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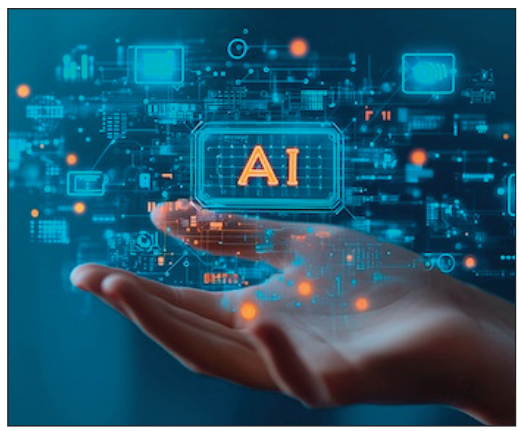
6 recommendations for AI in classrooms



SREB Staff

As states move forward with efforts to adopt artificial intelligence, the nonprofit Southern Regional Education Board's Commission on AI in Education has released its first six recommendations for schools and postsecondary institutions.

Because of its broad membership, regional breadth, early creation and size, SREB President Stephen L. Pruitt said the commission is poised to produce critical recommendations that will inform not only Southern education decision makers but those throughout the nation.

"AI is fundamentally changing the classroom and workplace," Pruitt said. "With that in mind, this commission is working to ensure they make recommendations that are strategic, practical and thoughtful."

The commission is set to meet for another year and plans to release a second set of recommendations soon. Here are the first six:

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Online learning in high school helps students explore career pathways

Carol DeFuria, VHS Learning

Helping students choose a career pathway that's personally rewarding for them is one of the most important functions of a secondary education. High schools can fulfill this goal by giving students opportunities to explore a wide range of career options in the courses they provide.

Programs and courses that help students learn about potential career pathways are important for many reasons. First, they make education more relevant and meaningful for students by connecting the skills and concepts learned in class with jobs in the real world. They also expose students to possibilities they might not have considered and open up a world of opportunities.

Students can't aspire to work in a career field they're unfamiliar with. When asked what they'd like to be when they grow up, most students are familiar with careers like doctors, teachers, firefighters, or professional athletes, but what about careers as an accountant, animal behavioral scientist, entrepreneur, or cybersecurity specialist?

When students are planning for their future, their goals and desires are limited by the careers they've been exposed to before–jobs they've learned about from their own experiences or from what they've seen in the media. But many exciting and rewarding careers aren't featured in the news or on streaming video, and students from lower-income neighborhoods in particular might not see as many well-paying career options as those from more affluent families.

Taking career-related courses in high school doesn't just broaden students' horizons. It also helps them narrow their choices. It allows students to "test drive" various career options through hands-on learning to see which types

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Policy recommendation #1: Establish state AI networks

States should establish statewide artificial intelligence networks so people, groups and agencies can connect, communicate, collaborate and coordinate AI efforts across each state. These statewide networks could eventually form a regional group of statewide AI network representatives who could gather regularly to share challenges and successes.

Policy recommendation #2: Develop targeted AI guidance

States should develop and maintain targeted guidance for distinct groups using, integrating or supporting the use of AI in education. States should include, for example, elementary students, middle school students, high school students, postsecondary students, teachers, administrators, postsecondary faculty and administrators and parents.

Policy recommendation #3: Provide high-quality professional development

State K-12 and postsecondary agencies should provide leadership by working with local districts and institutions to develop plans to provide and incentivize high-quality professional development for AI. The plans should aim to enhance student learning.

Policy recommendation #4: Integrate into standards & curricula

States should integrate into statewide K-12 standards and curricula the AI knowledge and skills students need to prepare them for success in the workforce.

Policy recommendation #5: Assess local capacity and needs

States should develop and conduct AI needs assessments across their states to determine the capacity of local districts, schools and postsecondary institutions to integrate AI successfully. These should be designed to help states determine which institution, district or school needs state support, what type of support and at what level.

Policy recommendation #6: Develop resource allocation plans

States should develop detailed resource allocation plans for AI implementation in schools, school districts and institutions of postsecondary education to ensure that the implementation of AI is successful and sustainable.

These plans should inform state fiscal notes related to education and AI.

The 60-plus member commission was established in February of 2024. Members include policymakers and education and business leaders throughout the 16-state SREB region. eSN

A nonprofit, nonpartisan interstate compact, SREB was created in 1948 by Southern governors and legislators who recognized the link between education and economic vitality. SREB states are Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia. More at SREB.org.

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of jobs they might like–and which they don't like. Both of these insights can be incredibly valuable.

For example, suppose a student who likes animals thinks she might like to become a veterinarian. In taking a course in veterinary science, however, she discovers that this profession isn't a good match for her after all. If she'd waited until college to make this discovery, she might have wasted valuable time and money pursuing a career pathway that wasn't a good fit for her. By exploring career options while still in high school, she can "try before she buys" and make better choices for possible future study.

How online learning can help

The more career pathways that students can explore in high school, the greater the likelihood they'll find an option that appeals to them. However, many high schools–especially those in small or rural communities–can't afford to offer a broad range of career-related courses.

Hiring and retaining instructors who are qualified to teach career-related courses can also be challenging for schools and districts of all sizes. According to an analysis from the Brookings Foundation, high school administrators report having difficulty filling teaching positions in career-related subjects 57 percent of the time, compared to only 39 percent for job openings in traditional academic subjects.

Online learning can help expose students to a much richer array of career options than schools can provide by themselves. By partnering with a supplemental online learning provider, schools can offer a wide range of courses that give high school students hands-

on experience in a broad spectrum of career fields.

For instance, VHS Learning has been an accredited nonprofit provider of supplemental online courses for high school students since 1996. Students who enroll in VHS Learning courses through their local high school have access to more than 250 courses across a wide range of industries and professions, including computer science, architecture, biotechnology, fashion

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Dismantling the U.S. Department of Education

Advocates argue forgreater local control and efficiency; critics highlight risks to equity, access

Dr. Yuvraj Verma, Bessemer City Schools & William Howard Taft University

In light of Donald Trump assuming a second presidential term in 2025, conversations concerning dismantling the United States Department of Education have resurfaced. Supporters argue that federal involvement in education undermines state authority, while critics fear that removing the federal role could exacerbate inequities and hinder national progress. To evaluate the proposal, it is crucial to examine the federal and state roles in education, the historical and constitutional context, and the potential benefits and challenges of such a shift.

The federal role in education

The United States Constitution does not explicitly grant the federal government authority over education. As Lunenberg et al. (2012) noted, "Education is not a function specifically delegated to the federal government" (p. 327). Instead, under the Tenth Amendment, powers not delegated to the federal government are reserved for the states (McCarthy et al., 2019). This leaves education primarily under state jurisdiction, with federal involvement historically limited to indirect support rather than direct control.

The United States Department of Education was established in 1979. It is responsible for overseeing federal funding for schools, enforcing federal laws in education, and ensuring equal access for students across the country. Furthermore, it has played a significant role through legislation such as the Elementary and Secondary Education Act (ESEA) and its successors: NCLB (No Child Left Behind) and ESSA (the Every Student Succeeds Act). These laws link federal funding to specific requirements, which aim to address inequities in education. Currently, federal contributions account for approximately 8 percent of funding for elementary and secondary education, with the remaining 92 percent coming from state and local sources ("The Federal Role," 2017).

The role of state and local control in education

Education policy and administration have traditionally been state functions. States determine funding formulas, establish teacher certification requirements, and oversee curricula through their departments and boards of education (Lynch, 2016). Governors and state legislatures allocate funds, which are often distributed to schools based on enrollment, need, or specific programs (Lunenberg et al., 2012).

Local school boards also play a critical role, managing day-to-day operations and responding to community needs. This decentralized structure reflects a longstanding belief that local authorities are better positioned to address the diverse needs of their communities. However, it has also led to significant disparities between states and districts in terms of funding, resources, and student outcomes.

Dismantling the United States Department of Education

One of the most compelling arguments for dismantling the United States Department of Education lies in the principle of localized control. Critics argue that education is best managed by state and local governments because they are closer to the specific needs of their communities. Localized governance could allow schools to tailor their policies, curriculum, and resource allocation in ways that best fit the unique demographics of their regions. For example, schools in rural areas may have vastly different needs than those in urban centers, which is why local authorities are likely better equipped to address these disparities without the interference of federal oversight.

The concern extends beyond general education. The Individuals with Disabilities Education Act (IDEA), which is enforced by the United States Department of Education, mandates that students with disabilities receive free and appropriate public education (FAPE) along with necessary services and accommodations. Similarly, the department oversees federal programs that support English Language Learner (ELL) students by helping schools provide tailored instruction and resources to students who are not native English speakers. Without federal oversight, it is possible that these programs could lose funding or be inconsistently applied across states, causing vulnerable populations to be without critical support.

Advocates of dismantling the United States Department of Education also point to the financial burden of maintaining a federal agency. They argue that billions of dollars allocated to the department could be redirected to state education budgets, thereby allowing for more impactful initiatives at the forefront. By eliminating bureaucratic layers, states could potentially deliver education funding more efficiently, thereby focusing resources directly on teachers, classrooms, and students.

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Another critical function of the United States Department of Education is establishing and enforcing national education standards. Programs such as NCLB and ESSA aim to hold schools accountable for student performance and ensure consistency across states (albeit, there are arguments those programs have led to a culture of "teaching to the test" and have stifled creativity in the classroom), but allowing states and local districts to have greater freedom to design their own standards and assessments may fostering innovation while also leading to the quality of education varying dramatically from state to state and can cause challenges for students in transient populations due to a lack of cohesion disrupting their education and limiting their opportunities.

Keeping the United States Department of Education

Dismantling the United States Department of Education raises significant concerns about equity. The department plays a crucial role in addressing disparities in funding education, as well as in funding access. Federal programs (i.e., Title I, free meals, counseling, after-school programs, etc.) provide additional resources to schools serving high numbers of low-income students, many of which are located in inner-city areas. Without the United States Department of Education, these programs might be eliminated or left to the discretion of states that have historically struggled to prioritize funding for underserved communities.

Inner-city urban schools often face unique challenges (i.e., overcrowding, insufficient funding, higher rates of poverty among students, etc.). Many of these schools also serve disproportionately high numbers of students with disabilities and ELL students, thereby making federal support even more vital. The United States Department of Education enforces civil rights protections that ensures that all students (including vulnerable subgroups) receive equitable treatment. Dismantling the department could weaken these safeguards, thereby leaving marginalized communities more vulnerable to neglect. Therefore, the loss of federal oversight is a serious concern for public education. Historically, states have not always allocated resources equitably, and urban school districts have often been underfunded compared to their suburban counterparts. Federal intervention has been essential in addressing these disparities. Without it, inner-city schools may struggle to maintain even basic standards of education, thereby exacerbating poverty and inequality.

All schools (not just inner-city schools) will be adversely impacted by dismantling the United States Department of Education. Federal funding supports Advanced Placement (AP) courses, STEM initiatives, and dual-enrollment opportunities. Dismantling the United States Department of Education could lead to inconsistencies in college admissions processes because states might adopt different graduation requirements and assessments. This lack of standardization could complicate admissions for students applying to out-of-state or prestigious universities. Furthermore, the United States Department of Education funds research initiatives that lead to the development of new teaching methods, technologies, and curricula. These innovations often benefit all schools, but without federal support, such research might stagnate leaving schools without access to cutting-edge educational resources.

Conclusion

In conclusion, the debate pertaining to dismantling the United States Department of Education has taken on new urgency under the Trump administration in 2025. While advocates of dismantling the department argue for greater local control and efficiency, the critics highlight the potential risks to equity and access. As the nation grapples with this issue, it is essential to prioritize the needs of students (and communities). The ultimate goal must be to create a more equitable and effective education system that serves all students regardless of their background or zip code. eSN

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GenAI and cultural competency: New priorities in teacher preparation

Kelly Vaughn, Ph.D., School of Education at Notre Dame de Namur University

The emergence of artificial intelligence as a tool in education presents both opportunities and challenges for aspiring teachers. Generative AI has the potential to transform teaching practices, improve efficiency, and even promote equity–but if used without care, it can also reinforce harmful biases.

In my experience working with educators at K-12 schools, community colleges, and universities, I have seen that meaningful progress requires moving beyond surface-level solutions. By preparing educators to approach AI with a critical lens and a deep understanding of inclusive teaching practices, teacher preparation programs can ensure that the technology will be used to empower, not exclude.

Cultural competency and AI

To become effective agents of change, the next generation of teachers will need to take ownership of three core areas: cultural competency, social-emotional learning, and innovative practices (including AI).

Cultural competency–the ability to recognize, respect, and address the diverse backgrounds of students–is essential to student engagement and success. Yet, this concept often receives insufficient attention in teacher training standards, which prioritize state assessments over skills related to cultural responsiveness.

In practice, cultural competency begins with creating environments where students feel safe to share their experiences and know that these perspectives are valued. This involves embedding students' experiences into the curriculum as core components of learning, rather than treating them as supplementary or extracurricular topics. Social-emotional learning (SEL) complements this by equipping teachers with the tools to build trust, foster collaboration, and support emotional well-being in their classrooms.

Generative AI will likely drive the conversation about innovative practices for the foreseeable future. While many of the current discussions about AI in education tend to focus on macro-level logistical concerns like plagiarism, its potential impact on equity and inclusion demands equal attention. Scholars like Safiya Noble, author of Algorithms of Oppression, have demonstrated how biases embedded in search engine algorithms have perpetuated negative stereotypes about people of color. Today's generative AI platforms often carry similar risks, making it essential for educators to critically assess these technologies and use them responsibly.

Advantages of AI in the classroom

Generative AI offers educators a range of opportunities to enhance their teaching practices, from improving lesson design to fostering creativity in the classroom. By automating repetitive tasks, AI can reduce teachers' workloads and give them more time to focus on meaningful, student-centered work.

When used thoughtfully, this technology can also create opportunities to bolster cultural competency and inclusion. For example, AI can assist educators in developing lesson plans and materials that reflect diverse cultural experiences, helping students feel seen and valued. It can also help teachers improve curriculum accessibility by generating sentence frames, scaffolding tools, or multilingual resources for students who need additional support in areas such as writing or language learning.

AI can also help teachers self-reflect on their practices and identify areas for improvement in a nonjudgmental way. By providing constructive insights and suggestions, these platforms allow educators to refine their approaches and better address student needs.

Despite these benefits, AI should not be viewed as an equal partner in teaching but rather as a tool that empowers educators to implement an engaging, student-based curriculum. As we continue to explore the potential of AI, it will be crucial to integrate this technology intentionally, ensuring that it serves as an enhancement to human-driven teaching practices.

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3 ways to create a strong district CTE program

A new report provides valuable insights on how CTE supports economic growth, along with actionable steps for creating successful career-centered education programs

Laura Ascione, Editorial Director, eSchool Media

Career and technical education (CTE) is a crucial piece of worldwide economic success, particularly with talent shortfalls forecasted in numerous industries–but CTE leaders still face challenges in creating successful CTE programs that prepare students for career-ready fields.

A new report from iCEV, The World Needs CTE: Why Career & Technical Education Holds the Key to Our Economic Future, is intended for state elected officials, state departments of education, administrators, CTE leaders, and educators, details trends in global and domestic job growth, workforce projections across major industries, and how CTE programs can set students on a path to great jobs.

District educators said recruiting industry professionals to teach is their biggest challenge when it comes to CTE programs, followed by finding program funding, PD for CTE educators, tracking state accountability requirements, and implementing industry certifications in the CTE program.

Seventy percent of CTE educators reported industry experience prior to teaching, while 30 percent reported having no industry experience before teaching.

CTE teachers were the most likely of all grades 9-12 public school instructors to be newer to the profession, with 10 percent having less than three years of teaching experience. In addition, 29 percent had three to nine years of experience, 36 percent had 10 to 20 years of experience, and 25 percent had more than 20 years of experience.

About 38 percent of public CTE instructors entered teaching through an alternative certification program–a much higher rate than overall instructors (19.4 percent), Before going into teaching, 65.5 percent of public CTE teachers worked in the private sector.

The report identifies three actional steps to create and sustain successful CTE programs that prepare students for career-ready futures.

A1. Invest in CTE teaching excellence

- Create streamlined, funded pathways for industry professionals to enter teaching
- Develop professional development systems that keep educators current with industry trends
- Provide comprehensive, ready-to-use curriculum resources aligned with standards
- Establish mentorship programs connecting experienced and new teachers

A2. Prepare career-ready students

- Adopt engaging, career-focused curriculum that connects learning to real-world applications
- Create clear pathways with industry-recognized certifications
- Integrate essential workplace skills into technical training
- Provide hands-on and digital learning experiences

A3. Power industry growth through CTE

- Prioritize high-growth industry needs with targeted curriculum
- Provide industry-recognized certification preparation and testing
- Create a media relations campaign, including social media, to raise awareness
- Implement real-world scenario-based learning resources
- Develop industry partnership programs for both funding & internships

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District educators said recruiting industry professionals to teach is their biggest challenge when it comes to CTE programs, followed by finding program funding, PD for CTE educators, tracking state accountability requirements, and implementing industry certifications in the CTE program.

This district champions media literacy to combat "brain rot"

Laura Ascione, Editorial Director, eSchool Media

It's critical that students know how to use digital content, but as students have more access to information, it's also critical that they know how to evaluate that information with a discerning eye.

In the Baldwin Union Free School District, educators and leaders are working diligently to avoid "brain rot" as they strive to teach students how to ask questions, evaluate information sources, and become actively involved in their communities.

"'Brain rot' is defined as 'the supposed deterioration of a person's mental or intellectual state, especially viewed as the result of overconsumption of material (now particularly online content) considered to be trivial or unchallenging. Also: something characterized as likely to lead to such deterioration,'" according to the Oxford University Press, which declared brain rot as its word of the year in 2024.

Led by Dr. Shari Camhi, the district's superintendent and a past president of AASA, Baldwin UFSD educators work to identify actionable solutions to reverse brain rot and combat the trend of students consuming high-volume, low-quality digital content.

The district's biggest focus is on media literacy education and civic engagement. News and media literacy studies are embedded into grades 6-12 ELA and social studies curricula.

Via lessons and research projects, along with a college-level course, "College Civics and News Literacy," students in Baldwin UFSD are learning to discern fact from fiction, identify misinformation, and develop critical thinking skills that will serve them throughout their lives.

Asking questions and thinking critically

A large part of media literacy is learning to ask questions. In an age of social media, where anyone can cite information from any source and be declared an expert, students must have critical thinking skills to evaluate what it behind the message or information a person shares.

"There's so much misinformation out there–we are deliberately making sure our kids have the skills necessary to know whether or not what they're reading, wherever they're reading it, is true or not," Camhi noted.

The district's college-level course, offered through a partnership with Stonybrook University, teaches senior students about truth and verification, fairness, balance, and bias.

In social studies classes, students examine current examples of news stories and information to determine if what they're reading is journalism, opinion journalism, entertainment, sponsored content, propaganda, etc.

"We hope that our students have the skills, but almost more important is that they have the questions," Camhi said. "When they read something, they should have questions about where the information is from, the author, other writing about the same topic, when was it written, and by whom. That's one of the things we're really deliberate about with our students–teaching them how to ask questions and how to ask the right questions. Everyone should be doing this."

Digital resources and content are not going away, and the best way to balance the potential for brain rot with the need to engage in digital environments is to create a healthy curiosity and a healthy skepticism in students.

Sharing content online plays a large role in spreading misinformation. "One of the questions we ask is, 'Should you share this?'" Camhi said. Instead of sharing before verifying what's behind the content, students in Baldwin UFSD are learning to ask questions before they press send.

"When kids are on social media, [I hope] their brains are lighting up with questions they're asking," Camhi said. "The term 'brain rot,' if I imagine what that looks like, looks like kids sitting down, slumped over, accepting everything that comes their way. When I envision our students, they're sitting up straight, they're curious, they're asking questions. If I took a scan of their brains, they're lighting up because they're not sitting passively accepting what they're being told."

When it comes to the district's civics education, Baldwin UFSD leaders believe it goes hand-in-hand with critical thinking skills.

If you ask people to define "civics," you'll likely receive a variety of responses, all relating to the concepts of government function and what it means to operate as a good citizen within that government structure.

"When I think about this topic, it's about being an informed and curious good citizen," Camhi said. "What does it mean to be a curious and informed good citizen? The work we're doing in our grades 6-12 courses and our college-level course is exactly that. When we graduate our students, regardless of their next step, we need to ensure we graduate young people who are smart–and not just book smart–that they're curious and can ask questions, can tell the difference between what's real and what's not real, that they're ready for the next step of life.

"We don't teach kids what to think, but we certainly teach them how to think–that's an essential skill that takes you through old age. You can't forget how to think critically, because that's essential," Camhi said.

Students all have different strengths, and not everyone will excel in all academic areas–but media literacy skills are skills all students must have.

"If our kids graduate and can't tell the difference between true and fake information, none of us will be fine–we have to be smart about this," Camhi added. eSN

New math problems won't solve our nation's math problem

Dr. Joseph Goins, Pathway2Careers

How much longer will we keep trying to solve our nation's dismal math proficiency problem by writing new math problems? Clearly, if that was the answer, it would have worked by now–but it hasn't, as evidenced by decades of low proficiencies, historic declines post-COVID, and the widest outcome gaps in the world.

The real question students are asking is, "When am I ever going to use this?" As a former math teacher, I learned that addressing this question head-on made all the difference. Students' success in math wasn't found in a book–it was found in how math applied to them, in its relevance to their future career plans. When math concepts were connected to real-world scenarios, they transformed from distant and abstract ideas into meaningful, tangible skills.

My first-hand experience proved the premise of education innovator Dr. Bill Daggett's "rigor-relevance-relationship" framework. If students know what they're learning has real-life implications, meaning and purpose will ensure that they become more motivated and actively engaged in their learning.

Years later, I founded the nonprofit Pathway2Careers with a commitment to use education research to inform good policy and effective practice. From that foundation, we set out on a path to develop a first-of-its-kind approach to math instruction that led with relevance through career-connected learning (CCL).

In our initial pilot study in 2021, students overwhelmingly responded positively to the curriculum. After using our career-connected math lessons, 100 percent of students reported increased interest in learning math this way. Additionally, they expressed heightened curiosity about various career pathways–a significant shift in engagement.

In a more comprehensive survey of 537 students spanning grades 7–11 (with the majority in grades 8 and 9) in 2023, the results reinforced this transformation. Students reported a measurable increase in motivation, with:

- 48 percent expressing "much more" or "slightly more" interest in learning math
- 52 percent showing greater curiosity about how math skills are applied in careers
- 55 percent indicating newfound interest in specific career fields
- 60 percent wanting to explore different career options
- 54 percent expressing a stronger desire to learn how other skills translate to careers

Educators also noted significant benefits. Teachers using the curriculum regularly–daily or weekly–overwhelmingly rated it as effective. Specifically, 86 percent indicated it was "very effective" or "somewhat effective" in increasing student engagement, and 73 percent highlighted improved understanding of math's relevance to career applications. Other reported benefits included students' increased interest in pursuing higher education and gaining awareness of various postsecondary options like certificates, associate degrees, and bachelor's degrees.

Building on these promising indicators of engagement, we analyzed students' growth in learning as measured by Quantile assessments administered at the start and end of the academic year. The results exceeded expectations:

- In Pre-Algebra, students surpassed the national average gain by 101 Quantiles (141Q vs. 40Q)
- Algebra I students achieved more than triple the expected gains (110Q vs. 35Q)
- Geometry learners outpaced the average by 90 Quantiles (125Q vs. 35Q)

- Algebra II showed the most significant growth, with students outperforming the norm by 168 Quantiles (198Q vs. 30Q)

These outcomes are a testament to the power of relevance in education. By embedding math concepts within real-world career contexts, we transformed abstract concepts into meaningful, tangible skills. Students not only mastered math content at unprecedented levels but also began to see the subject as a critical tool for their futures.

What we found astounded even us, though we shouldn't have been surprised, based on decades of research that indicated what would happen. Once we answered the question of when students would use this, their mastery of the math content took on purpose and meaning. Contextualizing math is the path forward for math instruction across the country.

And there's no time to waste. As a recent Urban Institute study indicated, students' math proficiencies were even more significant than reading in positively impacting their later earning power. If we can change students' attitudes about math, not just their math problems, the economic benefits to students, families, communities, and states will be profound. eSN

Dr. Joseph Goins is the founder and CEO of Pathway2Careers, LLC, and a former Tennessee Teacher of the Year nominee. To learn more about Pathway2Careers, visit www.p2c.org.

5 ways kids will learn about careers in 2025

Jean Eddy, American Student Assistance

When it comes to figuring out what to do after high school, too many of today's young people are anxious, uninformed, and unprepared.

Here are some rising trends that educators, counselors, and parents can use to help students explore careers. In doing so, they will be equipped to make informed, confident decisions to achieve their postsecondary education and career goals.

1. Starting early. Young people need to start exploring career possibilities, based on their strengths and interests, starting in middle school–and they're beginning to. We're also seeing more students being encouraged to tap into their passions. Rather than steering them in the one direction we think they need to go, more adults are seeing the wisdom in helping kids connect their passions with tangible jobs that make sense for them.

2. Edtech is on the rise. Edtech will continue to advance and grow. More dollars are being invested in it, partly for the equity and access it brings to all students, regardless of their school or circumstances. We'll see more and more high-quality digital resources, co-created with and for youth, most of which they can access anytime, for free, on their phones or other mobile devices. This means more young people will have access to personalized edtech tools to get the information and experiences they need to prepare for future success. These activities range from mock job interviews, AI-powered career coaching, career mentorships, and even virtual internships.

3. High school internships will become more prevalent. There is no substitute for real world learning starting in high school. In my book, Crisis-Proofing Today's Learners: Reimagining Career Education to Prepare Kids for Tomorrow's World, I discuss the three "ships" (internships, apprenticeships, and mentorships). There will be a growing demand for opportunities that let students "test and try" careers, gain hands-on experience, build social capital, receive guidance from caring adults, and develop the skills they'll need for the workforce of tomorrow. Research shows that employers benefit from offering high school internships and want to do so, while many students think they won't be able to get one. We'll see that gap starting to close in 2025.

4. College isn't the only path to success, and non-degree pathways are on the rise. College has long been our country's default, but it is not the only path to success. Research commissioned by American Student Assistance (ASA) and Jobs for the Future (JFF), conducted by Morning Consult, shows that the vast majority of young people who had chosen to pursue a non-degree pathway (90 percent) said they are satisfied with their choice. The top reasons selected include the opportunity to participate in hands-on learning (44 percent) and the ability to complete such programs faster than they could earn a college degree (41 percent). Fortunately, we're seeing more people embrace other choices like trades. As long-standing stigmas surrounding trades continue to be lifted, more young people will recognize that they are excellent choices for lucrative and satisfying careers. Further, with the rapid growth of non-degree credentials available today and little information on which pathways lead to meaningful, high-quality jobs and careers, we'll see a trend toward providing equitable access to the information, including free digital resources created with input from young people, that they need to navigate a path to success after high school.

5. Durable skills are here to stay. Even though technology has become embedded in today's workplace, soft skills are critical to succeed, and young people need to practice using them. Employers also value these "durable skills"–a set of professional capabilities like teamwork, problem solving, critical thinking, and flexibility–that are essential in almost every job. In fact, a study by America Succeeds found that 70 percent of the most requested skills in nearly 82 million job postings are durable skills. These are the skills employers are looking for on resumes.

As the job market continues to evolve, these trends will help more young people find the postsecondary education and career pathway that's right for them. eSN

Jean Eddy is President and CEO of American Student Assistance® (ASA), a national nonprofit at the forefront of changing the way kids learn about careers and prepare for their futures. Eddy is also author of the book "Crisis-Proofing Today's Learners: Reimagining Career Education to Prepare Kids for Tomorrow's World," a thought-provoking examination of today's education system and workforce preparedness. The book explores the career readiness pathways today's middle and high schoolers take and how a different educational approach could prepare them for the detours life presents.

Going beyond technical education to help students flourish

Omar Cortez & Jocelyn Cortez, Dallas Independent School District

Educators often focus on how well robotics in education can prepare students for careers in STEM fields. And that's both true and important. Robotics is an engaging way to kickstart student interest in technical fields and, according to the Bureau of Labor Statistics, STEM jobs are projected to grow three-and-half times faster than non-STEM jobs.

The lessons learned in the robotics classroom, however, are applicable to any job and life in general. Students learn persistence and resilience, teamwork and collaboration, and problem-solving skills. We've seen students in our classes find their own voices and learn to advocate for themselves. Robotics is also a great vehicle for cross curricular experiences that bring the concepts students learn in other classes to life by putting them to use in practical situations.

It's also true that while leading a programming class can feel intimidating for teachers with little technical background, robotics projects can be successfully facilitated by any teacher and students can even lead each other with the correct resources. At the School for the Talented and Gifted in Pleasant Grove, we teach a variety of robotics and programming courses despite the fact that only one of us had prior experience in related areas.

Here's how we use robotics to engage students, teach a variety of soft and technical skills, and not lose all our time to lesson planning.

Rooted in competition

Two or three years ago, we shifted the focus of our classrooms from helping students learn all the basics of engineering to competition. When we learn about gear ratios, for example, we might do it by having students compete to win a tug of war competition or robotic sumo wrestling match. Competition is great for engaging students and naturally encourages collaboration within teams. Perhaps most importantly, it gives students a sense of pride in the work they do in our classrooms.

It also forces our students to develop resilience and to become contrarian thinkers. As they try new ideas and fail, and try again with a little more information, they are learning to stick with a challenge even when they seem to be making little progress, and they begin thinking critically about what they might try next and the different ways it might also fail.

Project-based lessons

Because robotics lessons are so often project based, particularly when they are rooted in competition or gamified, they tend to bring in concepts and ideas from disparate fields or even students' own life experiences. They learn to apply physics in our robotics classes when they use what they have learned about balanced and unbalanced forces to their sumo robot designs. When they are calculating angles to figure out the optimal path for their robot, they are using the math they have recently learned in the real world, answering for themselves the age-old question of math students: "When are we ever going to use this?"

Every day in our robotics classes, we are reinforcing students' learning from across the curriculum in deeply practical ways.

Students also learn processes that can be applied widely beyond robotics simply by managing their own projects. The projects we use come with guides students follow through each step of a project, including creating an initial design, gathering feedback on it, adding accessibility features, creating a final design, and then presenting their finished products and results to their peers.

We've also found that improving

rigor for students with a little more technical knowledge is easy with the right program. We have many students who are eager to learn about programming and come to our class with some knowledge of Scratch, for example, and it's easy for us to adapt projects to ensure they are challenging for technologically precocious students while remaining accessible to those who are just beginning their coding journey.

Simplified planning

As the only programming teachers in our school, we were worried about planning time. One of us teaches five different programming courses and the other had a limited background in programming. We have one hour of planning to prepare for all these classes, so we are grateful to have a supplemental resource that provides everything we need to get started. We use CoderZ because it lines up well with our competitive, multi-curricular, and project-based approach to programming.

It's so easy to implement that teachers with no background can jump right into teaching, and students can even take over and lead their peers.

It's such a joy to see the excitement in our students' faces as they begin digging into each new project, but it's no match for the satisfaction of watching their confidence grow as their technical and social skills blossom throughout the year. eSN

Omar Cortez and Jocelyn Cortez are teachers in the Dallas Independent School District.

Chronic absenteeism threatens to derail K-12 education

When communities unite to make school attendance a priority, students receive the support they need to succeed

Joe Philleo, Edia

The biggest problem in education is that kids aren't showing up to school. Last year, 26 percent of students missed a month of class or more, leading to dramatic declines in academic performance. Chronic absenteeism accounted for 27 percent of the drop in math scores and 45 percent of the decline in reading scores from 2019 to 2022. Students who are chronically absent are 7x more likely to drop out before graduating, and while state and district leaders are scrambling for solutions, kids are falling further behind.

Why chronic absenteeism is hard to solve

In 2019, only 13 percent of students in the U.S. were chronically absent. Typically, these students missed school because of significant personal reasons–long-term illness, gang involvement, clinical depression, working jobs to support their families, lacking transportation, drug use, unplanned pregnancy, etc.–that aren't easily fixed.

However, since the pandemic, the rate of chronic absenteeism has doubled from 13 percent to 26 percent.

The change is cultural. For the last hundred years, it was drilled into the American psyche that "school is important." A great effort was made to provide bussing to any child who lived too far to walk, and the expectation was that every child should come to school every day. Cutting class was sure to land you in the principal's office or potentially even lead to police showing up at your door.

During the Covid-19 pandemic, this narrative flipped. As parents began working from home, their kids sat beside them. With lectures recorded and assignments posted online, attending class began to feel optional. When school doors reopened, many families didn't fully come back. Common excuses like being tired, missing the bus, or simply not feeling like going were validated and excused rather than admonished. While students who skip school were once seen as delinquent, for many families it has become culturally acceptable–almost even expected–for kids to stay home whenever they or their parents want.

Overwhelmed by the drastic rise in absenteeism, school staff are unable to revert cultural norms about attendance. And it's not their fault.

The root of the problem

Each student's situation is unique. Some students may struggle with reliable transportation, while others skip certain classes they don't like, and others still are disengaged with school entirely. Without knowing why students are missing school, staff cannot make progress addressing the root cause of chronic absenteeism.

Today, nearly 75 percent of student absences are "unexplained," meaning that no authorized parent called or emailed the school to say where their children are and why they aren't in class. This lack of clarity makes it impossible for schools to offer personalized solutions and keep students engaged. Unexplained absences only deepen the disconnect and limit schools' ability to tackle absenteeism effectively.

Knowing why students are missing school is critical, but also very difficult to uncover. At a high school of 2,000 students with 85 percent average daily attendance, 225 students will be absent each day without providing any explanation. In an ideal world, schools would speak with every parent to find out the reason their child wasn't in class–but schools can't possibly make 225 additional phone calls without 3-5 additional staff. Instead, they rely on robocalls and absence letters, and those methods don't work nearly well enough.

Normalize attendance again: It takes a village

Improving attendance is about more than just allocating additional resources. It's about shifting the mindset and fos-

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Preparing for evolving ransomware threats in 2025

Schools must embrace an "assume breach" mindset and strengthen internal defenses so that breaches don't become cyber disasters

Gary Barlet, Illumio

In its 2024 threat assessment report, the U.S. Department of Homeland Security declared K-12 school districts "a near constant ransomware target." The report attributed this alarming trend to budget constraints within school IT departments, insufficient dedicated cybersecurity resources, and the troubling success cybercriminals have had in persuading schools to pay ransoms. These vulnerabilities have made educational institutions a popular target for attackers, threatening not only the privacy of student and staff data, but also the continuity of critical operations.

As ransomware evolves, so must the strategies used to combat it. Traditional perimeter defenses, such as firewalls and antivirus software, are no longer sufficient in an era of artificial intelligence (AI)-fueled cyberattacks. Educational institutions should adopt an "assume breach" mindset focused on internal defenses, such as Zero Trust architectures, data encryption, segmentation tools, and post-breach containment strategies. By limiting attackers' ability to move laterally within networks and quickly restoring operations after an attack, schools can minimize disruption and ensure the continuity of their missions. Without these proactive measures, the education sector risks falling further behind in ransomware attacks.

A shifting landscape in 2025

The ransomware landscape in 2025 will likely include more sophisticated attacks as threat actors leverage AI and other emerging technologies. These innovations will enable cybercriminals to identify system vulnerabilities faster by leveraging advanced tools, automated scanning methods, and sophisticated analytics. This capability will allow them to uncover weak points in security defenses and launch highly targeted attacks with unprecedented precision, often before schools can detect or respond effectively. Additionally, these tools are highly likely to further automate phishing campaigns, evade traditional detection mechanisms, and adapt in real-time to a school's defenses.

The rise of advanced ransomware tactics underscores why schools, with their limited defenses and critical data, continue to be prime targets for cybercriminals. Attackers increasingly view the education sector as a high-reward and low-risk opportunity, underscoring the urgent need for a shift toward modern cybersecurity strategies. Fortunately, there are steps that even schools with limited resources can take that will make them better prepared to proactively face these new attacks.

To counter the growing sophistication of ransomware attacks, schools must embrace an "assume breach" mindset, which emphasizes strengthening internal defenses so that breaches don't become cyber disasters. This approach shifts the focus beyond just prevention to include resilience and aims to minimize the impact of a breach by implementing proactive security measures, protocols, and tools designed under the assumption that attackers may already have access to parts of the network. By adopting this mindset, these measures prioritize safeguarding sensitive data, detecting anomalies, and enabling rapid responses to emerging threats before they even occur.

"Assume breach" is strengthened when it is paired with Zero Trust, which operates under a "never trust, always verify" mindset. As a result, measures are put in place to contain breaches quickly–such as continuously verifying users and ensuring they are only accessing the resources they need to access.

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From there, schools can implement protections that safeguard data in a proactive way, such as modern data encryption methods or apps, which are often quick and cost-effective.

Another vital defense is the adoption of Zero Trust Segmentation (ZTS). ZTS is designed to restrict lateral movement within a network by adopting Zero Trust measures to continuously verify communication and then creating granular policies that allow only essential interactions. For example, if an attacker breaches one segment, ZTS restricts their ability to move freely across the network and access sensitive assets, such as student records or financial databases. This containment strategy minimizes the damage of an attack, isolating threats before they can spread further. By implementing ZTS, schools create a layered defense system that safeguards critical assets while providing resilience against sophisticated cyber threats.

End-to-end visibility is also particularly critical in hybrid environments where a mix of on-premises and cloud-based systems expands the attack surface. By tracking communication between devices, workflows, and external networks, schools can better understand how data moves within their ecosystems. This understanding enables the enforcement of least-privilege policies, granting users access only to the resources they need for their roles. Such restrictions limit an attacker's ability to exploit compromised accounts, reducing the potential impact of a breach. With a clearer picture of traffic patterns and system behavior, districts can strengthen their defenses against emerging threats.

Pairing Zero Trust principles and "assume breach" mindset with ZTS shifts the focus from preventing all breaches to containing their impact, using security measures and protocols to prevent incidents from escalating into disasters.

Flipping the paradigm: From reactive to proactive

As ransomware threats continue to evolve, schools face a critical inflection point. The growing integration of digital tools in K-12 schools, from virtual learning platforms to smart classroom technologies, has outpaced many districts' cybersecurity resources, underscoring the urgent need for modern, proactive security strategies. Traditional perimeter defenses alone cannot withstand the sophisticated, AI-driven tactics of modern attackers. By embracing well-rounded and multi-faceted defense measures–such as an "assume breach" mindset, Zero Trust architectures, data encryption, segmentation, and post-breach containment strategies–schools can flip their cybersecurity posture from reactive to proactive. Proactive measures that emphasize containment and resilience set schools up to be better prepared to face the escalating threats of ransomware in 2025 and beyond.

With a commitment to modern cybersecurity practices and a focus on protecting critical assets, schools can safeguard their data against new ransomware threats and continue to provide safe and secure environments for learning. eSN

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tering a culture that prioritizes presence. This starts with schools and communities making attendance a shared responsibility, not just a policy.

First, schools must take the initiative to understand why students are missing school. Whether through modern AI-driven attendance systems or with more traditional methods like phone calls, understanding the root causes is critical to addressing the issue.

Next, categorize and recognize patterns. Small adjustments can have big impacts. One district noticed that students who were 0.9 miles away from school were much more likely to not show up because their bussing policy was for families living 1 mile away from school or further. By changing their policy, they saw a surge in attendance. Similarly, pinpointing specific classes that students are skipping can help tailor interventions, whether through teacher engagement or offering additional support.

Lastly, schools should focus resources on students facing the most severe challenges. These students often require personalized solutions, such as home visits for unresponsive parents or help with transportation. Targeted efforts like these create a direct impact on reducing absenteeism and improving overall attendance.

When communities unite to make school attendance a priority, students receive the support they need to succeed. Tackling chronic absenteeism is not an easy task, but with focused effort and a culture of engagement, we can reverse this troubling trend and give students the foundation they deserve for future success. eSN

Joe Philleo is the co-founder and CEO of Edia, an AI-powered platform that tackles two critical challenges in K-12 education: improving math outcomes and reducing absenteeism. Edia's mission is to ensure every student has access to an exceptional education, grounded in the belief that school shapes the trajectory of people's lives.

10 things AI still struggles with in education–and beyond

AI is reshaping education, but it still struggles with nuance and emotional intelligence

Evelyn Galindo,
Carnegie Learning

Artificial intelligence is transforming education, from automating assessments to personalizing learning experiences. But despite its rapid advancements, AI still struggles with many aspects of human intelligence, especially when it comes to nuance, creativity, and real-world application.

Here are 10 areas where AI falls short–and why human intelligence remains essential.

1. Switching seamlessly between languages like many bilingual learners do

AI-powered translation tools are improving, but they don't match the way multilingual individuals naturally switch between languages in real life.

Bilingual students often engage in code-switching, blending languages based on context, audience, and emotion. AI translation systems process languages separately, making it difficult to replicate the fluidity of real-world multilingual communication. This is a significant gap in AI's ability to support language learners and culturally diverse classrooms.

2. Understanding context in texts and conversations

AI can summarize a passage or analyze a text, but it often misses the deeper meaning, tone, and cultural nuance, especially in literature and history.

A BBC study found that AI-generated news summaries were riddled with factual inaccuracies because chatbots failed to interpret meaning accurately. This is especially concerning in education, where critical thinking and contextual understanding are essential.

3. Formatting documents in a consistent and readable way

Educators often use AI to generate lesson plans, worksheets, and reports. However, AI-generated documents frequently have inconsistent formatting, including mismatched fonts, awkward spacing, and misaligned bullet points. This lack of coherence makes materials harder to read and less engaging, which is particularly problematic for students with learning differences.

4. Addressing sustainability and AI's environmental impact

While AI can help optimize energy efficiency, its environmental footprint is massive. Training large AI models consumes enormous amounts of energy. For example, OpenAI's GPT-3 required 1,287 megawatt-hours to train–comparable to the annual energy consumption of 120 U.S. homes. As schools adopt AI-driven tools, sustainability must be part of the conversation.

5. Generating truly new ideas (instead of just remixing old ones)

AI is great at rearranging existing knowledge, but it doesn't create truly original ideas. For example, AI can generate writing prompts by pulling patterns from past literature but cannot develop entirely new literary styles, philosophies, or scientific theories. Critical thinking and innovation remain uniquely human skills.

6. Recognizing humor and using it effectively in learning

Humor is a powerful tool in education. It enhances engagement and memory, and can create student-teacher rapport. However, AI doesn't grasp humor naturally because it relies on logic and pattern recognition rather than emotional and social awareness. This is why AI-generated jokes often fall flat or sound robotic. Effective humor depends on timing, cultural understanding, and relationships–elements AI still struggles to replicate.

7. Retaining knowledge like a human learner

AI experiences catastrophic forgetting, meaning that as it learns new information, it forgets previously learned data unless explicitly retrained. In contrast, human learners build on prior knowledge, connecting ideas and recalling past lessons over time. This is a major limitation for AI-powered tutoring systems, which often have trouble retaining long-term context across multiple student interactions.

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5 CTE trends to track in 2025

CTE programs are likely to refocus on the development of technical and durable skills that employers deem necessary for success

Dr. Brooke Rice, NAF

What do today's students need to know before they jump into the workforce? While the future is theirs to create, today's career and technical education (CTE) providers are adapting to meet the moment and giving students access to opportunities to develop the skills they need to succeed.

As we head into 2025, here are five trends we can expect to see more of in the year ahead.

1. A larger focus on AI-training. Maybe this is a given. But, according to Dr. J.J. Ayers, who wrote for the Association for Career and Technical Education, not only are more teachers adopting AI in CTE programs, but there's likely to be a heavier focus on helping students navigate these tools. Practical exercises using AI (NAF's latest KnoPro challenge is a great example of what this could look like) or an emphasis on Future Ready Skills, such as problem solving, communication, and social awareness, that help students understand how to use AI more efficiently and the limits of language learning models will be an important anchor to prepare students for their futures.

2. CTE is growing in popularity, with an increase in digital and virtual tools. More students are showing interest in CTE programs at their schools, especially as demand for skilled workers grows across the U.S. They help to make the classroom experience more relevant, engaging, and aligned with the needs of both students–who will become our nation's future workforce leaders–and the evolving job market, as well as preparing students who plan to go on to college. Hands-on learning will still be key, but CTE providers now have many more options for expanding access to opportunity through online learning platforms. KnoPro, a free digital tool for students 13+, provides them with the ability to participate in authentic business projects with mentorship from industry professionals and chances to win prize money.

3. Working to amplify the full continuum of work-based learning opportunities. High school is the time that the next generation of talent is making crucial decisions about their futures, making it all the more essential for them to become familiar with the world of work before landing on their choices. All students should have opportunities to explore a variety of college and career pathways and have access to the full continuum of experiences (job shadows, worksite tours, apprenticeships, internships, etc.). These experiences set them up to not only make informed career choices, but also help them build their social capital and gain economic mobility. Our outcomes-driven approach to work-based learning (ODWBL) focuses on 3 specific outcomes for students to achieve by the end of high school and helps to equip them with the aspirations, skills, and connections necessary to navigate their professional journeys and be successful in a variety of pathways.

4. More employers are considering skills-based training programs. CTE programs are likely to refocus on the development of technical AND Future Ready (or durable) Skills that employers deem necessary, as more are considering the merits of skills-based hiring. Higher education will still be necessary for many jobs, but we're likely to see employers become more critical of whether a bachelor's degree makes sense for a particular position – especially with skills-based hiring being on the rise. To illustrate this point, see this recent Netflix documentary.

5. States and the federal government want more CTE programs. In recent years, states like Indiana, Idaho, and Illinois have signaled interest in making these programs more available, whether that be through legislation or calls for increased funding. Even the Senate, with a bipartisan bill, hopes to fund programs through state grants. We can only expect more and more states to join in. eSN

Dr. Brooke Rice is NAF's Vice President, Curriculum & Work-Based Learning. NAF is a national education non-profit that brings schools and businesses together to better prepare students of all backgrounds. NAF helps students explore career options, create a plan for the future, and take part in hands-on, work-based learning unlike anything traditional public education systems can offer. NAF puts students on a path to achieving their full potential. During the 2023-24 school year, over 113,000 students attended over 600 NAF academies across 34 states and territories.

Harnessing generative AI to revolutionize educator growth

AI-driven PD tools can help educators focus on meaningful professional growth instead of administrative requirements

Jordan O'Connell & Dr. Steve Baule, Winona State University

Generative artificial intelligence (AI) is reshaping education as we know it. AI's potential and pitfalls continue to be debated for classroom and student use, as well as for society at large.

As educators navigate the demands of an AI-rich teaching environment, they require innovative tools to adapt their instructional practices while maintaining a focus on equity, efficiency, and continuous growth. Professional development will be even more important as the rate of change accelerates due to more powerful emerging tools.

Generative AI can help educators develop (and follow through on) personalized development pathways, streamlining credentialing requirements and recording professional growth in real time. Generative AI tools can revolutionize professional development, empowering educators with tailored support and automating traditionally time-intensive tasks. By examining specific use cases, benefits, and challenges, AI can foster a more responsive, efficient, and impactful PD ecosystem.

The need for AI in professional development

Educators often struggle to balance professional training with the constraints of time, accessibility, and relevance. Professional development programs often rely on a one-size-fits-all model, which cannot by definition address the needs of each individual teacher. Generative AI can assist in enabling a new era for professional educator growth. As Ferikoğlu and Akgün note in a recent article, "there is a significant need for early and ongoing professional development for educators to be fully prepared to address the new instructional realities brought forth by an AI-rich environment."

Generative AI tools can respond to this challenge by offering adaptive solutions that cater to individual learning needs and institutional requirements. From creating personalized professional learning plans to automating continuing education documentation, AI-driven PD tools can assist educators to focus on meaningful growth instead of administrative requirements.

AI in personalized professional growth

One of the most promising applications of generative AI is its ability to design individualized professional development pathways. Acting as a training planner, AI tools can analyze an educator's previous experiences, current skill set, teaching context, and long-term career goals to recommend targeted learning opportunities at all stages of the educator's journey. For example, an AI-powered platform could identify that an educator is proficient in classroom management but has limited experience with digital tools, then suggest regional or online workshops or courses focusing on technology integration that are suited to the individual.

AI tools may be used to change the landscape of professional development by offering versatile tools that cater to the diverse needs of educators. These systems would help ensure that PD initiatives remain relevant, practical, and balance both personal priorities and institutional requirements. Tools like Coursera, edX, and LinkedIn Learning already use algorithms to suggest tailored learning paths, demonstrating the feasibility of personalized PD solutions at a broader scale.

Streamlining continuing education tracking

Educators are often required to earn continuing education units (CEUs) to maintain their licenses, an often-complicated process governed by unfamiliar bureaucratic requirements. Generative AI can streamline this process by automating the tracking and documentation of CEUs. Imagine an AI-integrated system that logs professional development activities as they occur, calculating and updating CEU credits in real time.

For instance, an AI-powered system integrated into an institution's human resources portal could soon automatically record an educator's participation in webinars, workshops, or online courses, converting them into the appropriate number of CEUs without manual input. AI-powered platforms could serve as proactive assistants, even monitoring an educator's credentials and providing updates. For instance, if a teaching certification is about to expire, the system could notify the educator and provide clear instructions for renewal, minimizing the risk of lapses in licensure. This automated approach not only saves time but also reduces errors, ensuring that educators stay compliant

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with certification requirements.

Beyond renewals, AI can assist with maintaining up-to-date professional biographies and CVs. Generative AI can draft concise and comprehensive bios with minimal input from the educator. This feature proves invaluable for educators participating in conferences, submitting grant applications, or seeking new professional opportunities. For example, a simple prompt asking AI to summarize recent accomplishments can yield polished bios tailored to various audiences.

Challenges and ethical considerations

While the benefits of generative AI in PD ecosystems are exciting, it is important to approach these tools with a critical eye. Potential challenges include data privacy concerns, the risk of over-reliance on AI recommendations, and the need to address bias within AI algorithms. Gullani, et al. recently wrote that schools and districts must ensure that AI-enhanced tools are transparent, equitable, and aligned with their educational mission. Educators must always view AI as a supplement to, not a replacement for, human expertise. Human agency needs to be a core of any effective use of AI tools.

Conclusion

Generative AI is redefining educator professional development by offering tools and strategies to create smarter, more impactful, and targeted learning opportunities. From personalized PD plans to AI-supported assessment and feedback mechanisms, these innovations streamline processes save educators valuable time and provide actionable insights to support growth. By thoughtfully integrating these tools, educators and institutions can ensure professional development programs that are meaningful, scalable, and aligned with the evolving demands of our modern classrooms.

For a deeper dive into these ideas and to explore other groundbreaking insights, you are encouraged to review the authors' chapter, Harnessing Generative AI for Educator Professional Development, inthe upcoming book from IGI Global, Teachers' Roles and Perspectives on AI Integration in Schools, which examines how educators can navigate the opportunities and challenges presented by AI in additional professional development contexts. eSN

Jordan O'Connell teaches online U.S. History and Government courses for a diverse group of community college learners. He is also an education doctoral student at Winona State University. Let him know how AI chatbots are changing the way you assess online learning at jordan.oconnell@go.winona.edu. Dr. Steve Baule is a faculty member at Winona State University (WSU), where he teaches in the Leadership Education Department. Prior to joining WSU, Baule spent 28 years in K-12 school systems in Illinois, Indiana, and Iowa, and two years teaching in the University of Wisconsin System. For the 13 years prior to moving to the university level, Baule served as a public - school superintendent.

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8. Navigating ambiguity in learning and problem-solving

AI excels at pattern recognition, but real-world problems often lack clear-cut solutions. For instance, AI can easily solve structured math problems but struggles with open-ended questions that require interpreting ambiguous data, ethical considerations, or creative reasoning. This is a substantial gap in AI's ability to support higher-order thinking skills.

9. Understanding and expressing true emotional intelligence

AI can simulate empathy, offering pre-programmed responses like, "I understand how you feel." But it does not experience emotions or understand human relationships. In education, where emotional intelligence plays a key role in student success, AI cannot replace human educators who provide mentorship, encouragement, and emotional support.

10. Managing everyday human tasks (like folding laundry!)

AI can generate curriculum plans and assess student work, but it still can't perform basic physical tasks that require real-world adaptability. For example, robots struggle with soft materials, making tasks like folding laundry incredibly difficult. While AI is transforming digital education, it still has major limitations in physical, hands-on learning environments like vocational training and lab-based sciences.

Final thoughts: AI is powerful, but humans are irreplaceable

AI is reshaping education, but it still struggles with nuance, creativity, emotional intelligence, and contextual understanding–all of which are essential for effective teaching and learning.

Educators should embrace AI as a tool to enhance learning while recognizing its limitations. At the end of the day, human intelligence, adaptability, and empathy remain irreplaceable in education. eSN

Evelyn Galindo is an AI innovation specialist at Carnegie Learning with expertise in instructional design, digital content development, and AI-driven language learning solutions. As the chair of the 1EdTech Gen AI Taskforce, she leads the development of a Generative AI Data Rubric, promoting ethical and effective AI use in education. Her work focuses on leveraging AI to enhance teaching and learning processes, ensuring AI remains a tool that empowers educators.

Priorities

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Community initiatives

A number of collaborative initiatives are now exploring practical uses for AI in the education space. At Notre Dame de Namur University, we are creating an AI hub that connects teacher education programs with local school districts, community colleges, and professional organizations. The hub provides an avenue for stakeholders to discuss best practices and share ideas about how we can use AI to benefit society and prepare our youth for future careers.

As part of our commitment to responsible AI integration, NDNU has signed ISTE's Digital Transformation Pledge. This pledge outlines strategies to ensure that educators are prepared to provide equitable learning opportunities while embracing new technologies. We have also brought on Cate Tolnai, a recognized expert in AI and K-12 education, to act as our faculty lead on AI integration in teacher training.

Other groups in California are also making strides in this area. For example, the San Mateo Union High School District has launched an AI fellowship program designed to help teachers use AI to create more inclusive learning environments (check out the work of teacher Stacy Kratochvil). Meanwhile, an interactive webinar series called The PLAIground, offers educators a supportive, hands-on space to explore AI tools together. These sessions emphasize human-centered teaching and provide practical guidance on using AI creatively and ethically in the classroom.

Through this type of purpose-driven collaboration, we can provide valuable professional development opportunities for educators while building a forward-thinking model for culturally competent, technology-enhanced teacher preparation programs.

A vision for the future

By prioritizing cultural competency and AI literacy in teacher training programs, we can fundamentally transform how we prepare educators for the future. The key will be to ensure that these two areas are recognized as interconnected priorities rather than separate goals.

When equity is at the heart of how we introduce new technologies into classrooms, we can build an education system in which every student feels valued. The steps we take today will have a lasting impact on students and teachers for generations to come. eSN

Kelly Vaughn, Ph.D. is the Interim Dean of School of Education at Notre Dame de Namur University.

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design, forensic science, meteorology, and much more. VHS Learning courses expand a school's local program of studies, allowing them to provide more educational options for their students.

All VHS Learning courses are taught by certified high school teachers, and students engage with their peers from around the world, while learning subjects not always available to them locally. Students who enroll in VHS Learning courses receive practical, hands-on experience in career fields by completing authentic, real-world tasks and projects.

Connecting students with careers they're passionate about should be every high school administrator's mission. High-quality, hands-on instruction from an experienced, high-quality supplemental online learning provider allows high schools to broaden the options available to their students, so students can find careers that truly engage and inspire them. eSN

Carol DeFuria is the president and CEO of VHS Learning, a nonprofit provider of full-time and supplemental online instruction for high school students for nearly 30 years.

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