigate bias that exists in these tools. Yes.

Ms. LEE. Thank you. The fact that we can no longer rely on the Department of Education to serve its key functions, including its jobs of safeguarding students against discriminatory AI surveillance is especially concerning, since school surveillance technology is a—multibillion-dollar industry that seems to really allude oversight and accountability.

Ms. Mote, do the companies selling their AI surveillance to schools typically evaluate their algorithms for racial bias? How important is it that these companies evaluate and monitor products to mitigate that bias?

Ms. MOTE. One challenge for all companies that are using AI right now is they can only look at the data that they have themselves. Let me go back to my days of making copies in the copy room. Has anyone ever made a xerox of paper, and then you make a xerox of it again, and then you make a xerox of it again?

Over time that copy degrades. If you only test your tool against the data that you have yourself, it is not going to be able to surface the bias, or to surface the challenges that might be within that tool. We need to provide an infrastructure for industry to walk

alongside schools and districts, to be able to make sure their tools are equitable.

Ms. LEE. Thank you. I just want to really quickly, in the 2023 survey by the Center for Democracy and Technology, almost 40 percent of teachers reported that sensitive student data was being shared with law enforcement and being used in predictive policing algorithms who identified children who may commit future criminal behavior.

This was closer to 50 percent of teachers at schools receiving Title I funding, and closer to 60 percent of special education teachers. I wanted to mention that before I have to just conclude because without guidance, accountability, and oversight from a functioning Department of Education, AI surveillance in schools will exacerbate the school to prison pipeline and cause irreversible harm to black, brown, and other vulnerable communities.

It is why I introduced a piece of legislation last year that will require the Federal agency using AI to establish a dedicated civil rights office to identify, prevent, and address algorithmic biases, but that is just scratching the surface. We know that there is so much more to do, so I thank you so much for your time, and I yield back.

Chairman KILEY. I will now recognize myself for 5 minutes. One of the reasons that I wanted to hold this hearing on AI in education is not only because I think the potential is so incredible in a specific context of education, but also because I think it offers a window into just how transformational the technological changes that we are experiencing right now are going to be across all sectors of society, which I think is something that really policymakers and the public at large is starting to get—to wake up to a little bit.

That there has been, you know, some references to that during today's hearing, specifically Ms. Mote, you mentioned this is an technology on par with electricity. Ms. Rafal-Baer, am I saying that correctly? Close enough, Rafal-Baer, you mentioned that the leading labs are increasingly talking about the arrival of AGI, artificial general intelligence.

I wanted to give each of you a few moments to expound on those ideas.

Ms. MOTE. Well, an arrival technology, right? This is electricity. This is the internet. This is automobiles. You used to have to pick up the phone and call a dispatcher to call a taxi. Now you can do it from your phone. Arrival technologies displace workers. They can require new skills and competencies, but they also require a level of support in disrupting of existing systems, so that they can be embraced across industry, rather than having them replace humans.

I think the work that is happening right now in terms of what Congress can do, our colleagues have really mentioned the need for research and development, the support for public data and infrastructure, the need for some set of guidelines and guardrails, supporting educator professional development, providing equitable access.

Mr. KILEY. Right.

Ms. MOTE. This body really convening collaboration and dialog. If we are to meet this moment, we need to do it together. I look forward to the opportunity.

Mr. KILEY. Great, thank you. You bet.

Ms. RAFAL-BAER. Thank you for the opportunity to share more on this. I think that the fact that we are hearing over and over again that we are getting closer and closer to AGI is something that concerns me a great deal that this is not a conversation that is more commonplace across America right now.

The fact that once again we are in a moment where it feels like we are asking our education system to take on something that is actually a societal issue, and I see this, and hear this every single day from State and district superintendents who earnestly want to move forward on this work, but are really concerned about cybersecurity and data.

They need to have far more expertise, and that is a critical role of the Federal Government. That is a critical role of a role like a national cybersecurity director, who should be helping to make sure that we have the safest systems possible around cyber and data, so that states and districts can do their correct role, which is to lead these conversations locally.

To make sure that they have visions around artificial intelligence, and the kind of workforce upskilling that is required that matches their local context and their local needs with them being able to take off their plate this level of expertise and oversight around keeping their systems cyber free in terms of cybersecurity issues.

Chairman KILEY. Thanks very much. Mr. Chism and Dr. Dobrin, I wanted, if we have time permitting, to pose a question to you as well. There has been a lot of discussion about further research that is needed, some of which has already happened. If you could pose one kind of urgent research question when it comes to evaluating the effectiveness of certain AI tools, what would it be?

Like one possibility for me would be the immersiveness of the tool. You know, you could have a sort of animated Einstein teach you physics. You could have a text-based Einstein teach you physics. If we have sufficiently developed VR, you could actually float through the cosmos as it happens, so that might be one area to look at.

What would be the research questions that are most urgent?

Mr. CHISM. I will go ahead. I really think I love the idea, especially with students, but I am really focused on the teacher side of things because we have to have teachers to get to students. For me it is really teacher efficacy. I think that is the big thing. How can we use this to make them better and more efficient at what they do?

Again, I do not have that 28, 29, 30-year veteran that wants to walk out the door. She wants to stay, you know, the teacher that I have talked about earlier, she is staying with us. She is not going to retire. To me it is about teacher efficacy, and I think that is the primary focus for me.

Chairman KILEY. Great.

Dr. DOBRIN.

Mr. DOBRIN. I would pick up on something we have already been discussing, and that is access. I think there needs to be longer term research on not just where access is available. For instance, in Appalachia in the Southwest, where broadband is not as easily accessible, but more so what happens in the distinction between our students, who only have access to the free datasets, the free LLMs, GPT, Gemini CoPilot as opposed to those students who have the socioeconomic access to proprietary datasets, and to platforms that are more disciplinarily specific.

We need to figure out the differences of what happens with those access points.

Chairman KILEY. That is an interesting question. I mean one of the things we see happening though is that what is the paid tier this month is available to the free tier next month, so there is this sort of, you know, democratizing aspect to the technology. With that, the Representative from Florida, Ms. Wilson, is recognized for 5 minutes.

Ms. WILSON. Thank you, Chairman Kiley, and Ranking Member Bonamici, for today's hearing. Thank you so much, and thank you to our witnesses for being here today. As you know, public schools are the backbone of our democracy. As AI continues to be implemented in our education system, we must work in addressing its potential and worry about the disparities that come with this implementation.

Clearly, education has some big challenges with AI, but this Committee is missing the real crisis. The dismantling of the Department of Education. It is absurd to envision a bright future for our students when the Office of Education Technology, vital for AI oversight, has just been shut down.

It is even more absurd for the Subcommittee to ignore the wrecking ball crushing into our public-school systems across the Nation right now by abolishing the Department of Education. This is like worrying about the ship's Wi-Fi access while the Titanic is sinking.

With this, I have a few questions. Ms. Mote, can AI work without human input? What are the consequences of gutting the very workforce responsible for ensuring AI is used ethically and effectively?

Ms. MOTE. Can AI work without human input? No. In fact, generative AI and artificial intelligence systems have to be trained on both our responses, and the data that is being used. Now, let us just talk about what happens when we take away data that could be used to train these systems effectively alongside humans?

Right now, we are seeing families lose access to information on the college and career scorecard, being able to make critical decisions about what is happening, or what choices they make with the loss of IPED's data, or the loss of Ed Facts data, where if you are moving from one community to the other, not being able to know the quality of your schools, or how to compare one school to the other.

This vital support that is provided, not just by the humans who are helping guide local states, excuse me, local districts and states, but also that are guiding families through the provision of open access datasets, and knowledge is a critical role that if we lose our families will be less informed, our students will be less prepared, and our educators will be left without the resources they need.

Ms. WILSON. Ms. Mote, with the Office of Civil Rights being side-lined or weakened, how are students, particularly those from marginalized communities supposed to ensure their rights are pro-tected if AI tools amplify existing disparities because they will?

Ms. MOTE. I want to return to—I do not think an educator wants to harm a student, but they need to know about these tools. They need to know about the tools that are being used. They need to have research about what is the most effective tool in order to make the right choice for a student.

Every educator in this country wants students to succeed. I know that because I meet them every single day, but they do not nec-essarily have the expertise to know that this tool or that tool is bet-ter, that the $99.00 edition of Khanmigo is better than the free tutor, and they do not have the resources to make those choices, and to navigate those deep, deep challenges that they have to meet young people.

If we want to overcome achievement gaps, we need to make sure that our educators have the knowledge, expertise and capacity to make the right choices for students alongside families. That can only happen when we have that knowledge, when we have that ca-pacity, that data, and that expertise.

Ms. WILSON. Ms. Mote, how do we prevent AI from becoming just another tool that benefits already advantaged, and leaves behind the same black and brown students who have historically been un-derserved and who have no computers?

Ms. MOTE. Thank you. I think equitable access is something every single witness has talked about, and so I think Congress needs to renew their investment in public connectivity infrastruc-ture. They need to have targeted programs to ensure that all com-munities have access to the technology, the hardware, reliable internet connectivity, and the adequate technical support to benefit every community in this country.

Ms. WILSON. Thank you. I yield back.

Chairman KILEY. The Representative from North Carolina, Mr. Harris, is recognized for 5 minutes.

Mr. HARRIS. Thank you, Mr., Chairman, and thank you to all of you on the panel for the incredible testimony you have given today. I appreciated the opportunity to read through your testimony that was submitted to us prior. I have a couple of questions, and really the first one is going to be to you, Mr. Chism.

Your written testimony mentioned that an accurate or biased content is a big challenge with AI adoption. As you pointed out, AI models are only as good as the underlying data that they are trained on, and that is what concerns me.

Research from Carnegie Mellon University revealed that large language model bots trained on the internet since 2016, show more polarization than bots trained before Donald Trump's first election. In fact, the research also showed that bots trained from books were more socially conservative than bots trained through the internet or social media.

There is in fact numerous examples of left leaning political bias that shows up when asked if a white Christian man should be ashamed, Google Gemini lists a variety of liberal buzz words like, "systemic injustices," and "marginalized communities." When asked

if a black female lesbian should be ashamed it says, "Absolutely not."

The free version of ChatGPT is unable to acknowledge Donald Trump as the current President. It even says that Joe Biden is in the White House in 2025. Now, I point all that out, Mr. Chism, to come back to you as superintendent of a school district there in Pearl, Mississippi, how do you make sure in that role that your district's AI use does not amplify existing biases, or spread false information?

Mr. CHISM. I think that is a fabulous question, and that has got a lot of answers to it. I will tell you that some of the big companies are working on this. I mean they do realize that some of that bias is built in. In the end, I mean there is going to be bias in every computer program that you create. For us as a district we have created our own server, so we get to do the training ourselves.

I think that is one big advantage for us, and I will say we discussed equity as well. We are actually working with a huge internet company in Mississippi, Ceasefire, and we are actually working on trying to make our model available for all school districts in the State of Mississippi completely free. We are working on that.

Again, is there a way to script it all out? Absolutely not. Not yet, but I think we are moving forward to that, so I think it is good training, and it is really having—its good communication. It is people, when they see those things happen, it is pointing those things out, and then we can go back and make adjustments to that model, even on our end, on our server.

I can tell you again, that even using the model such as ChatGPT, they know that this is a problem, and they are working on it. I am on a computer call with them about every 2 weeks with Open AI, so this has been a discussion that we have had. I do not think there is a perfect answer for it, but I do know that they are working on it, and certainly that is something that we will monitor 24 hours a day because we want to make sure that the information that we get back is good.

I will also say, even using the larger language models, like ChatGPT if you are on the paid version, or even the free version of that. You can go in and script some of this out yourself. You know, if you tell it how you want it to respond, you tell it the websites that you would like for it to go to, to look for information.

You know, I have that scripted into mine, so now I know where that information is coming from, so I realized that now that information that is coming back is not from Wikipedia. It is good information from the sites that I determined that I want it to come from.

There are ways around that, even though the model itself does not fix it.

Mr. HARRIS. Are you finding that schools should be weary of the development behind the AI bots, and be selective about the programs they use in their schools?

Mr. CHISM. Oh, absolutely. 100 percent. I think, going through all of this information, and getting really good information. Again, if we were to go with a company, a large company, that would be a multi-week investigation into what they do and how they do it before I put it in front of kids.

Mr. HARRIS. Got you. Thank you, sir. Dr. Rafal-Baer, in your recommendations for policymakers, you mention that the Federal role should be intentionally limited. I agree. Especially since this administration, and obviously the direction we are moving will be working to eliminate the Federal role in education entirely.

What would you say to someone who argues that the Federal role should be unlimited, rather than limited, and what kind of detrimental effects would overregulation have on schools?

Ms. RAFAL-BAER. Well, I think we have been talking about this so much in this Committee. This is moving too fast. There is nothing that the Federal Government would put on paper that is not going to be outdated, even a couple of months from now. It is imperative that states have the ability and the flexibility to make these decisions within their own context and allowing districts the ability to innovate.

It is critical that the Federal Government not play a role in defining things like AI literacy, or AI curriculum. Curriculum and content all should be left to local levels. However, I think the place that is really critical is around the cybersecurity and data privacy.

Mr. HARRIS. OK. Well, thank you. Mr. Chairman, with that I yield back.

Chairman KILEY. The Representative from North Carolina, Ms. Adams, is recognized for 5 minutes.

Ms. ADAMS. Thank you, Mr. Chairman, and thank you to our witnesses for being here today. Last month, Charlette-Mecklenburg Schools, one of the largest districts in North Carolina, launched a bold, district wide effort to shape a community vision for AI in education.

They are inviting parents and teachers and students to the table, not just to respond to change, but to lead it. That is the kind of leadership that we need. Instead, the leadership that we are seeing at the Federal level is tying our schools' hands with budget cuts, with confusion, with political agendas that have absolutely nothing to do with what is best for our most disadvantaged kids.

The kids on free and reduced lunch, the kids who rely on Medicaid, the kids whose only option is public school. AI is already reshaping our classrooms. The real question is how are we helping schools use it responsibly, or are we leaving them to figure it out on their own?

Here is what I have been hearing from educators, from parents, and my own daughter, who was a public-school principal. The promise of AI is real, but so are the risks. We have already seen cases, whereas I reiterate my colleague Representative Lee said, AI tools flag black parents for plagiarism at higher rates than their peers.

That is not innovation, that is bias, plain and simple. Ms. Mote, AI is not just showing up in lesson plans. It is now embedded in how students are evaluated, how feedback is given, and how learning is tracked. How can schools ensure that AI tools are actually supporting equity. I know some people think that is a bad word, I think it is a good one, in classrooms not reinforcing bias?

What role should the Federal Government play in setting guardrails to make sure that these schools serve all students fairly?

Ms. MOTE.

Ms. MOTE. Thank you. You actually offered the answer when you were talking about the great work that Charlotte-Mecklenburg is doing right now, which is building AI literacy with parents, with communities, with educators, and really putting students and parents and communities and educators at the center of the work that they are doing.

You have to be able to ask questions of these tools. You have to be able to understand if the results that they are putting out from these models have inaccurate information or might not potentially have the right types of inputs. If we do not build AI literacy in our educators with our parents and with our communities, we are not going to be able to use these tools to the best of their advantage.

Ms. ADAMS. Well, thank you. Thank you for your great comments about Charlotte Public Schools.

Ms. MOTE. They are wonderful down there at Charlotte-Mecklenburg.

Ms. ADAMS. Our Chair of our School Board is sitting out here, and I am happy to see her. While Charlotte public schools are trying to move forward with innovation, we are facing real setbacks. Just last month we lost over 5 million dollars in Federal grants.

Funding that helped high need schools recruit and train diverse teachers, and those grants were simply cut because they supported DEI. I still think those are good words. Let us be clear. Students learn best from teachers who understand them, who reflect their community.

It is that kind of representation that is not a luxury in a district where students represent more than 175 countries, it is essential. Ms. Mote, we know AI is a powerful tool, but it does not replace teachers, especially not teachers who reflect the lives and identities of the students they serve.

What are the consequences of cutting all funding for programs that recruit and retain diverse teachers?

Ms. MOTE. Well, I think every member of this Committee can say that we need to keep teachers at the center of that education enterprise. When we do not have teachers to serve the communities that they are from, when we do not have classrooms that are reflective of the communities that students are coming from, we know actually that that affects student outcomes.

Research shows us that having a connection with an adult in school, not only as I shared before, reduces suicidal ideation, but it is the single greatest determinant of whether or not student learning outcomes will excel.

Ms. ADAMS. Let me move on and talk about the data. Good policy depends on good information, but last month the Trump administration eliminated nearly 900 million dollars in contracts from the Institute of Education Sciences, the research arm of the Department of Education.

That is the same office that helps districts and policymakers understand what is working and what is not. Ms. Mote, how does cutting IES funding impact the school's ability to use AI responsibly and equitably? Could that data gap leave underfunded schools even further behind?

Ms. MOTE. Yes. If we do not know what works for whom, and under what conditions, how can we choose the right tools for students from all backgrounds?

Ms. ADAMS. Thank you, Ms. Mote. If we want students to succeed in the age of AI, we cannot just chase shiny new tools, we have to invest in the people, and the research and the infrastructure that make innovation safe and meaningful, and I thank you all very much. Mr. Chairman, I am going to yield back those few other minutes that I have. Thank you.

Chairman KILEY. The Representative from Pennsylvania, Mr. Mackenzie, is recognized for 5 minutes.

Mr. MACKENZIE. Thank you to the Chairman, and I appreciate all of the testimony being provided today, very important topic. Integrating AI into our education system has huge potential benefit for our students. I think we are all aware of, even right now in its early stages, what it can do to increase educational opportunity and customization for students, so a lot of benefit there.

We are also talking about some of the elements that we need to be aware of to make sure that we protect privacy and security for our students, great topics, but earlier we heard from a number of testifiers about bias that can be built into the AI systems that are being incorporated into the classroom.

I think we are all aware that depending on who nurtures or trains the AI, they are going to end up putting out different results at the end of the day. Ultimately, I think what we want for our students is a maximally seeking truth AI. We want the truth to be provided to our students, so it should not be a corporation. It should not be a foreign entity that is maybe weighing in on the results that are coming from AI.

It should not even be a politician on this panel saying that we need to reweigh results, so that we get the accurate outcome that we want for our students. How do we, and how should everybody be thinking about what AI we are selecting? What actual critiques or reviews of that AI is being made available publicly when we see that bias or misinformation is being included in results?

How does that get communicated to the decisionmakers in school districts or local entities that are actually picking the AI systems? I will go first to Dr. Rafal-Baer.

Ms. RAFAL-BAER. Thank you so much, and incredibly thoughtful. I think there is a couple of layers to that answer. I think from our perspective we think states having AI assurance labs is one place to be able to examine this. Having one place where the public has a level of transparency about how the model on the front end before it is approved for use, what it has gone through to be rigorously tested.

Then in an ongoing way, looking at the outputs of the model, knowing that these models evolve overtime as people are using them. I think you are also hitting a larger topic that we have talked about a few times, about AGI. What happens when we get to a place where we are working alongside models that are doing things at the same level of humans, knowing that there are levels of bias within that?

I think that is where the importance of critical thinking, and helping to really infuse in our students, understanding about eth-

ics, and ethical considerations is such a critical role of our K–12 system. To be able to make sure that we are bringing those conversations often into these community engagement sessions in thinking about this.

We will never get rid of bias, but we can help to make sure we are shaping a generation of learners who deeply understand the power and importance of human relationship, and when and where to use AI and under what conditions, and how to evaluate those outputs consistently.

Mr. MACKENZIE. I will go to anybody else on the panel. Do you guys have any thoughts or are there resources available where people can go and see which AI systems are actually providing on a whole, collectively, maximally truth-seeking information? I think this is going to be a real challenge for everybody that is adopting this to have this kind of decision made in a classroom.

It is akin to selecting your curriculum, or your textbooks. At the same time there is a lot less information out there right now about these AI systems. How do you as educators see that?

Mr. DOBRIN. I think that is a fantastic question, and I want to reinforce what Dr. Rafal-Baer has said. I think there is a step back in asking that question. I think making the analogue to textbooks is very important because we are going to have to think about adoption in the classroom of various platforms in the same way we think about curricular options of textbooks, both in finance models and in content models.

I think an answer to your bigger question, this is where the importance of demystifying these tools becomes critical. If we are going to move into the critical thinking position about having students be able to evaluate the information that is put before them, they first have to understand how those systems work. What an LLM does, where the data is pulled from, so that they can begin those evaluative processes. In other words, by demystifying the function of a generative AI tech, allows the student then to see the working model and understand these are now the questions I have to ask.

As to resources for identifying which platforms are more viable than others, the first thing we have to acknowledge is that what we need is more research and development for platforms specifically designed for education. We do a lot in education of retrofitting to technologies that have already existed and put in play in industry and other places.

We actually need platforms that are designed for education specifically. This is why Mr. Chism's approach to having his own independent server and his own model is a very kind of forward-thinking model. I think the demystification process is critical.

Mr. MACKENZIE. Well, I will wrap up. We are over time, but I want to thank all of you again for your very thoughtful input today. I think this is again, an incredibly important topic as we look to advance education in our country, and I appreciate particularly that last point about demystifying the systems because I'll date myself very quickly here.

When I was growing up, scientific calculators were a new invention, but at the same time we were always trained to actually understand the fundamentals and the processes before we used the

scientific calculators to get the answer in a quicker fashion. Thank you again, and I yield back.

Chairman KILEY. The Representative from Illinois, Ms. Miller is recognized for 5 minutes.

Mrs. MILLER. Thank you and thank you to all the witnesses who have come. This is a very interesting conversation. Mr. Chism, we have heard a lot about the potential benefits of AI in schools, but one of the longstanding priorities of this Committee has been student privacy.

There is a lot that people do not understand, or were rightly concerned about when it comes to AI's impact on student privacy. You mentioned this a bit in your testimony, but what student privacy pitfalls do you think districts should be aware of, and how has your district handled this?

Mr. CHISM. That is a great question, and again, student privacy, we have to file under FERPA law, so we have got to make sure we are in compliance with that. It is real simple. I do not want to make this—over simplify this, but it really is simple.

If you are using a public entity, I do not care if it is Open AI, Grok, any of these others, you cannot put student identifiable information on it, or teacher identifiable information. Really teaching people to scrub files, that is the biggest thing if you are going to use an Excel file that has this information, knowing what you need to take out.

That is a way that we handle that if you are using something like Open AI. However, we alleviate that by using our own server. I do not have to worry about FERPA laws because it does not face the internet in any way, shape or form. Again, we have done trainings with teachers and administrators. We can put any file that we want on our own server, and we do not ever have to worry about student privacy there because it is housed on our own campuses, so we do not have to worry about that.

I think that is a way to do that. Again, that is a pretty expensive way to do it. However, on the flip side, if you are using this as a district, such as with Open AI, you are eventually going to start having to pay for tokens. In the end we, as a district, have decided that it is going to be more cost-effective to just go ahead and pay for our own server, than try to pay for tokens with one of those as well.

I hope that answers your question. That is the crux of what we do. It is good training first, if you are using a public server. Then on the other side, we just create our own, so we alleviate the problem altogether.

Mrs. MILLER. Thank you. I appreciate how you are leading the way there. Mr. Chism, I have another question. One of the most frequent concerns we hear about AI in schools is that students will use AI as a crutch. For example, students will ask AI to write their essays or answer their homework questions.

I know there are limits to how much a school district can do, especially once a student goes home for the day, but how are you thinking through these challenges?

Mr. CHISM. That is probably my favorite question. Really, we have to rethink what we do in education. I told our teachers in all of the presentations that I do that we have got to rethink what we

do in the classroom. Basically, we have to control the 8 hours that we have.

We cannot worry about other things outside of school because understand, they are going to use it, so really, we need a heavier focus on what we do in the classroom and control the 8 hours that we have. That means heavier weighting on grades for the things that we do in classrooms.

It means that again, we have to shift, instead of sending things home for kids to write, we need to take care of those things within the classroom, and worry about the controllables, and again, we cannot worry about what happens outside. We just have to shift our focus to things like having projects done in class, or having students explain their work.

Why do I care where the information came from if the student can actually give that information back and teach someone else? They know the material. That is the ultimate thing that we are trying to do within the district, so control the 8 hours that we have.

Mrs. MILLER. Thank you. Dr. Dobrin, one especially exciting aspect of the AI adoption is the potential that this technology can transform education for special needs students, and I have two grandsons with special needs. For instance, AI powered programs can facilitate speech detects software, or help visually impaired students participate more fully in class. Can you talk more about how AI is being used to practically enhance special ed?

Mr. DOBRIN. Yes, thank you for that question. The first thing I need to say is that I do not have experience in special education specifically, and Ms. Mote earlier had addressed some of this, and so I defer to her on that.

What you are talking about specifically are assistive technologies. For me, in terms of special needs students, and also really for any student, one of the most enriching possibilities that we are seeing with AI right now is in customized learning pathways. The ability for a student to move through information and content, and all the things associated with education in a way that is more effective for that learner.

Now, I tend to also put a stop gap on where that becomes beneficial once we get past higher ed into credentialing, but I think that customized learning pathways right now are one of the most important things we are developing, particularly in terms of real time assessment, and the ability for students in that moment of assessment to adjust their learning path to see I did not understand this concept. I now have this other way of learning about it.

That to me is one of the most important things we are doing.

Mrs. MILLER. Thank you and I yield back.

Chairman KILEY. I will now recognize the Ranking Member of the Full Committee, Mr. Scott.

Mr. SCOTT. Thank you, Mr. Chairman. Ms. Mote, I think it is clear that there are some benefits and some concerns about AI. Some of the benefits—is there any question that AI can expand the capability of a classroom teacher? If so, are there other areas where it is particularly good or bad—language, math, science?

Ms. MOTE. Well, I am under the idea that AI literacy is a foundational literacy, and frankly, AI itself is the best revenge of English teachers because it is all about how do you ask good ques-

tions? When we think about how to build literacy across our disciplines, if we really want to realize the productivity gains that Mr. Chism is talking about, we want to think through ways that we can support students with disabilities, particularly around early screeners for dyslexia.

I am the mom of a dyslexic student. It would have been so much more valuable if I could have had my son screened earlier, so that I could have intervened earlier. AI is allowing teachers to take that practice that used to take weeks into an afternoon, as long as they keep a human in the loop.

For me, building that competency, across all disciplines, is what we need to meet this moment, Mr. Scott.

Mr. SCOTT. You have cautioned about leaving out human interaction. Do you have to choose between AI and human interaction?

Ms. MOTE. No. Actually, that is not what AI models want you to do. AI models want you to put your human interactions into them, so they get smarter and can be trained faster. When we talk about intelligent tutors adapting to students' language, or identifying dialectical differences, it is because the AI is actually trying to learn from the interaction that it is having with a person.

Mr. SCOTT. Now, can the AI help with assessing the progress of a student in the classroom?

Ms. MOTE. This is a place I think we need to be cautious. I think we always need to have a human in the loop, particularly when it comes to assessment. Tools have shown that they disproportionately flag students for cheating when they have not cheated by race or by dialectical difference, for example, our rural students.

I think we need to be cautious when we think about assessments, and make sure that we are engaging humans.

Mr. SCOTT. One of the access questions is obviously cost. How much does all of this cost if you are integrating AI into the classroom? Is it very expensive?

Ms. MOTE. Well, I think Mr. Chism talked a little bit about the costs that he has taken on in terms of buying a server and buying technology. It is not just those hardware costs, Mr. Scott, it is the training that you need to do. It is the education. I think we are in a situation right now where whether you have access to an intelligent tutor like Khanmigo is about $99.00 a student.

I know that that is a decision some school districts cannot make right now because they are constrained when it comes to resources and support. It is not just about the tool it is about the training that has to go alongside of it.

Mr. SCOTT. I guess getting benefits to everyone on an equitable basis, what are some of the other barriers?

Ms. MOTE. Yes. I think when we think about AI's use in education, we are going to have to really think about a partnership. A partnership with families and communities. A partnership with students, and frankly a partnership with industry.

Industry is trying right now to do work to make their tools more safe, more effective, more transparent, more reliable, but they need help in terms of guidelines and guardrails. If industry has to conform to 50 different states privacy laws, data laws, or AI laws, imagine what that means for an economy of scale, or equitable access to tools.

If we are going to ask everybody to build an AI tool for the State of Delaware, the State of Virginia, or the State of Colorado, we miss the opportunity frankly, to be able to appreciate the richness and diversity that we have in the United States.

Mr. SCOTT. Bias has been mentioned. There are a number of ways that bias can pop up in AI. Can you talk about that in the remaining time?

Ms. MOTE. In 30 seconds, OK. I will just give one example. You know, I think as I said, AI looks for the interactions that it has with humans, and so there are some really great research studies that have been done that when an AI tool is trained, for example, on just assessment, it does not flag students more or less from one background.

If somebody uses a word like y'all, which I use all the time, it flags that student potentially for cheating. Dialectical difference, not just race or socioeconomic status, are things we need to be paying attention to.

Mr. SCOTT. Thank you, Mr. Chairman.

Chairman KILEY. The Representative from Guam, Mr. Moylan, is recognized for 5 minutes.

Mr. MOYLAN. Thank you, Mr. Chairman. Emerging AI technologies have the potential to enhance our quality of life in many ways, especially in increasing efficiency and learning outcomes for students. AI may also provide innovative support for students who need individualized learning plans, especially for special education.

However, we must be aware of the risk of these technologies, especially with privacy concerns. Proper safety protocols can mitigate many of these risks, and best practice guidance are being constantly issued to mitigate these risks. As we enter the future economy, preparing our youth to enter the workforce where employers are increasingly interested in AI into their business models, it is especially important.

Many paths toward high-earning jobs exist. AI and computer science can offer alternative paths toward high-skilled employment, where many opportunities do not necessarily require a traditional 4-year degree to participate. For my first question, Dr. Rafal-Baer, you mentioned that implementing AI should reflect the priorities of each community.

As employers begin adopting more and more AI tools into their business, it is critical that we ensure our students are ready to join the modern workforce. Can you talk specifically about what kind of AI skills employers are looking for?

Ms. RAFAL-BAER. Yes, thank you. I think we think about this generation who is going to be moving on. The thing that they are going to be most critically asked about is just their basic foundations around AI, understanding what it is, how it works, its limitations, its risks, and being able to communicate about that.

I think what we are going to see over time is much more of a desire for our education setting to take on more of the AI literacy work, to evolve from what has been digital literacy, which we are now well past, and really starting to understand how to work alongside AI, what use cases are appropriate, and then how to always think about the relationship with other humans.

We know how important it is to be able to have relationships to grow high growth, high-impact teams, and increasingly those kinds of skills are going to have to be ones that we are reinforcing in an AI age. The last thing I would say I think in all of this it is going to be just a huge undergrounding feeling around ethics.

I think employers are going to want to know that students are graduating with a keen understanding about ethical considerations. That is something that gets infused throughout the curriculum. It is not one subject area's domain, but it is why deep stakeholder engagement matters so much, to surface the kinds of ethical questions that are being asked and then use that in real world ways in the classroom.

Mr. MOYLAN. Thank you. For Dr. Dobrin, in your testimony you mentioned that AI literacy is crucial for students entering the workforce. Teaching AI may come with many challenges, and education leaders might now know the best way to begin.

What advice would you give our teachers and education officials that want to ensure that students are equipped with skills employers need?

Mr. DOBRIN. Thank you, yes. The first place I would begin, and it has been mentioned several times, is this concept of AI literacy, which I think we actually, and I have written about this. We need to expand into AI literacy, AI competencies, and AI fluencies, because different work paths require different levels of skillsets specifically from AI.

In the work that I do with industry, usually the No. 1 topic, and it has come up here several times that employers are looking for is data security, particularly when they are working with their own proprietary datasets. My advice, very specifically, and I work with lots of educators about this, is that we adopt a model that we have used in the United States for a long time that I call industry to curriculum.

What that means is understanding where industry—a specific industry, is deploying AI and how, and then adjusting our curriculum to that. We can see this in a lot of the disciplines we teach, particularly in higher ed, nursing, law, engineering, these are disciplines that are designed to provide credentials toward specific industries.

Once the industries start determining what exactly they are looking for in terms of AI skills, then we adopt curriculum to that as a way to move education into workplace development.

Mr. MOYLAN. Excellent, thank you. Last question, Dr. Rafal-Baer, your professional background is in special education. Can you speak more about how educators can leverage AI tools to tailor plans for students enrolled in special ed?

Ms. RAFAL-BAER. I think one of the most exciting places on this is both the ability for educators and caregivers to work together, and to use AI to help to simplify what can sometimes feel like a lot of jargon and technical language and can make it difficult to best support students.

Then for educators, being able to effectively communicate and provide tips and ways in which families can work at home to best support the students, and over time, and provide real pathways.

Mr. MOYLAN. Thank you. Thank you, Mr. Chairman, thank you panel.

Chairman KILEY. Thank you very much to all of our witnesses, and I will now recognize Ranking Member Bonamici for a closing statement.

Ms. BONAMICI. Thank you, Mr., Chairman, but thank you especially to the witnesses for traveling here for your testimony and brining your expertise on this excellent panel. As we conclude, one thing is abundantly clear, artificial intelligence will play a significant role in shaping the future of education, and we should be breaking down, rather than creating barriers for the students and the educators who are navigating this transformation.

AI and education presents tremendous opportunities, but also serious challenges as we heard. If implemented responsibly, it has the potential to enhance learning, provide personalized instruction, equip students with the skills they need to thrive in an increasingly digital world.

Without guardrails, we will see decreasing access to opportunity, a deepening of inequities we are trying to overcome, and risk serious privacy and security breaches. The Department of Education has been instrumental in closing opportunity gaps, providing students in low-income and rural communities, and students with disabilities with access to the resources they need.

Stripping away these protections, whether they be through the dismantling with the Department of Education's Office of Educational Technologies, or cuts to Title I, or IDEA, or the weakening of the Office of Civil Rights. These would all be a grave mistake.

The Federal Government would be leaving schools to navigate these challenges, exacerbating disparities and failing the very students who rely most on Federal support, as we have heard particularly low-income students, and students with disabilities.

We have seen this play out before when the digital divide threatened to leave millions of students behind in the early days of the internet. It was Federal leadership that helped bridge the gap. We cannot repeat history by allowing AI to widen existing inequities.

Instead, we must guarantee that every student, no matter their ZIP Code, has access to the tools and knowledge they need to succeed in the classrooms and careers of tomorrow. I know this is the K–12 Subcommittee, but as also a member of the Higher Education Committee we talked about workforce, but one of the things I do want to mention, and I think our witnesses made a great case for it today when we got a head of an English department and someone who is talking a lot about ethics.

We have got Dr. Dobrin and Dr. Rafal-Baer. Tech executives I have heard recently say we do not need just computer science majors and people who code. We need people who are philosophers and ethicists as well, as we navigate these serious challenges. The stakes could not be higher. We cannot afford to get this wrong. I urge my colleagues to stand with us and defend public education, protect vital resources, and provide every student with a fair shot at success, and I look forward to the continued conversation. Thank you again, Mr. Chairman, and I yield back.

Chairman KILEY. Thanks very much. I think this has been a great hearing. I think that we have moved the ball forward, improving a bit our institutional understanding of a phenomenon that

is really beyond any of our full understanding, but that we urgently need to grapple with, nonetheless.

Ms. Mote likened AI to electricity and being what she called an arrival technology. Ms. Rafal-Baer noted that the arrival of AGI, artificial general intelligence, could be coming sooner than has been thought. This is defined differently by different people, who generally refers to a system that develops capabilities that exceed human capabilities across any domain.

The conversation about this has been largely limited to the leading labs and those who follow them, but it is something that needs to—that we all need to be part of throughout the country, given the profound impacts it is going to have on all of our lives.

Today specifically, we have gotten a window into how the possibilities offered by AI and education. I think that the main takeaway today is that those possibilities really are boundless. Mr. Chism noted that education is often the last change when it comes to technology, or perhaps really anything else, but that really cannot be the case here.

I think we already know enough to know that those schools, those districts, those states that adopt and integrate AI in the right ways are going to do very well by their students. They are going to propel student success and are going to outperform those jurisdictions that do not.

By the way, in other countries like China, has been very focused on this topic, and so our global competitiveness is at stake as well. Of course, in order to do this effectively, we do need to have professional development, which is why I think what Mr. Chism has been doing throughout Mississippi is fantastic, that supports teachers.

We learned today that most teachers still are not getting training when it comes to integrating AI. I agree with Mr. Mannion fully, who said that AI can support and not supplant teachers.

In fact, we had a great story from Mr. Chism about a teacher who was going to retire because of all the hours they put in in grading, and that AI was able to entice her to stay in the classroom because it allowed her to focus on the aspects of teaching that she loved, and that made the biggest difference.

Another thing I think we heard today that I agree with, is that there is a pressing need for more research when it comes to how AI is being deployed, and the ways in which it can be deployed most effectively, what modalities are most effective, what parts of the traditional lesson plan it is best incorporated into.

As in all things education, it is best when we have measurable outcomes, and then can let that guy, our pedagogy going forward. Ms. Rafal-Baer has noted about everything going on at the State level in terms of research. I think that there perhaps is a Federal rule here as well, at least for the sort of thing we are doing today for coordination, for sharing best practices.

I think Ms. Rafal-Baer mentioned having a summit of some kind, which I think is a great idea. Then you also mentioned, Ms. Rafal-Baer, the importance of local engagement as well with stakeholders, with parents, with the community. If the question of efficacy that research can answer, but there is also the question of values, making sure that these technologies are being integrated in

classrooms in ways that are constant with the values of the surrounding community.

This is actually a topic that is broadly applicable to AI in many facets of society. Actually, in 2018, I was a member of the California legislature. I sponsored a resolution about the benefits of AI, but how we needed to make sure it was consistent with human values as the adoption spread.

Education provides a very important example of that. We have talked today about Ms. Mote, which mentioned the idea of keeping humans in the loop, which I think is a useful concept, and how there really still is no replacement for human interaction in many domains in society, and many parts of our lives, and that is probably true most of all when it comes to education, given the formative nature of education for young people.

We also talked about values related to data and privacy, which Ms. Miller, among others mentioned, and then sort of both sides mentioned different takes on the question of bias, and how we need to make sure that there are safeguards in place, so that there is not bias incorporated, as we use AI tools.

Finally, I think that, you know, perhaps the biggest takeaway from the specific perspective of education policy today is the enormous potential that AI has to expand opportunity to close achievement gaps, to democratize access to the very best instruction.

We, for too long in this country, have had these terrible achievement gaps where opportunity is a product of where you live, and where you grow up. In my view, that is a result of poor policy choices that have been made over the course of many years and decades. Perhaps not all of my colleagues will agree with me on that, but I would hope that we could find some common ground on this issue.

That we should all be excited about tools that allow for instruction to be tailored and in an individualized way. Several people, including Ms. Miller, Mr. Thompson, mentioned the unique potential to assist students with special needs in this area, and the ability to have this individualized instruction that is, you know, mindful of a student's strengths and weaknesses, the prior knowledge that they bring to bear, their interests even, has extraordinary potential.

I want to thank Mr. Dobrin as well for his discussion of how all of this can also democratize access to the sort of skills that are successful—that are needed for success in the workplace.

Thank you again everyone. Thank you for some who endured long travels to be here, and I think it was a great hearing, and I look forward to continuing this conversation going forward. The Subcommittee stands adjourned.

[Whereupon, at 12:21 p.m., the Subcommittee was adjourned.]

[Questions and responses submitted for the record by Ms. Erin Mote follows:]

**COMMITTEE ON
EDUCATION AND WORKFORCE**
U.S. HOUSE OF REPRESENTATIVES
2176 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-6100

Ms. Erin Mote
CEO
InnovateEDU and EDSAFE AI Alliance
77 Sands Street, 6th Floor
Brooklyn, NY 11201

Dear Ms. Mote:

Thank you again for testifying at the April 1, 2025, Committee on Education and Workforce subcommittee on Early Childhood, Elementary, and Secondary Education hearing titled "From Chalkboards to Chatbots: The Impact of AI on K-12 Education." Enclosed are additional questions submitted by Committee members following the hearing. Please provide a written response no later than August 22, 2025, for inclusion in the hearing record. Responses should be sent to Eli Mitchell (eli.mitchell@mail.house.gov) of the Committee staff.

We appreciate your contribution to the work of the Committee.

Sincerely,

Kevin Kiley
Chairman
U.S. House Subcommittee on Early Childhood, Elementary, and Secondary Education
Committee on Education and Workforce

Questions for the Record from
REPRESENTATIVE Summer Lee

Committee on Education and the Workforce
Early Childhood, Elementary, and Secondary Education Subcommittee hearing titled:
"From Chalkboards to Chatbots: The Impact of AI on K-12 Education"

Tuesday, April 1st, 2025
10:15 A.M.

<u>**Representative Summer Lee (D-PA)**</u>
<u>**Question for Witness Erin Mote**</u>

1. A Report from the Pennsylvania Advisory Committee to the U.S. Commission on
    Civil Rights titled "The Rising use of Artificial Intelligence in K-12 Education" stated
    "AI programs have the capacity to collect children's social-emotional learning
    metrics, behavior metrics, biometric data, and other sensitive information, and to use
    this data for surveillance and predictive analytics that disproportionately impact
    vulnerable communities." The report also mentioned that schools are increasingly
    sharing students' data with law enforcement and that school surveillance technology
    exacerbates the school-to-prison pipeline.
    a. Do you think we should be concerned about predictive policing algorithms
        disproportionately targeting Black, brown, and other marginalized children?

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Written Answers to Questions for the Record
from Erin Mote, CEO, InnovateEDU
for the U.S. House of Representatives, Committee on Education and Workforce
Subcommittee on Early Childhood, Elementary, and Secondary Education
Hearing Titled, "*From Chalkboards to Chatbots: The Impact of AI on K-12 Education*"

April 1, 2025

Question from Representative Summer Lee (D-PA)

1. **A Report from the Pennsylvania Advisory Committee to the U.S. Commission on Civil Rights titled "The Rising use of Artificial Intelligence in K-12 Education" stated "AI programs have the capacity to collect children's social-emotional learning metrics, behavior metrics, biometric data, and other sensitive information, and to use this data for surveillance and predictive analytics that disproportionately impact vulnerable communities." The report also mentioned that schools are increasingly sharing students' data with law enforcement and that school surveillance technology exacerbates the school-to-prison pipeline.**
   a. **Do you think we should be concerned about predictive policing algorithms disproportionately targeting Black, brown, and other marginalized children?**

Thank you for your question. Simply put, we should be concerned about the disproportionate targeting of Black, brown, and other marginalized children by predictive algorithms within K-12 education.

Artificial intelligence (AI) in education offers potential benefits for student learning, including personalizing lesson plans, automating administrative tasks, and providing accommodations for students with disabilities[1]. By personalizing, for example, the complex process of learning a new skill, AI in education can foster a unique environment of low-stakes practice and individualized feedback, building the confidence and resilience students need to thrive and flourish. On the other hand, AI-powered surveillance technologies that intend to enhance school safety also present civil rights concerns[2]. These systems risk creating a more efficient and insidious "digital school-to-prison pipeline" by amplifying bias and criminalizing normal adolescent behavior[3].

The "school-to-prison pipeline" literature describes how punitive school policies and practices push students, particularly students of color and those with disabilities, out of the classroom and into the juvenile and criminal justice systems.[14] The proliferation of AI surveillance technology

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[1]U.S. Commission on Civil Rights. (2024). *Artificial intelligence in education*. https://www.usccr.gov/files/2025-01/policy-brief_2024-ai-in-education_pa.pdf
[2] U.S. Commission on Civil Rights. (2024). *Artificial intelligence in education*. https://www.usccr.gov/files/2025-01/policy-brief_2024-ai-in-education_pa.pdf
[3] Miller, F. G. (2019). The digital school-to-prison pipeline. *Harvard Civil Rights-Civil Liberties Law Review*, *54*(2), 795–831. https://harvardcrcl.org/wp-content/uploads/sites/10/2019/12/Miller.pdf

is creating a new, more automated and less transparent version of this pipeline. By using algorithms that may contain biases to flag and punish students, these systems can function as a powerful engine for the criminalization of youth.

The consequences of this heightened surveillance are significant. Studies show that students in "high-surveillance" schools can experience higher suspension rates, lower math scores, and fewer college admissions, with Black students or students with disabilities bearing the heaviest burden[4]. This environment of constant monitoring can erode the trust essential for learning and suppress student expression[5]. Research from the Center for Democracy and Technology (CDT) found that 58% of students say they don't share their true thoughts or ideas online because they are being monitored[6]. This creates a tension between the technology's intended purpose and its actual impact, often replacing human-centered support systems with automated judgment.

A growing number of American schools are implementing technologically advanced surveillance systems. These AI-powered tools, presented to districts as safety measures, are used to monitor students' digital activities and communications. The data collected by these systems is sometimes used to inform predictive algorithms that identify students who may be at risk. The deployment of this technology has prompted discussion regarding its potential to influence student behavior and expression, while research has raised concerns about whether the algorithms may disproportionately impact students from marginalized groups.

The emerging wave of school surveillance is multifaceted and designed to analyze and interpret student behavior in real-time, flagging anything an algorithm identifies as anomalous or threatening[7]. While these tools are often adopted in the name of protecting students from harm, their application raises complex questions about privacy and fairness.

Key categories of this technology include:

- **Online Activity and Communication Monitoring:** These tools scan everything students write, search, and communicate on school-issued devices and accounts. The systems use AI to flag keywords related to violence, self-harm, bullying, or other prohibited content, with the stated purpose of enabling early intervention.
- **Social Media Surveillance:** Some services monitor students' public social media posts to

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[4] Jabbari, J., & Johnson, O., Jr. (2019). The counselors and the cops: The effects of school security on college and four-year college enrollment. *Educational Evaluation and Policy Analysis*, *41*(4), 491–517. https://doi.org/10.3102/0162373719871926

[5] American Civil Liberties Union. (2019). *Cops and no counselors: How the lack of school mental health staff is harming students.* https://www.aclu.org/publications/cops-and-no-counselors

[6] Center for Democracy & Technology. (2021). *Hidden harms: The misleading promise of monitoring students online.* https://cdt.org/insights/hidden-harms-the-misleading-promise-of-monitoring-students-online/

[7] Zeichner, A. (2022, June 29). *The impossible task of preventing the next school shooting.* The Verge. https://www.theverge.com/23186490/school-shootings-ai-software-shootings-gaggle-bark-securly

identify potential threats. These tools have been shown to disproportionately flag activism and protest-related speech, particularly from students of color[8].

- **Video and Biometric Surveillance:** Schools are implementing AI-powered video analytics that claim to detect "suspicious movement patterns," aggression, or weapons. This includes the deployment of facial recognition technology, which studies have repeatedly shown is less accurate when identifying people of color, women, and non-binary individuals[9]. New York became the first state to ban the use of facial recognition in schools due to these concerns in 2023[10].

- **Predictive Analytics and "Threat Assessment":** Some of the most complex surveillance involves systems that use predictive analytics to assign "risk scores" to students. These algorithms analyze school records—including grades, attendance, and disciplinary history—to identify students who are supposedly at risk of future misbehavior or violence. This practice raises concerns about the pre-criminalization of students, placing them on watchlists based on data profiles rather than actual actions[11].

The implementation of surveillance technologies in schools is a documented and growing trend. Reports from civil rights and policy organizations also describe the connection between these school surveillance systems and law enforcement agencies. A 2023 national survey by the Center for Democracy and Technology found that surveillance is nearly universal, with 88% of teachers reporting their school monitors students' online activity, 37% reporting surveillance of personal social media accounts, and 33% reporting the use of facial recognition. This monitoring often extends to predictive analysis and direct police involvement, as 36% of teachers reported their school uses predictive analytics to identify children who might commit future criminal behavior, and 38% reported that their school shares sensitive student data with law enforcement[12]

This connection has tangible consequences; separate research found that 44% of teachers

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[8] Mijente, & The Brennan Center for Justice. (2019). *Social media monitoring: How an unaccountable industry threatens rights*. Brennan Center for Justice.
https://www.brennancenter.org/our-work/research-reports/social-media-monitoring

[9] Grother, P., Ngan, M., & Hanaoka, K. (2019). *Face recognition vendor test (FRVT) part 3: Demographic effects* (NISTIR 8280). National Institute of Standards and Technology.
https://doi.org/10.6028/NIST.IR.8280

[10] Thompson, C. (2023, September 27). *New York bans facial recognition in schools after report finds risks outweigh potential benefits*. AP News.
https://apnews.com/article/facial-recognition-banned-new-york-schools-ddd35e004254d316beabf70453b1a6a2

[11] Brennan Center for Justice & NAACP Legal Defense & Educational Fund. (2023). *Futures at stake: The dangers of biased school algorithms*.
https://www.brennancenter.org/our-work/research-reports/futures-stake

[12] Center for Democracy & Technology. (2023). *Out of control: The continued rise of school surveillance and its inequitable impacts*.
https://cdt.org/insights/out-of-control-the-continued-rise-of-school-surveillance-and-its-inequitable-impacts/

personally knew of students who were contacted by police as a direct result of their school device being monitored. These numbers are corroborated by federal data, which shows a rapid growth in the use of surveillance technologies across K-12 campuses[13]. According to the National Center for Education Statistics at the U.S. Department of Education, the number of schools using surveillance cameras increased from 80.6% to 91.1% between 2015 and 2019. The number of schools using anonymous threat reporting systems increased from 43.9% to 65.7% percent over the same period.[14]

The deployment of this surveillance infrastructure is not uniform. Civil rights advocates and researchers have found that these technologies are disproportionately deployed in schools serving predominantly Black and low-income students[15]. This risks creating a two-tiered educational system: one where affluent, predominantly white students are afforded greater privacy and trust, and another where marginalized students are subjected to suspicion and monitoring. Research from the Center for Democracy and Technology highlights that lower-income students are more likely to rely on school-provided devices, which are often subject to more invasive and continuous surveillance than personal devices[16].

One core challenge with these AI systems is that they are built on data that can reflect existing societal biases. AI algorithms may exacerbate racial disparities in education when developers input historical data into the technology that replicates pre-existing biases that the model is trained to believe are accurate[17]. For example, an algorithm trained on historical school discipline data—which already shows that Black students and students with disabilities are suspended at much higher rates than their peers[18]—may "learn" to associate Black students and students with disabilities with a higher risk of misbehavior. The technology can then give a veneer of

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[13] Center for Law and Social Policy (CLASP). (2024, May). *Dangerous data: How predictive analytics and AI in the child welfare system can harm children and what to do about it.* https://www.clasp.org/wp-content/uploads/2024/05/dangerous_data_brochure_v6.pdf

[14] National Center for Education Statistics, & Bureau of Justice Statistics. (2022). *Report on Indicators of School Crime and Safety: 2021* (NCES 2022-092/NCJ 304625). U.S. Department of Education & U.S. Department of Justice. https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2022092

[15] Center for Democracy & Technology. (2022). *Our watched-over school day: A national survey of teachers, parents, and students on school surveillance.* https://cdt.org/insights/our-watched-over-school-day/

[16] Center for Democracy & Technology. (2021). *Hidden harms: The misleading promise of monitoring students online.* https://cdt.org/insights/hidden-harms-the-misleading-promise-of-monitoring-students-online/

[17] Saubestre, S. (2024, April 24). *Artificial intelligence in schools: Privacy and security considerations.* New America. https://www.newamerica.org/oti/blog/artificial-intelligence-in-schools-privacy-and-security-considerations/

[18] U.S. Department of Education, Office for Civil Rights. (2021). *An overview of exclusionary discipline in public schools for the 2017–18 school year.* https://www2.ed.gov/about/offices/list/ocr/docs/crdc-exclusionary-discipline-brief.pdf

objectivity to discriminatory patterns.

This issue extends beyond discipline into academic tracking and monitoring behaviors. Across the country, schools are adopting AI tools for online monitoring and predictive analytics to flag students deemed "high-risk"[19]. While often implemented to identify students in need of support or intervention, particularly for students with disabilities or learning differences, these technologies are disproportionately adopted in schools serving Black and low-income students, too often without meaningful public oversight. The algorithms at the core of these systems are trained on data that frequently reflect existing societal and institutional biases, creating a feedback loop where marginalized students are more likely to be flagged, disciplined, and funneled into the justice system, including students with disabilities.

Predictive analytical tools in education use data, statistical algorithms, and machine learning not only to help educators support students, but also to determine the likelihood of future student success. Programs that track students' attendance, behavior, and grades are used to support "early-warning systems" that employ machine-learning algorithms to assess the likelihood that a student will graduate.

While intended to improve student outcomes, these predictive analytics often rate racial minorities or students with disabilities as less likely to succeed academically. This is because race or learning differences are sometimes included as a risk factor in the algorithms and treated as an indicator of success or failure based on the historical performance of students with those identities. For example, an analysis conducted in 2023 found that Wisconsin's Dropout Early Warning System, which uses race as a data point, generated false alarms about Black and Latino students "at a significantly greater rate than it did for their White classmates." This false alarm rate—defined as "how frequently a student [the algorithm] predicted wouldn't graduate on time actually did graduate on time"—was 42% higher for Black students than White students[20]. Following the publication of this analysis, Wisconsin suspended the use of the DEWS system.

Instead of clarifying what extra support students need, these risk scores can negatively influence how teachers perceive students and affect students' own beliefs about their academic potential. The algorithm doesn't just monitor students; it can actively contribute to their criminalization and academic marginalization. It turns potentially biased data into decisions about who to watch

[19] Brennan Center for Justice & NAACP Legal Defense & Educational Fund. (2023). *Futures at stake: The dangers of biased school algorithms*.
https://www.brennancenter.org/our-work/research-reports/futures-stake
[20] Feathers, T. (2023, April 27). *False alarm: How Wisconsin uses race and income to label students "high risk"*. The Markup.
https://themarkup.org/machine-learning/2023/04/27/false-alarm-how-wisconsin-uses-race-and-income-to-label-students-high-risk

more closely, who to discipline, and who to refer to law enforcement. Literature suggests this risks creating a self-perpetuating cycle:

1. An algorithm trained on biased data disproportionately flags a student for "concerning" behavior or academic risk.
2. School administrators, influenced by the alert, are more likely to discipline the student, perhaps with a suspension, or perceive them as less capable.
3. This new disciplinary action or biased perception is fed back into the system as another data point, "confirming" the algorithm's initial biased prediction and increasing the student's risk score.
4. The student is now more likely to be flagged for future infractions, leading to more exclusionary discipline and potentially increased contact with law enforcement[21].

A program in Pasco County, Florida, starkly illustrated the direct link between school data collection and law enforcement targeting. An investigation by the Tampa Bay Times revealed that the Pasco County Sheriff's Office was using a predictive AI system that secretly mined student data from the school district—including grades, attendance records, and discipline history—to identify children it believed were "destined to a life of crime".[22]

This AI-generated list of "at-risk" youth was not used to inform referrals for supportive interventions like counseling. Instead, it was used to trigger aggressive law enforcement actions. Deputies were sent to the homes of targeted children, most of whom were students of color and or with disabilities, to interrogate and harass them and their families, with the stated goal of making their lives "miserable until they move or sue"[23]. An analysis of the Pasco County case shows how educational data, collected initially to support students, was used by a law enforcement agency for a proactive policing program. This is the "digital school-to-prison pipeline" in action: a system that blurs the line between the schoolhouse and the jailhouse, transforming institutions of learning into instruments of surveillance.

Across the country, the expanding use of surveillance technologies in schools is prompting conversation and applied research, particularly regarding the impact on marginalized students. While these systems are often implemented to enhance school safety, research and community feedback suggest they can contribute to an atmosphere of anxiety, potentially damage trust, and

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[21] Madhukar, P. (2019, October 17). *The hidden costs of high-tech surveillance in schools*. Brennan Center for Justice.
https://www.brennancenter.org/our-work/analysis-opinion/hidden-costs-high-tech-surveillance-schools
[22] Bedi, N., & McGrory, K. (2020, November 19). *Targeted*. Tampa Bay Times.
https://projects.tampabay.com/projects/2020/investigations/police-pasco-sheriff-targeted/
[23] McGrory, K., & Bedi, N. (2020, September 3). *How Pasco's sheriff uses data to guess who will commit a crime*. Tampa Bay Times.
https://projects.tampabay.com/projects/2020/investigations/police-pasco-sheriff-targeted/intelligence-led-policing/

may reinforce existing inequities. This has led to a discussion that reframes the issue not as a choice between technology and safety, but between surveillance-centered and care-based approaches. The core of this perspective, often voiced by students, is a call for schools that prioritize building investment and trust in young people over technological systems of monitoring.