2025 EDUCAUSE Horizon Report®
Teaching and Learning Edition

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EXECUTIVE SUMMARY

Higher education is moving through a period defined not by a single disruption but by a complex layering of global trends. From climate instability to shifting global economic dynamics, institutions are facing pressures that stretch far beyond the campus gates. At the same time, institutions, educators, and students alike are navigating challenges including shifting learner expectations, demographic changes, workforce realignments, and persistent questions about the value of higher education. Technological advancement, particularly in AI and virtual reality, is reshaping how students engage with content, how cognition is understood, and how learning itself is documented and valued. Political and regulatory landscapes are evolving in ways that both challenge and redefine the role of higher education. Taken together, these forces form a backdrop of a field that no longer enjoys the luxury of being able to evolve slowly.

This year's teaching and learning Horizon Report captures the spirit of transformation through the lens of emerging trends, key technologies and practices, and scenario-based foresight. This report surfaces not only what is changing but how and why these shifts are happening. The insights and provocations offered here reflect the perspectives of a global panel of experts who brought deep knowledge and diverse experiences to bear. Their contributions, grounded in modified Delphi methodology supported by tools from the Institute for the Future, illuminate multiple possible futures and the choices institutions face now to shape the learning landscape of tomorrow.

Trends

As an initial step, we work with the Horizon Report panelists to identify macro trends that will have a marked effect on teaching and learning in higher education. These trends must be grounded in evidence, thereby ensuring we are building the Horizon Report on a foundation of current reality. Panelists were asked to contribute real-world trends evidence across five categories: social, technological, economic, environmental, and political. After gathering this evidence, panelists were asked to vote on the most important trends and selected the following:

Social Trends

- Interest in designing inclusive learning environments continues.
- Polycrises are on the rise.
- Technology is changing students' cognition.

Technological Trends

- VR tools are becoming more advanced and affordable.
- Focus on democratization and efficiency in technology has increased.
- Technology is providing new ways to document student learning and success.

Economic Trends

- The potential for trade wars is increasing.
- The demand for some to return to the office continues.
- Concerns about deglobalization are growing.

Environmental Trends

- Governments are expanding clean energy subsidies.
- Lithium reserves have the potential to pave the way for a green energy workforce.
- Food insecurity is increasing globally.

Political Trends

- Classification of institutions continues to change.
- Uncertainty over technology-related regulations in higher education is growing.
- Regulations for AI are lacking or ineffective.

After the trends were prioritized, panelists provided additional details to further scaffold each trend. Additionally, panelists validated each trend by documenting possible impacts each trend might have on the future of the teaching and learning in higher education.

EDUCAUSE has been using this process to identify trends for the Horizon Reports for many years. For the first time, because of the complexity and uncertainty of the current times, and the significant level of disruption higher education is experiencing, we revisited the established trends with the panel before publishing this report to ensure their relevance. The intent was not to rewrite or extend the trends but rather to include additional narrative about how the selected trends may be evolving in response to external forces around higher education.

Key Technologies and Practices

After trends were established, panelists were asked to describe the key technologies and practices they believed would have a significant impact on the future of teaching and learning, especially focusing on those that would accelerate or impede the trends. The results of the panel vote brought six technologies/practices to the top of a long list:

- AI Tools for Teaching and Learning
- Faculty Development for Generative AI
- AI Governance
- Shoring Up Cybersecurity
- Evolving Teaching Practices
- Critical Digital Literacy

Panelists were then asked to identify the ways in which stakeholders might leverage the technology or practice to support teaching and learning; potential risks higher education stakeholders might face when implementing that particular technology or practice; and, finally, the potential impact on creating a welcoming environment.

Scenarios

Examining the trends and the key technologies/practices identified by the community panel, patterns began to emerge that suggest multiple possible futures for higher education. These patterns help us imagine scenarios that, while not predictions, can inform and perhaps inspire action in the planning and strategy for today. Four possible future scenarios for higher education are presented in this Horizon Report. These are distinct, but plausible, scenarios for the future.

- **Growth:** Rapid advancements in AI and virtual reality (VR) lead to learning ecosystems that are hyper-personalized and responsive, with learning being tailored in real time. One benefit of the growth is a strong uptick in the adoption of frameworks that center on transparency and ethical governance paradigms. However, growth across institutions is not equal. Institutions with sufficient budgets adopt holistic, cutting-edge technology infrastructure, while others struggle to keep up.
- **Constraint:** In a reality where public funding is tied to required "quality control" regulations, colleges and universities around the world begin using an AI-powered predictive system that has high accuracy, but concerns arise about privacy, security, and algorithmic bias. Resource disparities widen, and although innovation persists, it is uneven and constrained by policy and public skepticism.
- **Collapse:** The ubiquitous use of AI—marked by access to free tools, the lack of critical data literacy, and the proliferation of user-generated content being believed as "fact"—makes checking the accuracy of generative AI outputs in unmoderated contexts nearly impossible. The core identity of higher education institutions, historically a trusted contributor to truth and knowledge generation, is eroded. The traditional higher education model struggles to stay relevant in an environment defined by mistrust and disruption.
- **Transformation:** With the development of a laser-sharp focus on higher education as the primary driver for workforce readiness, institutional priorities shift to accommodate demand, and liberal arts education programs begin closing around the globe. This reinvention makes cross-sector partnerships a critical component of higher education. Graduates are leaving institutions with top-notch skills but often lack experience gained through exposure to liberal arts education, such as the interpersonal skills and social intelligence that are cornerstones of effective leadership.

TRENDS: SCANNING THE HORIZON

Institutions of higher education, and the teaching and learning practices they adopt, are in many ways products of the larger environments of which they are a part. Colleges and universities are dynamic communities of people living at a particular point in history and are influenced by evolving cultural ideas, norms, and resources. Mapping the future of these institutions and their practices demands that we pay attention to the larger social, economic, and other shifts taking place across our global society that are impacting higher education in profound ways. Only by understanding these forces can we anticipate, plan for, and adapt to the changes ahead.

To help us explore these larger forces as they take shape, we asked panelists to survey the landscape and identify the most influential trends shaping teaching and learning in higher education across five categories: social, technological, economic, environmental, and political. This section summarizes the trends the panelists discussed and voted as most important in each of these categories, as well as anticipated impacts of and evidence for each trend.

It is clear in this year's report that we are living amid complexity and uncertainty. While advancements in AI and other technologies show no signs of slowing down, incomplete or confusing regulations present a limiting factor for AI and higher education technology in general. Polycrises—situations in which multiple crises overlap and intensify each other—are increasingly commonplace, suggesting that institutions may need to develop more comprehensive crisis frameworks. Growing potential for trade wars and potential shifts away from globalization may lead to economic instability, which would ultimately impact campus budgets, enrollments, and more. In the higher education realm, institutional classification systems are changing, with implications for funding, accountability and transparency requirements, and more.

And yet we see glimmers of momentum toward welcoming spaces. Toward the democratization, affordability, and efficiency of technologies like VR and other educational technologies. Toward the expansion of clean energy subsidies made available by governments worldwide. And toward breakthroughs in the use of lithium that may advance green energy production.

Higher education teaching and learning professionals can harness the more readily available and more sophisticated technologies and lean into the affordances that technology provides to better document student learning and success. At the same time, elevating our humanness will be critical, whether that's through programs that address local or global food insecurity or by developing flexible policies around hybrid work that meet operational needs while accommodating stakeholder preferences and effectively preparing students for the future workforce. As technology reshapes how students think, learn, and engage, investments in new tools and changes to curriculum and assessments will be critical to prepare for new cohorts of students who are increasingly reliant on digital technology.

Social

Interest in designing inclusive learning environments continues.

Polycrises are on the rise.

Technology is changing students' cognition.

Technological

VR tools are becoming more advanced and affordable.

Focus on democratization and efficiency in technology has increased.

Technology is providing new ways to document student learning and success.

Economic

The potential for trade wars is increasing.

The demand for some to return to the office continues.

Concerns about deglobalization are growing.

Environmental

Governments are expanding clean energy subsidies.

Lithium reserves have the potential to pave the way for a green energy workforce.

Food insecurity is increasing globally.

The summary of these trends is drawn directly from the discussions and inputs provided by our expert panelists, in keeping with the tradition of the Delphi methodology. Each of the trends was identified and voted on by panelists without influence from the EDUCAUSE Horizon Report staff, aside from our work in organizing and synthesizing the panelists' inputs for presentation here.

There is far more complexity and variability in these trends when looking across types of institutions and regions of the world than can be adequately captured in such a brief summary. Indeed, the expert panelists—who represent a variety of roles and institutional types within the United States, as well as communities outside of the United States—routinely reflected on the ways in which trends affect institutions differently across different settings. Where possible, we've tried to account for that variability, though the reader will certainly bring additional experiences and contexts that would further broaden these considerations.

Political

Classification of institutions continues to change.

Uncertainty over technology-related regulations in higher education is growing.

Regulations for AI are lacking or ineffective.

SOCIAL TRENDS

Higher education takes place within particular social contexts, and learning experiences are shaped and colored by the people interacting and building relationships through those experiences. The student experience in higher education is a fundamentally social practice, one that is better understood by mapping the important social trends developing within and around it.

In light of developments since the trend data were collected in late 2024, we reconvened our expert panel in February 2025 to provide "just in time" updates that will help institutions be proactive and adaptable in responding to rapidly evolving circumstances.

SOCIAL

- **Policy shifts are challenging inclusive learning efforts.**
- **New crises have emerged globally, intensifying instability.**
- **Policy shifts could change how students interact with technology.**

Interest in designing inclusive learning environments continues.

Impact: Globally, the emphasis on addressing barriers and expanding access to education for diverse populations continues. For example, UNESCO IESALC's latest Policy Insight showed that "70% of countries with a national plan for higher education have made inclusion a key objective." Additionally, recent updates to Universal Design for Learning (UDL) guidelines have garnered further interest in creating more equitable and inclusive learning environments. By engaging in inclusive practices, higher education institutions can achieve improvements in multiple areas. For instance, inclusive learning environments can boost student retention, success, and engagement by providing equitable access to learning resources and leveraging culturally responsive teaching. Implementing technology-enabled accessibility solutions such as digital tools for neurodivergent learners and Indigenous language preservation can help ensure equitable access for marginalized groups. Furthermore, fostering cultural inclusivity and equitable access can enhance students' sense of belonging and create a more supportive academic community. Graduates from these environments will be better equipped to navigate diverse workplaces and better able to meet employer expectations for cultural competence. Ultimately, these practices could strengthen institutional reputation by attracting a more diverse student body and faculty. However, as institutions strive to create inclusive learning environments, they will face significant challenges. Implementing these initiatives requires substantial investments in technology, professional development, and infrastructure, straining limited budgets and demanding strategic resource allocation. Resistance to adopting new teaching methods and technologies may further impede progress, requiring efforts to foster buy-in and provide adequate support. Moreover, coordinating large-scale inclusivity initiatives across departments and stakeholders will require careful planning and collaboration. Adding to these complexities, some governmental decisions to reduce or eliminate support for inclusion and equity initiatives create further barriers, forcing institutions to navigate changing sociopolitical demands and seek alternative pathways to uphold their values. Despite these hurdles, prioritizing inclusion and equity in higher education remains essential for fostering resilient, diverse, and impactful learning communities.

Evidence: A study published in *Nature: Humanities & Social Sciences Communications* highlights how inclusive teaching strategies—such as active learning and diverse representation in course materials—improve outcomes for marginalized students in higher education. Legislation banning DEI initiatives and programs has impacted many institutions. At the University of Texas at Austin, such legislation has led to significant disruptions, including staff layoffs and the closure of the Monarch Program for undocumented students, forcing students to seek alternative support in areas such as academic guidance, financial aid assistance, legal aid for immigration-related issues, mental health support, and community-building.

Polycrises are on the rise.

Impact: A polycrisis occurs when multiple crises—such as economic instability, climate change, public health emergencies, and geopolitical tensions—interact in ways that exacerbate their individual impacts. Recent data reveal a growing perception of mounting crises, accompanied by a heightened sense of vulnerability among individuals. Globally, interconnected risks with the potential for significant impact include economic instability, cybersecurity threats, natural resource crises, extreme weather events and natural disasters, biodiversity loss and ecosystem collapse, and the erosion of social cohesion and rising societal polarization. Higher education institutions will certainly face significant challenges from these compounding crises. Economic instability and natural-resource constraints have the potential to deepen the strain on institutional budgets, limiting investments in infrastructure, faculty development, and student support. The rise in cybersecurity threats could expand the risks to data, leading to a need for more robust security measures and/or the scaling back of investments in data and analytics practices. Geopolitical polarization and erosion of trust could further complicate campus dynamics—an area that is already challenging on many campuses—requiring institutions to ramp up their efforts toward fostering inclusivity, belonging, and cohesion. Within institutions, polycrises could impact stakeholder groups in profound and varied ways. Students may face disruptions in their learning and experience increased mental health challenges, with marginalized groups disproportionately affected. This would increase the pressure on institutions to provide more mental health resources, financial aid, and other forms of support. Faculty and staff will need training in crisis response and adaptable teaching methods. Moving forward, institutions must develop comprehensive crisis frameworks and secure funding to support crisis prevention and management. As crises grow in frequency and complexity, institutions must adopt holistic support strategies, ensure equitable communication and access to support and resources, and prepare to redefine their role in community service during extreme events. Resilient crisis management focused on preparing for natural disasters, supply chain disruptions, and economic challenges will be essential. By integrating sustainability into operations, advancing digital tools for learning and administration, and collaborating with governments and industry to share resources and expertise, institutions can boost their resilience during times of crises.

Evidence: Northeastern University's *Confronting the Polycrisis Head On* project addresses interconnected global challenges by fostering interdisciplinary research that engages students, faculty, and external partners in developing sustainable solutions. Similarly, The Finsbury Institute Conference—launched by City St. George's, University of London—focuses on advancing research and innovation in financial inclusion and health equity.

Technology is changing students' cognition.

Impact: Concerns about the impact of digital technologies on college students' cognitive abilities are growing. Some research has shown that frequent use of technology (especially smartphones and social media, and now increasingly AI) can shorten attention spans, reduce memory recall, and cause cognitive overload. Additionally, overreliance on digital devices may not only impair critical thinking and problem-solving skills but also impact brain development. This does not, however, definitively mean that technology is bad for students and their ability to be successful in higher education. There are a number of positive implications of technology use and impacts on cognition and learning. For example, technology-rich learning environments can enhance learning outcomes, motivate students, and foster interdisciplinary thinking. And active learning approaches enabled by technology can also lead to improved cognitive engagement and deeper understanding. Nonetheless, each new generation is more reliant on digital technologies, so higher education institutions need to be prepared to adapt to new cohorts of students who will undoubtedly have different styles of thinking and learning. As technology reshapes how students learn and engage, institutions will face the challenge of updating curricula and assessments to align with these shifts, in addition to developing strategies that counteract shifts away from critical thinking. Institutions may need to explore more modular, hybrid, and technology-rich teaching methods that engage students while maintaining academic rigor. They will also need to prioritize digital literacy initiatives and reimagine assessments to move beyond traditional testing models to emphasize the creative and critical use of technology. Institutions might explore project-based assessments or adaptive testing methods that leverage digital tools to provide personalized learning experiences while encouraging deeper cognitive engagement. To support these changes, significant investments in tools and resources—such

as AI-driven learning platforms, immersive technologies such as virtual reality, and collaborative digital workspaces—will likely be required. Faculty development programs will also be essential, equipping educators with the skills and strategies to design assessments that align with modern learning needs while maintaining academic integrity. By reimagining how technology is integrated into teaching, learning, and assessment, institutions can enhance student engagement and improve the overall learning experience, which will make it easier to attract and retain students. This will not only equip students with the skills needed to thrive in an ever-evolving digital landscape but prepare them for an evolving workforce.

Evidence: An article in *Times Higher Education* explores the use of microlearning to enhance university teaching, highlighting strategies such as short, focused lessons and just-in-time resources to improve student engagement and retention. At the University of Michigan, a pioneering digital wellness program addresses the challenges of excessive screen time among youth and offers research-based tools and practices to promote healthier digital habits.

FURTHER READING

Times Higher Education
"Creating a Culture of Belonging with Inclusive Pedagogy"

World Economic Forum
"Global Risks Report 2024"

TIME
"Why Everyone's Worried about Their Attention Span—and How to Improve Yours"

TECHNOLOGICAL TRENDS

Technology is constantly changing and becoming more sophisticated. As technologies become outdated and new technologies are introduced, institutions of higher education must consistently monitor the usefulness of technology already implemented and plan for new technologies that enable more adaptive decision-making and more flexible teaching and learning experiences. What those technologies are, how they are deployed across the institution, and the ways in which they themselves continue to evolve is one of the ongoing and defining stories of higher education.

In light of developments since the trend data were collected in late 2024, we reconvened our expert panel in February 2025 to provide "just in time" updates that will help institutions be proactive and adaptable in responding to rapidly evolving circumstances.

TECHNOLOGICAL

- **Financial constraints could slow the adoption of VR (and other technologies) in higher education.**
- **Efforts to democratize technology might face new obstacles.**
- **AI advancements could transform how student success is tracked and documented.**

VR tools are becoming more advanced and affordable.

Impact: Virtual reality (VR) technologies are becoming increasingly advanced and affordable, offering higher education institutions new opportunities to enhance immersive learning experiences and accessibility. Recent advancements in VR technology—such as higher-resolution displays, improved spatial audio, enhanced hand and eye tracking, and more efficient processors—have significantly increased the capabilities of VR devices, offering educators the opportunity to integrate VR into teaching, research, and student engagement efforts more effectively. For example, VR tools could be used to offer experiences that closely simulate real-world environments, enabling students to develop practical, job-specific skills in a safe and controlled setting. This could be particularly helpful in fields such as health care and engineering, as well as in technical trades such as construction or culinary arts. By integrating VR into curriculum design, institutions may be able to better align learning outcomes with industry needs, ensuring that graduates are ready for the workforce and equipped with the appropriate skills. Adoption of VR tools could also be a means for institutions to address ongoing and upcoming challenges related to accessibility, shifts in learning preferences and cognition, and workforce demands and changes. VR tools can also be used to foster accessible and inclusive environments that accommodate diverse learning styles, languages, and abilities while appealing to a growing population of tech-savvy, digitally oriented students. Although these tools are becoming more affordable, institutions will still likely need to address high initial costs for hardware, content development, and infrastructure upgrades. Institutions will also need to invest in faculty training programs and in partnerships with VR developers to create tailored educational content. They should also prioritize accessibility by designing inclusive VR experiences and ensuring equitable access to devices. Ongoing evaluation and collaboration across departments will be essential to align VR adoption with institutional goals and student needs.

Evidence: A recent *EdTech Magazine* article highlights the growing use of spatial computing technologies—such as augmented and virtual reality—to provide students with immersive, real-world experiences in virtual environments, particularly in fields such as health care and engineering. Southern Utah University has further embraced this trend by launching VR/AR-integrated classrooms, allowing students to explore interactive simulations and enhance their understanding of complex concepts.

Focus on democratization and efficiency in technology has increased.

Impact: Globally, the emphasis on making technology and infrastructure more accessible, efficient, and effective has grown, enabling more people to access and use technology in meaningful ways, and these efforts have only been strengthened by recent developments in AI. As progress is made toward improving democratization and efficiency, higher education institutions could see a number of benefits. Institutions will be better able to streamline operational processes, allowing them to reallocate resources to more desirable areas such as teaching and learning as well as student support and services. Streamlined technologies, especially in AI and analytics, will also

allow for easier integration into teaching and learning without requiring specialized expertise. The teaching and learning experience could also be improved given that technologies will be more easily customizable and flexible, allowing for the creation of more personalized and adaptive learning. With the adoption of these tools, institutions may also see boosts in creativity and innovation, because more stakeholders will be empowered to use technologies for not only teaching and learning but also research, personal interests, and other endeavors. If tools become easier to use and more affordable, previously underserved or marginalized groups—including under-resourced institutions—would be better able to access technology, bridging gaps in educational outcomes and operational capacity. Moving forward, institutions looking to leverage these technologies will need to address challenges such as limited budgets, integration with outdated systems, outdated and/or nonexistent policies and guidelines, and gaps in digital literacy among faculty, staff, and students. Institutions will also need to prioritize equitable access for underserved populations and address heightened data security and privacy risks.

Evidence: According to an article in *Forbes*, the rise of AI and automation is driving the democratization of technology, enabling broader access to tools and platforms that foster innovation across industries. Similarly, Northeastern University received funding from the National Science Foundation to advance its "Democratizing AI" initiative, which focuses on making AI research and resources more accessible to underrepresented groups in academia and industry. An article in *Campus Technology* highlights five strategies for democratizing data in higher education to enhance student outcomes: assessing data practices, investing in data literacy, implementing user-friendly platforms, establishing clear governance policies, and fostering a culture of data sharing.

Technology is providing new ways to document student learning and success.

Impact: Higher education institutions are increasingly exploring innovative methods for documenting student achievements. Traditional academic transcripts have several limitations in documenting student achievements, the most significant of which is their inability to capture the breadth of student learning. This is due to their limited scope of information, lack of context, and inability to recognize "soft" skills and lifelong learning. Institutions that intend to capture a richer and more holistic view of student learning may consider implementing alternative methods of documentation, such as digital badges and blockchain-based credentials, comprehensive learner records (CLRs), and e-portfolios. By implementing these tools, institutions could capture a broader representation of student capabilities and learning by accounting for work-based learning, service and community engagement, research, creative achievements, leadership roles, social and cultural experiences, entrepreneurial activities, technical certifications, and microcredentials. This approach would not only align with the evolving demands of employers and graduate programs but also help to bridge the gap between education and industry by providing clearer evidence of student readiness for the workforce. Furthermore, the verifiable and tamper-proof nature of these digital records could help to address concerns about credential fraud, and the digital format would offer graduates more easily accessible credentials that employers and academic institutions can more easily verify. This could enhance student mobility, leading to increased educational and employment opportunities. By showcasing diverse and personalized learning achievements, institutions could also better adapt to the growing demand for learner-centered and lifelong-learning paradigms. Moving forward, a shift toward alternative credentialing methods would require faculty to adopt competency-based assessments, analytics to track and address learning gaps effectively, and more granular learning objectives. Administrative units such as registrar's offices and career services will need new systems to manage these records and help students articulate their skills to employers, and IT departments will have to integrate analytics platforms and ensure data security. To succeed, institutions will need to train faculty and staff, establish consistent documentation standards, and balance privacy concerns with resource constraints and expanded access to data.

Evidence: An article in *Inside Higher Ed* highlights the adoption of digital wallets in higher education, enabling students to securely store and share alternative credentials such as badges, certificates, and microcredentials. At the University of Georgia, a new platform allows students to articulate their learning through digital records that showcase competencies gained from academic and extracurricular activities.

FURTHER READING

Nature
"The Democratization of Global AI Governance and the Role of Tech Companies"

The Chronicle of Higher Education
"The Transcript of the Future"

EDUCAUSE Review
"XR in Higher Education: Adoption, Considerations, and Recommendations"

ECONOMIC TRENDS

Higher education is no stranger to economic challenges. Finding reliable markets and sources of revenue while keeping costs from ballooning is always of critical importance to institutions. Yet, economies and enrollment patterns fluctuate, so institutional leaders need to be prepared for fiscal instability and uncertainty by anticipating declines in funding and adopting new ways to think about and plan for institutional business.

In light of developments since the trend data were collected in late 2024, we reconvened our expert panel in February 2025 to provide "just in time" updates that will help institutions be proactive and adaptable in responding to rapidly evolving circumstances.

ECONOMIC

- **U.S. policy turns toward tariffs.**
- **A growing emphasis on efficiency in the workplace could impact higher education.**
- **Stricter immigration policies are reshaping global connections.**

The potential for trade wars is increasing.

Impact: Given that geopolitical tensions and shifts in economic policies create uncertainty in global markets, the potential for trade wars is increasing. For higher education institutions, these developments have the potential to cause a number of disruptions. A trade war could exacerbate geopolitical tensions, which would deter international students from enrolling and reduce a critical revenue stream for many institutions. Immigration policies tied to trade disputes may also restrict the ability of international faculty to work in the United States or other affected countries. Additionally, setbacks to international academic partnerships, such as study abroad and exchange programs, could limit opportunities for cross-cultural learning and collaboration. Meanwhile, trade restrictions might reduce access to external funding from international organizations and governments. Simultaneously, tariffs and trade restrictions could increase the cost of educational supplies (including technology, textbooks, and lab equipment), putting additional strain on institutional budgets and consequently limiting access to advanced tools for teaching, research, and innovation—all of which could diminish not only the overall teaching and learning experience but also the ability to attract and retain faculty and students. These developments not only would impede progress on work that aims to address critical global and societal issues but may also reduce campus diversity, which is critical for enriched learning experiences. A decrease in institutional revenues from international students and partnerships could force universities to increase tuition or reduce financial aid, making higher education less accessible for many students. In addition, increased financial pressures and reduced access to resources could lead to higher stress levels among both students and faculty, further impacting the quality of education and well-being on campus. If a trade war occurs, higher education institutions will need to diversify revenue streams and strengthen local and regional partnerships to reduce reliance on international tuition. Institutions could also strengthen online and hybrid learning pathways to attract international students who are unable to relocate, in addition to recruiting underserved populations domestically. They could also strengthen and/or form new national/local/regional collaborations so as to pool resources, reduce costs, and share their knowledge and expertise—allowing them to sustain research efforts even with reduced international funding. To address resource challenges, institutions would also need to secure supply chains to address potential cost increases and delays for essential materials such as technology and lab equipment. Finally, advocacy for stable government policies, including support for student visas and research funding, will be critical for maintaining international engagement and sustain operations during such an event.

Evidence: Research published in *The Review of Economics and Statistics* highlights the critical role of trade liberalization in fostering international student enrollment and shows that reducing or removing trade barriers contributed significantly to the increase in Chinese students at U.S. universities. This suggests that the imposition of new trade barriers could have the opposite effect, potentially reducing access to international education opportunities. A recent *Forbes* article warns that renewed tariffs on tablets and laptops could increase prices by up to 46 percent, which would create additional obstacles for students and institutions dependent on affordable technology.

The demand for some to return to the office continues.

Impact: Although many higher education institutions continue to embrace remote and hybrid work and teaching and learning options, some are implementing return-to-office mandates, requiring staff and faculty to transition back to being on campus. Recent research by CUPA-HR reveals that although the majority of higher education employees believe that most of their responsibilities could be performed remotely, most continue to work entirely or primarily on-site. This suggests that institutions must carefully balance in-person and remote or hybrid work to meet operational needs while accommodating diverse faculty, staff, and student preferences. Institutions that require primarily on-site presence of faculty and staff may encounter both opportunities and challenges for teaching and learning. In-person interactions can enhance faculty–student engagement, fostering deeper connections and richer learning experiences, which are harder to achieve remotely. However, these mandates may pose equity challenges for individuals with caregiving responsibilities or disabilities, potentially worsening recruitment and retention issues. They could lead to the loss of faculty, staff, and students who rely on or prefer flexible options to meet their personal and professional needs. Whereas some may benefit from enhanced in-person services and experiences, others who thrive in flexible online environments may struggle with the transition. The increased reliance on hybrid methods will also demand robust technology and support, requiring institutions to invest strategically in infrastructure. To address these challenges, institutions should adopt flexible policies that balance operational needs with the expectations of faculty, staff, and students while preparing learners for workplace realities. Curriculum design must integrate hands-on, collaborative experiences reflecting workplace environments while maintaining alternative pathways for students reliant on flexible learning. Investing in technology and professional development will be essential to create hybrid models that ensure inclusivity and adaptability. Engaging stakeholders in decision-making and regularly assessing these models' impact on equity, engagement, and recruitment will help institutions support teaching and learning while retaining high-quality employees and students.

Evidence: A report by Cisco and *The Chronicle of Higher Education* highlights the growing adoption of hybrid workplace models in higher education, emphasizing the benefits of flexible arrangements that balance remote and on-site work. In contrast, *Inside Higher Ed* reports that the University of Texas at Austin remains one of the few institutions requiring in-person work for faculty and staff, prioritizing on-campus collaboration and engagement.

Concerns about deglobalization are growing.

Impact: The potential for a shift away from globalization is being discussed more frequently. This has been fueled by disruptions such as trade wars, supply chain vulnerabilities, and financial crises, in addition to rising geopolitical tensions. Although the likelihood of deglobalization remains uncertain, higher education institutions must consider its implications; such a shift would bring significant challenges. If this were to occur, institutions might need to adapt their curricula and programs to prepare students for an evolving economic landscape. They might need to focus more on teaching both global and domestic economic trends and literacy, trade policy, supply chain management, and geopolitical dynamics—along with a continued emphasis on diplomacy and international relations—to address an increasingly polarized global economy. These updates would help equip students with the skills necessary to navigate a more complex and uncertain global economy and workforce. At the same time, disruptions such as reduced international enrollments, immigration restrictions on faculty, and setbacks to international academic partnerships could limit opportunities for cross-cultural collaborations and learning, thereby reducing global literacy and diversity among students. Such changes would hinder the development of competencies typically gained through international experiences and perspectives, impacting the quality of education and workforce readiness. To prepare for these challenges, institutions can create contingency plans to address potential disruptions in research, teaching, and student support, particularly for those affected by political or economic instability. Preparing students for evolving challenges in areas such as supply chain management, manufacturing,

and sustainability would require institutions to align academic programs with domestic economic needs. For this reason, faculty professional development will play a pivotal role in effectively adapting curricula and integrating discussions about the societal impacts of deglobalization into teaching. Additionally, institutions could strengthen ties with local businesses, governments, and community organizations to create valuable opportunities for internships, apprenticeships, and real-world problem-solving projects. Finally, to maintain diversity and innovation in teaching, learning, and research, institutions should actively promote interdisciplinary and cross-departmental collaborations, ensuring a more holistic approach to addressing both global and domestic issues.

Evidence: The Brookings Institution identifies key risks to the global economy in 2024, including geopolitical tensions and trade disruptions, which could have far-reaching impacts on international education and student mobility. A recent article in *Dædalus* explores the evolving role of international universities in an age of globalization, highlighting their importance as hubs for cross-border collaboration and knowledge exchange despite mounting global uncertainties.

FURTHER READING

McKinsey & Company
"Geopolitics and the Geometry of Global Trade"

National Geographic
"Effects of Economic Globalization"

World Trade Organization
"World Trade Report 2024"

ENVIRONMENTAL TRENDS

Institutions of higher education draw on finite local and global materials and resources to fuel their operations, and their facilities leave sizable imprints on the environments around them. The need to adopt sustainable practices across the board—far too often overlooked in higher education planning and decision-making—will be inescapable in a future more concerned with climate stability and environmental sustainability.

In light of developments since the trend data were collected in late 2024, we reconvened our expert panel in February 2025 to provide "just in time" updates that will help institutions be proactive and adaptable in responding to rapidly evolving circumstances.

ENVIRONMENTAL

- **Governments are taking varied approaches to clean energy.**
- **Geopolitical competition over mineral reserves is intensifying.**
- **Food insecurity is increasing due to multiple crises.**

Governments are expanding clean energy subsidies.

Impact: Governments worldwide are increasingly expanding clean energy subsidies to accelerate the transition to renewable energy sources and address climate change. For instance, in the United States, the Biden administration finalized rules for clean-electricity investment and production tax credits aiming to reduce energy bills and foster low-carbon technology. Similarly, the UK government launched a multibillion-dollar initiative to revive the country's leadership in clean energy. Government expansion of clean energy subsidies can impact higher education significantly by creating opportunities for institutions to lead in research, teaching, and workforce development related to green energy. Increased funding could drive advancements in renewable technologies, sustainability practices, and energy-efficient infrastructures—while fostering partnerships between universities, industry, and government. These developments could support the expansion of interdisciplinary programs in renewable energy, environmental policy, and sustainable engineering, equipping students with practical skills needed in a growing green economy. Subsidies may also enable universities to invest in campus renewable energy projects, reducing operational costs and providing hands-on learning tools for students. Strengthened industry collaboration could offer students internships, co-op programs, and real-world experience, enhancing their career readiness. Additionally, faculty and academic experts could play critical roles in shaping clean energy policies and advising governments on implementation strategies. However, the trajectory of these subsidies may vary depending on political administrations. A reduction in federal support could challenge institutions to secure state-level or private funding to sustain clean energy initiatives. Regardless, the demand for green energy skills will likely increase, requiring institutions to upskill working professionals and support technicians through certificates and smaller credentials. By addressing these opportunities and challenges strategically, universities can establish themselves as pivotal contributors to a sustainable future while ensuring long-term relevance and adaptability in an evolving green economy.

Evidence: The Natural Resources Defense Council (NRDC) highlights how colleges and universities are leveraging provisions from the Inflation Reduction Act (IRA) to invest in renewable energy projects and reduce campus carbon emissions, showcasing the law's significant role in advancing sustainability in higher education. However, the transition to a new presidential cabinet could introduce uncertainty about the future of these incentives, given that changes in leadership may lead to revisions in clean energy policies.

Lithium reserves have the potential to pave the way for a green energy workforce.

Impact: Lithium reserves are crucial for advancing green energy, given that they power batteries for electric vehicles and renewable-energy storage systems. The recent discovery of significant lithium deposits in the United States highlights the potential for this metal to drive technological innovation and create jobs in mining, manufacturing, and sustainable energy. Based on these changes, institutions may see a demand for specialized curricula focusing on lithium extraction, sustainable mining practices, and battery technologies. The demand for

enhanced research opportunities that focus on developing innovative extraction methods, environmental impact assessments, and advanced energy storage solutions may also increase. Identification of new reserves could also lead to partnerships with industry, which could provide students with practical training experiences through internships, co-op programs, and apprenticeships. And, more broadly, successful energy projects utilizing lithium, coupled with growth in the workforce, could further strengthen interest in the green energy industry and in sustainability as a whole. Higher education institutions can adapt to the growth of the lithium industry by developing specialized curricula while integrating ethical resource management and environmental justice into programs. Partnerships with industry can provide hands-on learning opportunities that align students' skills with workforce needs. Investments in state-of-the-art labs and virtual-reality tools could enhance training in advanced materials and energy storage technologies. Institutions could also incorporate AI and machine-learning applications into teaching to prepare students for resource discovery and optimization. Career services can expand connections with green energy industries, promoting job opportunities in emerging fields. By aligning teaching, research, and industry collaboration, universities can position themselves as leaders in sustainable-energy education and workforce development.

Evidence: Researchers at Swansea University have developed a graphene-based technique to improve the safety and performance of lithium batteries—a breakthrough that could have a significant impact on energy storage solutions in various industries. Meanwhile, Southern Arkansas University is expanding its renewable energy curriculum, incorporating cutting-edge technologies such as advanced battery systems into its programs to prepare students for careers in the green energy sector.

Food insecurity is increasing globally.

Impact: Global food insecurity is escalating, with 343 million people across 74 countries experiencing acute hunger—a 10 percent increase from last year. This is being driven by factors such as conflict, economic instability, and climate change, which disrupt food production and distribution. The rise in global food insecurity can have a significant impact on higher education and affect both students and institutions. The rise in global food insecurity has profound implications for higher education, particularly for teaching and learning. Students facing food insecurity often struggle with academic challenges, mental health issues, and social isolation, which can negatively impact performance, retention, and overall well-being. Financial strain may also reduce enrollment—particularly among low-income students—amplifying the need for campus food assistance programs such as food pantries, meal-sharing initiatives, and financial aid adjustments. As food costs continue to rise, institutions can help to address food insecurity challenges and issues by updating curricula to include topics such as sustainable food systems, supply chain management, and global food policy, providing students with interdisciplinary and practical learning opportunities. These programs will equip graduates with the knowledge and skills needed to address food security challenges through innovative, sustainable solutions. Institutions can also position themselves as community hubs for food distribution and research, utilizing experiential learning programs to engage students directly in addressing local food insecurity and developing real-world applications for classroom concepts. Institutions could foster partnerships with industry and community organizations to create collaborative opportunities for research and development in areas such as sustainable agriculture and advanced food technologies and to address societal barriers to food security. In addition to tackling these broader challenges, institutions can address the immediate needs of their communities by expanding access to food pantries, implementing meal-sharing programs, and advocating for policy changes to promote equity in food access. Through these efforts, higher education can play a pivotal role not only in mitigating the effects of food insecurity but also in contributing to the long-term global fight against hunger and its underlying causes.

Evidence: The U.S. Department of Education recently signed an agreement to address food insecurity among college students, aiming to improve access to basic needs resources and reduce barriers to academic success. In Ohio, advocates are calling for the passage of the Hunger-Free Campus Bill, which would provide funding and support for initiatives to combat student hunger at state colleges and universities.

FURTHER READING

United States Environmental Protection Agency
"Inflation Reduction Act"

NPR
"The Race to Produce Lithium"

U.S. Government Accountability Office
"Supplemental Nutrition Assistance Program: Estimated Eligibility and Receipt among Food Insecure College Students"

POLITICAL TRENDS

Higher education, for better and for worse, is always entangled in and concerned with the political climate and events of the present moment. In addition to determining overall higher education funding, politics is interwoven with higher education as an object of research and study and as subject matter for courses. Because of this long-standing entanglement, political trends have significant effects—both positive and negative—on higher education at a variety of levels.

In light of developments since the trend data were collected in late 2024, we reconvened our expert panel in February 2025 to provide "just in time" updates that will help institutions be proactive and adaptable in responding to rapidly evolving circumstances.

POLITICAL

- **A Carnegie system update is changing research classifications.**
- **Higher education technology policies face uncertainty and change.**
- **The focus on AI deregulation and industry growth in the United States is deepening.**

Classification of institutions continues to change.

Impact: The Carnegie Classification system for U.S. higher education is undergoing major changes to better capture institutional diversity. By expanding criteria beyond degree levels to include research activities, program types, and other institutional characteristics, the 2025 update will offer a more comprehensive framework and is expected to bring significant changes to higher education. Institutions may face increased accountability and transparency requirements, necessitating detailed data collection on students. Academic programs and curricula may need to be adjusted to align with new classification metrics emphasizing social and economic mobility, at-risk student support, and regional needs. Research priorities could also shift as institutions reassess resource allocation to meet updated R1 criteria—although this could potentially enhance research integration into teaching and academics. The recognition of Minority Serving Institutions (MSIs) could lead to increased funding, enrollment, and support for institutions. Furthermore, the new classification system may encourage a diversification of teaching approaches, with greater emphasis on measuring and documenting teaching effectiveness, in addition to changes to faculty hiring, tenure, and promotion criteria. Moving forward, institutions will need to invest in data infrastructure to align with evolving metrics while making sure that their strategic plan balances these classification requirements with the institution's mission and values. Strategies should prioritize equity initiatives, community partnerships, and alignment with new metrics. By preparing in these areas, they will be better positioned to adapt successfully and thrive under the new framework.

Evidence: Recent updates to the Carnegie Classification system have reshaped how institutional achievements are recognized. Fresno State earned the inaugural Leadership for Public Purpose classification, reflecting its commitment to community engagement and public impact. Meanwhile, Howard University is expected to achieve R1 research status, aligning with updated criteria emphasizing research output and institutional contributions.

Uncertainty over technology-related regulations in higher education is growing.

Impact: Shifting foci and implementations indicate that the higher education regulatory landscape is becoming increasingly uncertain—particularly in the United States, where a new administration has recently taken office and at least one more transition is expected within the next decade. In recent years, proposals have been made to enforce stricter regulations and requirements, including enhanced oversight of Online Program Managers (OPMs) and distance education and more rigorous accessibility standards. However, with the new administration in office, it is less likely that these regulations will be updated and enforced. Additionally, updates to data security regulations have been proposed—such as the application of NIST SP 800-171 Controlled Unclassified Information (CUI) compliance requirements to federal student financial aid data, Federal Acquisition Regulation (FAR) CUI cybersecurity requirements, and enhanced cyber incident reporting—which could impact technology use and compliance efforts at higher education institutions. This uncertainty and the likelihood of shifts in regulatory focus over the next several years highlight the need for

schools to stay alert. Although some of these regulations may not be implemented immediately or at all, institutions should still be prepared to adapt to changing and new regulations as governments and political climates continue to change. Potential changes to OPM and distance education regulations could increase scrutiny, requiring greater transparency and prompting institutions to reevaluate contracts. Although this may enhance accountability, it could also strain resources and administrative processes. If new accessibility standards are maintained and extended to the private sector and all institutions participating in federal student aid programs, faculty will require comprehensive training to create accessible digital materials and oversight to ensure consistency and compliance across departments and units. Changes to cybersecurity regulations could impact teaching and learning by requiring institutions to upgrade cybersecurity measures and adjust data management practices. These changes may increase costs, restrict the use of certain technologies, and necessitate additional training for faculty and students, potentially disrupting teaching workflows and remote learning. Furthermore, stricter compliance protocols could complicate collaborative projects and data sharing, affecting both research and interdisciplinary learning opportunities. To address these challenges, institutions will need clear governance and secure platforms to manage risks and meet accessibility and data privacy standards. This will require investments in compliance teams, IT infrastructure, and accessibility measures such as captioning and testing tools. Collaboration between legal, IT, instructional design, and teaching staff will be crucial to integrating compliance into teaching. Although these changes may increase administrative work and limit some technologies, they can also improve data security, reduce cyber risks, and create more inclusive learning environments.

Evidence: Recent regulatory updates highlight shifts in federal oversight of higher education. The U.S. Department of Education finalized regulations for distance education, TRIO programs, and Return to Title IV funds, focusing on accountability and student support. Some proposed rules, such as mandatory attendance tracking for distance education, were dropped after public feedback. Additionally, plans for updating rules on State Authorization, Cash Management, and Accreditation were canceled, which means that any future changes will need a new process.

Regulations for AI are lacking or ineffective.

Impact: The rapid advancement of artificial intelligence (AI) has outpaced the development of comprehensive regulatory frameworks, leading to a lack of effective oversight. This regulatory gap raises concerns about ethical implications, potential biases, and societal impacts of AI technologies. Whereas some regions, such as the European Union, are moving toward comprehensive AI regulations, other areas, including the United States, are still deliberating on the appropriate regulatory approach. The lack of effective AI regulations could create inconsistencies in how AI is integrated into teaching and learning, resulting in both uncertainty for faculty and disparities in student experiences. It could lead to increased workloads for faculty members, who would be navigating ethical and practical concerns while working to integrate AI effectively into their teaching. The uncertainty surrounding AI integration might also discourage some instructors from experimenting with innovative teaching methods, thereby limiting the potential benefits of AI in enhancing teaching and learning experiences. For students, the unregulated use of AI tools may introduce biases in assessments, learning technologies, and other AI-driven platforms, potentially affecting academic outcomes. Without clear policies, students might use AI tools in a way that does not promote innovation, creativity, and deeper thinking. Additionally, disparities in access to AI technologies across institutions could widen gaps between well-resourced schools and those with fewer resources, which would affect the quality of education available to different student populations. The lack of regulations can also expose institutions to risks related to data privacy, algorithm bias, and security breaches. In the

absence of regulations, institutions will need to establish clear policies for AI use and ensure consistency across departments and units. Faculty and students will require training that fosters critical thinking and responsible use. Institutions must also create governance frameworks for approving AI tools, strengthen data privacy, and collaborate with industry to develop AI technologies for educational purposes. These steps will help institutions leverage AI responsibly while addressing potential risks and inequalities.

Evidence: Policymakers are increasingly focused on developing frameworks to ensure the responsible use of artificial intelligence (AI) in education and beyond. The U.S. Department of Education has proposed strategies to regulate AI in educational settings, emphasizing fairness, transparency, and student privacy. Meanwhile, White & Case's global regulatory tracker highlights the diverse approaches governments worldwide are taking to regulate AI, reflecting a collective effort to balance innovation with ethical considerations.

FURTHER READING

The Chronicle of Higher Education
"The Next Update of the Carnegie Classification Will Be Its Biggest Yet"

American Council on Education
"Colleges Brace for Implementation of New Federal Regulations"

CNBC
"How AI Regulation Could Shake Out in 2025"

KEY TECHNOLOGIES & PRACTICES

The Horizon Report describes key technologies and practices that are anticipated to have a significant impact on the future of teaching and learning in light of the social, technological, environmental, economic, and political trends previously identified by the panel. In the nomination and voting process, panelists consider which technologies or practices have the most potential to either mitigate or accelerate these trends.

We include practices in this section because we know that while innovations and advancements in technological capability create new opportunities, it's often the pedagogical practices or the development of institutional capabilities that offer the most potential as change drivers.

In this year's report, AI continues to play a prominent role. But we can see the beginnings of the maturation of the use of this technology—especially in the classroom—as higher education practitioners increasingly recognize the potential of AI tools to impact and improve teaching and learning. Promoting awareness of and access to AI for all stakeholders will be critical to shift from reactive stances and exploratory use to informed, ethical, and transformational adoption.

At the institutional level, effective AI integration in higher education requires robust decision-making frameworks. AI governance establishes essential processes and guidelines that balance innovative potential with institutional needs. By creating clear expectations and flexible structures, institutions can embrace emerging technologies without compromising academic integrity or operational efficiency.

As access to AI increases for all stakeholders, faculty development for generative AI will be critical. Although the panel was neutral about faculty teaching with AI, the fast pace of its integration into daily life and learning requires that faculty be equipped to teach students about risks, benefits, and appropriate use. As workloads continue to increase and as AI's evolution remains rapid, faculty development approaches must evolve to accommodate this kind of ongoing learning.

Although AI has been a significant catalyst for rethinking pedagogy and teaching practices, the panel emphasized that adapting educational approaches is crucial for broader reasons beyond simply responding to technological advances. As the world undergoes rapid transformations—encompassing shifts in technology, student demographics, learning preferences, social and political landscapes, and workforce requirements—evolving teaching practices becomes essential to improve learning outcomes and equip students to navigate future challenges.

Panelists identified two priorities specific to mitigating risk: critical digital literacy, and shoring up cybersecurity. These issues might seem disparate, but they both require commitment by all stakeholders to educate themselves and take ethical action. Although some aspects of shoring up cybersecurity might be initiated by cybersecurity and privacy professionals, all end users bear responsibility for protecting the institution's data, including teaching and learning professionals and the students they serve. As digital and AI tools become increasingly complex, protecting the institution's data and assets requires critical digital literacy, which goes beyond simply understanding technology to being able to critically examine digital content and becoming thoughtful and responsible creators and consumers of this content.

In this section, readers will find an overview of each key technology or practice, ideas for action, and a set of resources for further reading. Examples of projects that bring each technology or practice to life are also included with brief descriptions and links to learn more.

AI TOOLS FOR TEACHING AND LEARNING

Overview

AI tools have the potential to be some of the most impactful technologies for the future of higher education. For example, agentic AI could bring about a new frontier in teaching and learning, with AI agents acting as personalized tutors, teaching assistants, and frontline customer service agents. Further, AI tools could expand access to education for all learners through features such as captioning, translation, text-to-speech, and image description. Scaling personalized learning and service has been a long-standing challenge for higher education institutions. AI tools could be the tipping point for institutions struggling to move beyond a one-size-fits-all educational experience, which is often an unavoidable byproduct of scaling up. As AI capabilities evolve and are applied in other industries, students and families might come to expect institutions to provide a similar type of on-demand support that is facilitated by generative AI, further driving the adoption of these tools.

AI tools are driving two parallel conversations among teaching and learning professionals. First, how do we leverage these tools to improve teaching practices and students' learning experiences? And second, how do we teach students *about* these tools? As one panelist explained, "Part of our role is to teach students how to use AI technology responsibly and ethically." It is important to not conflate these issues when considering the future of AI tools in higher education. Indeed, many individual professionals and institutions are trying to decide whether they even want to use AI tools for teaching and learning (and whether they want students to use AI tools). However, educators still have a responsibility to teach students about AI tools as they become integrated in our digital world.

> ***"AI is a rapidly evolving technology that is a part of every professional job, both in terms of how people use it in their work and how organisations use it to conduct business. As teaching and learning professionals, staff need to be fluent in AI to support students' development of AI fluency to equip them for the future of work."***

Still, with all the promise of AI tools to improve higher education, a multitude of concerns and risks exist. For example, the idea of human–AI symbiosis raises ethical concerns about the erosion of human autonomy and creativity. People risk embracing complacency and allowing machines to make important decisions. As AI tools for teaching and learning become more ubiquitous, institutions must take great care to preserve the core goals of higher education and foster uniquely human skills. Beyond "human-in-the-loop," people must maintain control of systems, processes, and decision-making. Whatever the future holds, effectively leveraging AI tools for teaching and learning will require faculty, staff, and students to work together and share ownership.

> ***"Educators and institutions must navigate the delicate balance between leveraging AI's capabilities and preserving the uniquely human qualities—such as ethical judgment, empathy, and innovative thinking—that define higher education's transformative purpose."***

Taking Action

Start with your own professional learning.
Teaching and learning professionals can't teach students with (or about) AI tools until they themselves have foundational knowledge of the technology. Boost your own knowledge by attending events such as workshops, webinars, and conferences. Experiment with institutionally approved AI tools on your own. Continuously engage in such professional development so you can stay up to date with the evolution of AI tools.

> ***"Generative AI's paradigm-shifting nature necessitates that universities and educators go beyond passive adoption and innovative implementation and instead create and drive the design and development of these tools for learning, teaching, and the wider community."***

Create policies to guide students' use of AI tools. Be transparent with students about what you expect from them, including the reasoning behind your policies rather than only presenting them with rules. Work with colleagues in your department or unit as well as others across the institution to create consistency in guidelines wherever possible. Finally, align AI policies with your institution's overall strategic plan.

Provide students with opportunities to experiment with AI tools. Foster an environment of exploration for students to think critically about AI tools. Students need to be able to investigate AI tools to authentically learn about their potential benefits and risks.

> *"Learning to use AI is not a one-off activity. There are theoretical aspects, ethical considerations, and technical skills to be learned and maintained."*

Provide all students and faculty with access to the AI tools they need. As AI tools evolve, certain tools will emerge as the most desired and potentially the most expensive. Get ahead of widening digital divides by supporting equal access to AI tools (in addition to other educational technologies).

Raise awareness about AI tools for teaching and learning. Seek and spread information about what tools are available and what their capabilities and limitations are. Talk to industry professionals in your field to learn how students might be expected to use AI tools in the workplace. Be careful to not alienate colleagues who choose not to use AI tools, and work with them to find common ground.

> *"Presently, many stand on both sides of the spectrum, with some seeing AI tools as a threat to students' academic integrity and the rigor of their learning, while others point out that AI tools can create new opportunities to support individualized learning for students."*

Adhere to all AI-related policies, guidelines, and procedures. Because AI tools are related to so many areas of the institution (e.g., data privacy, cybersecurity, data ownership, intellectual property), keeping track of all relevant protocols can be challenging. End users need to seek relevant information about AI governance rather than assuming they already know about it.

Look for gaps in human-delivered services at your institution. Rather than starting with the solution (i.e., AI tools you think might solve a problem), start with a problem and then look for AI tools to solve it.

Test the efficacy and accuracy of AI tools regularly, even after procurement. AI is advancing so rapidly that even tools you have already examined are likely to have new functionalities turned on periodically. Test tools for accessibility, bias, adherence to privacy and security policies, etc.

In Practice

AI Assistants Help Students Learn

Los Angeles Pacific University integrates AI course assistants into every online course and implements active learning assistants within discussions and assignments. These AI assistants engage students in active learning activities such as Think-Pair-Share and role-playing with historical figures. The course assistants use a Socratic approach to interacting with students and do not write assignments or discussion responses. Preliminary data from a randomized control trial indicates improved engagement and comprehension.

Empathy in Action: AI Avatars Transforming Social-Emotional Patient Communication in Medical Education

The University of Colorado School of Medicine is using AI-driven avatars to transform medical education through engaging, empathetic simulations that refine communication, empathy, and cultural competence. Ranging from dental medicine to full medical simulation centers, this cross-disciplinary approach immerses learners in safe, repeatable environments to practice sensitive discussions and high-stress scenarios. By delivering realistic patient interactions and advanced feedback, these avatars foster confidence, preparing practitioners for complex communication challenges across diverse clinical settings.

Assessment Partner: Harnessing GenAI for Effective Assessment Design

Assessment Partner is a GenAI tool developed at McMaster University to empower educators in crafting effective student assessments. Collaboratively created with experts in educational innovation and academic success, this intuitive platform integrates proven learning theories, assessment practices, and universal design principles to deliver flexible, structured guidance tailored to diverse disciplinary needs.

FloRA: An Adaptive Tool to Support Self-Regulated Learning and Human-AI Coregulated Learning

FLoRA is an AI-powered platform to support research and improve students' self-regulated learning (SRL) and human-AI coregulated learning (HACL) skills. Learners engage with theory-informed tools for annotation, planning, content engagement, and AI-generated, personalized feedback to enhance learning. Fine-grained trace data capture interactions, enabling data-driven insights into behavior and performance. Educators and researchers leverage these insights to refine strategies and interventions, adapting to students' evolving needs and potentially reshaping future education.

NaviGator AI

NaviGator AI, a suite of AI services at the University of Florida, includes NaviGator Chat, NaviGator Assistant, and NaviGator Toolkit. It provides comprehensive self-service access to more than 30 AI models such as large language models (LLMs), embedding models, image generation models, and speech to text (STT) models. It empowers faculty, staff, and students to integrate AI into their curriculum, enhancing teaching, learning, and research innovations.

Increasing Speaking Confidence with Speakology AI

The Universities of Wisconsin Collaborative Language Program offers simulated one-on-one video-based practice with AI instructors for world language courses. Students engage in real-time conversations any time, providing flexibility beyond traditional classroom hours. This AI-driven approach of continuous, personalized practice aims to build confidence, enhance fluency, and reduce anxiety in real-life interactions. Extensive low-stakes speaking practice provides opportunities for building spoken proficiency in world languages.

FURTHER READING

Open Praxis
"The Manifesto for Teaching and Learning in a Time of Generative AI: A Critical Collective Stance to Better Navigate the Future"

Journal of University Teaching & Learning Practice
"Prompting Higher Education Towards AI-Augmented Teaching and Learning Practice"

The University of Sydney
Teaching@Sydney

TLDR
TLDR Tech Newsletters

Safiya Umoja Noble
Algorithms of Oppression

Association of Pacific Rim Universities
Generative AI in Higher Education: Current Practices and Ways Forward

Gartner
"Top Strategic Technology Trends for 2025: Agentic AI"

Harvard Business Review
"Train Your Brain to Work Creatively with Gen AI"

MIT
"Intelligence as Agency: Evaluating the Capacity of Generative AI to Empower or Constrain Human Action"

MAVS Open Press
AI-Powered Education: Innovative Teaching Strategies to Elevate Student Learning

FACULTY DEVELOPMENT FOR GENERATIVE AI

Overview

Generative AI tools are necessitating new types of professional development for teaching and learning professionals. It is hard to think of any other technology that has pervaded higher education so quickly, and this speed of adoption and integration is forcing faculty in particular to learn about these new technologies so that they can adjust curricula accordingly. As one panelist urged, "AI really has the potential to reshape so much of what we do in higher education … this is a huge shift in what we consider work." Once again, there is an important distinction to be made here: Few insist that faculty must teach *with* generative AI, but most of the higher education community agrees that faculty must teach students *about* generative AI, making relevant professional development a necessity for all.

> ***"As a quickly evolving, consequential, and ubiquitous general purpose technology, generative AI requires faculty to be the 'humans-in-the-loop' and to teach students how to be the same."***

> ***"Educators need to understand the risks and benefits associated with tools and make educated decisions about how they use these tools in their teaching. They also must understand that AI is not going to go away and that we need to accept that students will be using these tools to support their own learning."***

Though teaching and learning professionals generally agree that supporting faculty with professional development for generative AI is essential, a high hill must be climbed. Increasing workloads are challenging mental health and morale for the teaching and learning workforce, and generative AI feels like one more thing piled on the top of endless responsibilities. Budgets, time, and expertise are all spread thin, so finding ways to increase support offerings might be impossible for some institutions. Further, as one panelist cautioned, "An expectation of increased efficiency from administration could lead to additional workload pressures and even layoffs." These challenges won't be overcome easily, but the first step is ensuring that everyone gets a seat at the table.

> ***"Faculty development that provides a didactic, one-size-fits-all approach and that does not make room for faculty expertise will [alienate] faculty members. Partnerships, conversations, and room for faculty voices are essential."***

Taking Action

Lean into curiosity. Given the many risks associated with generative AI tools, some teaching and learning professionals are grappling with distrust or even disdain for the technology. Take a balanced approach to evaluating both the opportunities and risks associated with generative AI for teaching and learning.

> ***"Good AI faculty development actually helps create more inclusive environments when done right. It's about making sure diverse voices shape implementation, enabling faculty to create more flexible and accessible learning experiences, and using AI to help close equity gaps through personalised support."***

Participate in asynchronous training. Given high workloads and time constraints, asynchronous professional development provides teaching and learning professionals with more flexibility.

Participate in discipline-specific training. Disciplinary norms and professional practices play a significant role in learning about generative AI, both in understanding opportunities and evaluating risks.

Establish institutional policies that support faculty in customizing their own guidelines. The institutional ecosystem of AI-related policies and guidelines needs to balance generalizability with customizability.

Join a community of practice. Such communities provide opportunities for discussion of shared experiences, exploration of new tools, and discovery of common ground to accommodate conflicting points of view.

For faculty development professionals: Offer faculty multiple forms of professional development. Ask faculty what types of programming they prefer, and create a diverse range of offerings—synchronous and asynchronous, self-guided and collaborative, intensive and light touch, etc.

Compare a variety of generative AI tools. Experimenting with a variety of tools will help you feel more comfortable with generative AI, and it will also help you evaluate whether and how you might use them for your teaching.

> ***"Your institution may not be ready to embrace cutting-edge approaches and tools, but having a fundamental understanding on how AI can be used in teaching and learning, as well as what our learners will be expected to know about AI when they enter the job market, can help guide your own exploration of AI."***

Talk to your students. Ask students whether and how they want to use generative AI for their learning. They might be able to find some interesting and helpful AI tools (a skill in itself), or they might even tell you they're not interested in using generative AI at all.

In Practice

GenAI:N3

Responding to the challenges and opportunities presented by generative artificial intelligence (GenAI), this project created a national network with representatives from all seven N-TUTORR Technological University partners in Ireland. Drawing on the collective knowledge and skills from the network, a wide range of open-access resources was developed, and AI Play Workshops and Hackathons were facilitated to foster ethical and informed engagement with GenAI in higher education.

When Life Gives You LLMs, Make LLMonade

This project from the University of Michigan is a 10-day microlearning initiative designed to introduce faculty, staff, and students to generative AI in an easy-to-understand, hands-on way. Through bite-sized activities, practical use cases, and gamification (points, badges, accolades), participants explored AI's role in research, writing, coding, presentations, and workflow automation. Hosted on Slack and leveraging widely available AI tools, the program fostered AI literacy and collaborative learning across roles and disciplines.

Artificial Intelligence Pedagogy Project (AIPP)

The AIPP aims to harness the power of AI to enhance the quality of learning and teaching experiences at the University of Southern Queensland. By leveraging the affordances of AI technologies, the project seeks to reimagine traditional approaches to education, improve student outcomes, and foster innovation in teaching and assessment methods.

Empowering Faculty in Responsible AI Use: A Leadership Approach to AI Education in Higher Education

The Center for Instructional Innovation's "Using AI in Your Teaching Faculty Development Initiative" equips educators with the knowledge and tools to integrate AI responsibly into their teaching. Led by the senior instructional designer, this initiative includes structured training courses, workshops, and hands-on practice. By modeling AI's ethical use in faculty education, this program prepares instructors to engage with AI thoughtfully while upholding academic integrity and instructional excellence.

The Generator's AI Teaching Training Program

The Generator, Babson College's interdisciplinary AI lab, leads the AI Teaching Training Program (AITTP), a peer-led model for sharing practical AI concepts and tools. Through hands-on, high-energy exercises—from entrepreneurial problem-solving to theatrical improvisation—faculty collaborate to explore AI's implications across disciplines and contexts. Prioritizing community-building and experimentation, the program makes expertise available and empowers faculty to integrate AI meaningfully into their teaching and research.

AI-Enhanced Pedagogy: Exploring Generative AI as a Collaborative Partner

The Provost Endorsement for Faculty Using Generative AI at Penn State helps faculty integrate AI into teaching and learning. It guides participants to identify equitable and ethical teaching opportunities, explore three AI tools, and revise courses for student success. Part of the broader University Provost Endorsement Program, it supports faculty development across three domains and aligns with promotion and tenure processes. Additional endorsements recognize faculty on their professional journey.

FURTHER READING

Mary C. Wright
Centers for Teaching and Learning: The New Landscape in Higher Education

World Economic Forum
Education 4.0

Education Sciences
"Strategies for Integrating Generative AI into Higher Education: Navigating Challenges and Leveraging Opportunities"

Online Learning Journal
"Integrating Generative AI in University Teaching and Learning: A Model for Balanced Guidelines"

Journal of Information Technology Education
"Generative AI Solutions for Faculty and Students: A Review of Literature and Roadmap for Future Research"

EDUCAUSE Review
"Striking a Balance: Navigating the Ethical Dilemmas of AI in Higher Education"

David Thomas and Lisa Forbes
Professors at Play: AI Playbook

MacPherson Institute
AI Dialogues

AI GOVERNANCE

Overview

AI governance may be thought of as a prerequisite for the previous two key technologies and practices—AI tools for teaching and learning, and faculty development for generative AI. Without effective AI governance that is integrated with other existing technology-related governance, any effort to integrate AI tools into higher education institutions is a risky endeavor, with potential risks far outweighing benefits. Similar to data governance, institutional AI governance comprises the processes, policies, and goals associated with the technology. As one panelist explained, "Oversight by way of formal governance can address important upstream and downstream elements of responsible, secure, and safe data access and establish any ethical or conduct-related expectations at the same time." In short, teaching and learning professionals need AI governance to ensure that faculty, staff, and students are all using AI tools ethically and responsibly and to mitigate the many risks associated with AI technologies.

> ***"Regulating AI in higher education demands a comprehensive, nuanced approach that balances technological innovation with ethical considerations. Institutions must establish clear governance frameworks that create robust guidelines for AI usage, focusing on academic integrity, data privacy, and responsible implementation."***

Creating and maintaining AI governance may be challenging for some institutions, especially those that do not already have robust data governance in place. AI adds multiple layers of complexity above and beyond long-standing data governance issues. As one panelist described, "There are challenges and gaps in the governance of AI and data in higher education, mainly from the human-centeredness perspectives of accessibility, inclusivity, and well-being." Additionally, some risks are associated with AI governance. For example, policies and procedures that are too rigid could stifle innovation and fail to evolve with the technology. Lengthy or otherwise burdensome approval processes could discourage stakeholders from experimenting with AI technologies or motivate them to find workarounds that evade institutional governance. Institutions can mitigate these challenges by including a variety of stakeholders from different functional units in the creation and revision of AI governance processes, policies, and goals.

> ***"Good AI governance helps create inclusive environments by setting clear expectations while supporting innovation. Instead of blanket bans or one-size-fits-all rules, [we] need flexible frameworks that work for different disciplines and student needs. [The] key is involving diverse voices in policy development so governance supports, rather than hinders, inclusive teaching and learning."***

Taking Action

Include teaching and learning professionals when creating institutional policies and guiding principles for the procurement and use of AI tools. These policies and principles should be flexible, balancing the need for long-term stability with the need to keep up with the rapid pace of AI evolution. Institutional policies should also allow for disciplinary differences, faculty autonomy, etc.

Make AI governance visible. Keeping up with policy changes is challenging, and the rapid rate of AI evolution exacerbates this problem. End users should be able to easily access and contribute to AI policies and guidelines, facilitating compliance.

> ***"While there may be leading voices and approaches in the sector, collaboration is needed. The student voice must be included within these AI governance models, both via elected representative models and through broader 'students as partners' initiatives."***

Create a generative AI resource hub. Flexible AI governance will not include tool-specific policies, so it needs to be supplemented with ongoing guidance about specific AI tools. A resource hub will help faculty, staff, and students stay up to date on policies and guidelines, as well as on information about specific tools and training resources.

Ensure that AI tools comply with institutional privacy and cybersecurity standards. Disclose the use of AI to end users, including students. Do not submit student work to cloud-based platforms that lack rigorous data security.

Advocate for institutionally approved AI tools. Institution-level approval of individual AI tools will help end users quickly identify those that are compliant with governance standards. Institutional approval will also simplify procurement processes by reducing duplication of approval processes for individual users.

Create template language for syllabi and course policies. Giving faculty a starting point will lift some of the administrative burden being introduced by AI tools and streamline compliance with institutional AI governance.

> *"Policies that are inequitable could unintentionally disadvantage certain learners if access to AI tools is restricted without considering diverse needs."*

Maintain human-centered teaching and learning. All AI governance must begin with human interest and the mission of higher education in mind, starting with support for students. Considerations such as providing broad access to learning tools, creating accessible technologies, and supporting sustainability must remain foundational.

In Practice

AI Governance: The Role of the Campus AI Steering Committee

At California State University, Long Beach, AI activities are coordinated by the campus AI Steering Committee, which is co-chaired by the provost and VP of student affairs. The committee consists of representatives of campus divisions, Academic Senate, and students. Two subcommittees are responsible for exploring, evaluating, recommending, and implementing AI technology related to academic instruction and learning, and campus business operations and services.

University of North Florida: A Scalable Campus-Wide AI Strategy

The University of North Florida established an AI governance framework through a university-wide AI Council, co-chaired by the CIO and an academic dean. The council developed an AI Strategic Plan aligned with strategic institutional goals, ensuring responsible AI adoption in academics, research, operations, and community and workforce engagement. This initiative fosters AI fluency, optimizes AI's benefits, mitigates risks, and serves as a scalable model for higher education institutions.

Using the University Mission as a Compass in the Age of AI

The University of Missouri (MU) takes an AI-forward stance promoting responsible AI integration while protecting faculty autonomy and student agency. Key initiatives include faculty development programs, AI syllabus guidelines, and policies safeguarding student privacy. This approach at MU ensures transparency, ethical AI use, and pedagogical flexibility, fostering an AI-forward learning environment that empowers both educators and students while maintaining academic integrity and choice.

Disrupting the Hype: An Opportunity to (Re) Affirm Core Values through AI Governance

The development of AI governance in higher education faces challenges due to fragmented national policies, the fast-evolving AI landscape, and diverse institutional use cases. Southern New Hampshire University (SNHU) addressed this by creating a dedicated AI Policy Director role, demonstrating that complex technologies benefit from dedicated oversight that bridges technical understanding and institutional values. "Disrupting the Hype" presents a pathway to (re)affirm an ethical framework in thoughtful integration of AI systems.

FURTHER READING

Council of Europe
The Framework Convention on Artificial Intelligence

European Parliament
EU AI Act: First Regulation on Artificial Intelligence

Alianza Nacional de Inteligencia Artificial (National AI Alliance)
Propuesta De Agenda Nacional De La Inteligencia Artificial Para México 2024-2030 (Proposal for a National Artificial Intelligence Agenda for Mexico 2024-2030)

International Journal of Educational Technology in Higher Education
"A Comprehensive AI Policy Education Framework for University Teaching and Learning"

Columbia University, Office of the Provost
Generative AI Policy

Campus Technology
"AI in Education: Moving from Trust-Building to Innovation"

EdTech
"How to Craft a Generative AI Use Policy in Higher Education"

EDUCAUSE
2024 EDUCAUSE Action Plan: AI Policies and Guidelines

EDUCAUSE Review
"A Road Map for Leveraging AI at a Smaller Institution"

SHORING UP CYBERSECURITY

Overview

Higher education institutions are increasingly under cyberattack, and although shoring up cybersecurity might start with technology and cybersecurity professionals, its success is largely in the hands of end users. In recent years, the urgent need for all end users to protect the institution's cybersecurity has created more awareness of cybersecurity issues among teaching and learning professionals. This increased urgency and awareness also applies to students. Not only are students a target for bad actors attempting to breach institutional systems, they also need good cybersecurity training to be successful members of our digital workforce and society. Increasing complexity of digital learning tools and the recent proliferation of AI tools have also contributed to cybersecurity concerns for teaching and learning.

> *"Key issues are protecting student data, securing assessment platforms, and maintaining academic integrity in digital spaces."*

Shoring up cybersecurity poses very few risks for institutions, but our panel did have a few words of caution. Overly restrictive cybersecurity policies and processes can reduce users' access to important data and tools, stifling productivity, academic freedom, and innovation. Even the best cybersecurity procedures require some digital literacy, so bolstering cybersecurity could inadvertently increase digital divides by introducing roadblocks for users who lack digital literacy. Teaching and learning professionals can mitigate these risks by playing an active role in the creation of cybersecurity policy, ensuring that their expertise is considered. Such a collaborative approach to cybersecurity will also improve the strength of policies and guidelines because they will be more likely to meet the needs of frontline staff, faculty, and students.

> *"It is important that measures are inclusive for students enrolled who have different permitted jurisdictions (in the case of online education) or with different access requirements (in the case of disability, low-socioeconomic status, or other equity group need)."*

Taking Action

Adhere to institutional cybersecurity policies and guidelines. Shoring up cybersecurity starts with you. The best policies and guidelines can't protect an institution without end-user compliance.

Familiarize yourself with laws and regulations governing the use of student data. A fundamental understanding of laws such as FERPA, HIPAA, and local regulations will help you interpret institutional policies and make good judgment calls in daily practice.

Help students understand the importance of cybersecurity. Cyber attackers target students as entry points into the institution. Students may find it more challenging to keep up with cybersecurity policies on their own. Integrating cybersecurity into course syllabi, policies, and curricula helps maintain students' awareness and compliance.

Participate in required training, and then go the extra mile. When you're choosing professional development activities such as webinars, conference sessions, email newsletters, etc., seek learning opportunities related to cybersecurity.

> *"Ideally, we'd incorporate educational opportunities around cybersecurity into everything we do. Rather than treating it as something we do through some training module [periodically], we should be weaving it into our regular work."*

Use technologies that have been vetted and are supported by your institution. Experimenting with new technologies as soon as they're available is tempting, but adhering to institutional procurement processes makes it easier for you to evaluate the safety of digital tools.

Work with cybersecurity professionals at your institution. Play an active role in the creation of cybersecurity policy whenever possible. Reach out to cybersecurity professionals at your institution to find ways to get involved.

> ***"Universities handle sensitive student data, intellectual property, and research materials while operating complex digital environments. The rise of remote and hybrid learning and generative AI tools increases the attack surface and makes educational institutions more vulnerable to cybersecurity threats."***

Understand your institution's cybersecurity perimeter. With most end users accessing institutional systems on remote devices and using cloud services, cybersecurity policies must be designed to protect a broad and fluctuating perimeter. Be mindful of how you access institutional systems and transfer data, understanding that you *are* the perimeter and considering how policies apply to your specific use cases.

In Practice

"Defend Your Shell" Security Awareness

Studies show that people are the main cause of data breaches. To make security training engaging and acutely relevant, the University of Maryland College Park develops its program in-house. The Division of IT updates content yearly, with security team members creating scripts and quizzes, media specialists producing videos, and an institutional leader narrating. This personalized approach makes mandatory training relatable, earning praise for addressing real campus issues with a familiar face.

LSU Student SOC: Unstoppable Cybersecurity and Experiential Student Learning

LSU, in a public–private partnership with TekStream and Splunk, is pioneering an approach to training cybersecurity professionals. This program combines real-world incident response and engineering experience with a formal tiered curriculum including oversight and customized guidance. Students learn to collaborate in a demanding SOC environment. The solution addresses growing financial, time, and resource barriers, and it creates an expanding community of cybersecurity leaders while keeping the institutions it serves quantifiably safer.

Fortifying the Digital Campus: Ensuring Secure and Accessible Technology at Coppin

Coppin State University implemented a streamlined software onboarding process, requiring all solutions to pass stringent security and accessibility assessments before integration. The process prioritizes cybersecurity resilience and digital accessibility by ensuring that all applications comply with security best practices, reducing the risk of data breaches and cyberthreats, and are compliant with the Department of Justice's ruling for updated regulations for Title II of the Americans with Disabilities Act (ADA).

SOFT START: IT-Cybersecurity Workforce Education Collaborative

The SOFT START program democratizes access to cybersecurity education and careers in the Fresno County area. We developed 10 permanent educational offerings, including digital and information literacy, cyber boot camps, and stacking sequence of certificate programs at Fresno State University, Fresno Community College, and partner Fresno County Library. This replicable framework supports anchor community residents and upskills into the domain of cybersecurity education and workforce development.

FURTHER READING

U.S. Department of Homeland Security
Cybersecurity and Infrastructure Security Agency

EdScoop
"Rising Cybersecurity Threats Target U.S. Higher Education Institutions"

Inside Higher Ed
"Yes, University Cybersecurity Is Still a Concern"

EdTech
"Cyberattacks on Higher Ed Rose Dramatically Last Year, Report Shows"

EDUCAUSE
Cybersecurity

Readiness and Emergency Management for Schools Technical Assistance Center
"Cybersecurity Preparedness For K-12 Schools And Institutions Of Higher Education"

CDW
2024 CDW Cybersecurity Report

U.S. Department of Education
Cybersecurity Incident Planning for Institutes of Higher Education

EVOLVING TEACHING PRACTICES

Overview

The demographics of educational stakeholders and the contexts in which they learn and work are constantly changing, and so too must teaching practices. Students' learning preferences and goals, educational technologies, social and political circumstances, workforce demands, and stakeholder demographics are just a few of the dynamic higher education components compelling teaching and learning professionals to evolve teaching practices. As one panelist explained, "Good teaching has always been evolving in the sense that it is responsive to the students as individuals and the world it exists in.... The world the university inhabits will necessitate evolution instead of stagnation." And in another panelist's words, "Ultimately, the goals should be to meet students where they are." In this way, students can only be served effectively by teaching and learning professionals who are themselves constantly evolving.

> ***"By adapting to new technologies, pedagogical strategies, and student needs, educators can enhance learning outcomes, foster critical thinking, and better prepare students for future challenges. Continuous improvement in teaching practices also helps create a more engaging and inclusive learning environment for all students."***

Certainly, evolving teaching practices is neither simple nor easy. Understanding learning theory, staying up to date on current trends, and making continuous modifications to curricula requires time, expertise, and funding. From EDUCAUSE research about the teaching and learning workforce, we know that the workforce is already feeling overworked and burned out, so asking them to evolve their teaching practices may only exacerbate those issues. Further, faculty often incorporate emerging technologies when updating their courses, and this carries the risks of widening the student digital divide and of introducing technologies that do not meet important accessibility standards. As one panelist explained, "'Different' doesn't always mean 'better'," so evolving teaching practices could actually introduce *less* effective teaching approaches. Still, panelists agreed that the benefits of evolving teaching practices far outweigh the risks. They recommend giving yourself time and patience to learn new things: "This process may feel uncomfortable and may exacerbate any insecurities you may have. The key is to give yourself grace as you and your students become accustomed to these new strategies."

> ***"Evolving teaching practices can significantly enhance an institution's ability to foster a welcoming environment by promoting inclusivity, engagement, and collaboration. By adopting student-centered approaches and integrating technology, educators can better address diverse learning needs and create more personalized learning experiences."***

Taking Action

Keep teacher–student connection at the center of teaching and learning. Foster personal relationships with your students, and coach them to be compassionate, creative, critical thinkers.

> ***"Technology does so much of the work for us, but it will never be able to replace the teacher–student relationship. Teaching and learning professionals need to know who their students are and need to show up with compassion, empathy, encouragement, and high expectations... The way the world is changing, the role of an educator transitions more to a facilitator or guide than a content deliverer."***

Be present, curious, and open to learning from students. Teaching and learning professionals are role models for students. Modeling openness to connection and growth will not only make you a more effective educator but also provide a good example for your students to follow.

Manage disagreement responsibly. As one panelist explained, "The current political and social environment is energized by anger, fear, and anxiety and is aimed at polarizing." Educators can make a difference by supporting constructive discourse and teaching students how to find middle ground.

Reflect on your teaching practices. One panelist suggested asking yourself the following questions: "What are your go-to strategies? Do you have a wide range of strategies? When [was] the last time you tried something new? What aspects of your teaching practice are currently a struggle?"

Make a plan for professional growth. Make a list of professional learning opportunities that you might be able to take advantage of. Consider things such as talking to colleagues, participating in events such as teaching and learning webinars and conferences, creating an RSS feed for teaching resources, and collecting student feedback.

Explore advancements in educational technology. Generative AI is making a big splash right now, but it isn't the only way educators can leverage technology to support student engagement. Consider options such as instructional videos, immersive technology, and updated learning space features (e.g., flexible furniture, abundant vertical writing spaces, and integrated technology).

Evolve assessment practices. Evolving teaching practices includes updating assessments. Especially as generative AI tools render many assessments ineffective, now is a great time to reconsider what you want to assess and how you can create effective assessments.

Prepare for a diverse group of students. Higher education already serves students from a wide range of life experiences, but the diversity of the student body is only expected to increase in the coming years. Stay abreast of changing student demographics, and find ways to meet students where they are.

> ***"This is not just about culture; it's about socioeconomic groups, social circles, interests, religions, races, learning styles, language skills, and more. We need to prepare students to be [global citizens]. Support personalized, informal, collaborative, and lifelong learning."***

Foster an institutional culture that values good teaching. Teaching and learning professionals should be provided with the tools they need to evolve teaching practices. Further, institutional policy such as promotion and tenure guidelines should define, evaluate, and incentivize good teaching.

In Practice

Student Technology and Innovation Guild

At Grand Valley State University, the Student Technology and Innovation Guild (STING) is a group of student assistants (Guild Members) collaborating with campus-wide subject-matter experts to design and build emerging technology applications and develop innovative solutions to solve pedagogical challenges. Guild Members come from a variety of interdisciplinary majors and backgrounds. Projects are often the first of their kind, designed with identified and specific pedagogical goals in mind. Additionally, these innovative applications leverage cutting-edge emerging platforms and technologies.

Immersive Virtual-Reality for Experiential Learning in Higher Education

This project at the University of British Columbia explores the use of immersive virtual reality (IVR) in sustainability education through virtual field trips. Using a large-scale 3D VR display wall, students do a virtual tour (in groups) of a fully operational bioenergy plant located 250 miles away. The project demonstrates the value of having campus-scale VR systems, which can offer experiential learning opportunities that are otherwise difficult to integrate in courses due to logistical or resource challenges.

Break Out, Break In, Break Through: Self-Made NoCode Escape Rooms as an AI-Proof Assessment Format

NoCode Educational Escape Rooms enable students to create interactive learning experiences while developing subject-specific knowledge, AI literacy, and transversal skills. Experiments and evaluations show that AI usage does not hinder competency acquisition but enhances it. This approach offers a playful yet effective challenge-based learning format and a viable AI-proof assessment method.

Creating Mobile-Based Fluid Learning Opportunities through Faculty-Driven Professional Development

Mobile design transforms student access to higher education by leveraging the technologies students already carry in their pockets: smartphones. UC Riverside, Bakersfield College, and Glendale Community College partnered to implement a research-based and faculty-driven redesign process informed by student usability testing. Data collected from this NSF-funded project demonstrate how mobile design can improve access and the learning experience.

Narrative-Driven Learning Videos

Passive, lecture-centered learning is the least effective approach to learning. Those same practices often get carried into videos for online courses. Rather than accepting this approach, the focus at the Kelley School of Business at Indiana University is on challenging faculty to develop narrative-driven learning videos that use a story to convey important concepts in a way that is more memorable, understandable, and enjoyable to watch. Collaboration between faculty, learning designers, and media producers makes this possible.

The New Workforce Readiness Model

Higher education is shifting toward integrating microcredentials into degree programs to meet industry demands. The Learning and Development Initiative (LDI), a division of New Jersey Institute of Technology, is developing a workforce readiness framework that is future focused and student centered and includes six skill domains: agile thinking, resource optimization, change navigation, AI literacy, data literacy, and digital literacy. As industries evolve, skill gaps remain a major challenge, reinforcing the need for reskilling initiatives to prepare workers for a rapidly changing global marketplace.

FURTHER READING

Australian Government Department of Education
Australian Universities Accord Final Report Document

The University of Sydney
Green Guide: Enhancing the Learning Experiences of Students from Equity Backgrounds

CAST
Universal Design for Learning

The Chronicle of Higher Education
"Changing Your Teaching Takes More Than a Recipe"

Organisation for Economic Co-operation and Development
Future of Education and Skills 2030/2040

European Journal of Higher Education
"A Longitudinal Study on the Impact of Student-Teacher and Student-Peer Relationships on Academic Performance: The Mediating Effects of Study Effort and Engagement"

Frontiers in Psychology
"Effect of Teacher–Student Relationship on Academic Engagement: The Mediating Roles of Perceived Social Support and Academic Pressure"

CRITICAL DIGITAL LITERACY

Overview

Digital literacy is widely considered a foundational skill in the modern world. The rise of digital communications and media over the past 25 years has driven the integration of digital literacy into higher education institutions' missions and strategies. Now, as generative AI tools are making it even faster and easier to produce digital content, all stakeholders in the higher education community must be able to critique, judge, and interpret everything they see and hear in digital spaces. In this way, critical digital literacy moves beyond understanding the technical aspects of computing and media, rising to a level at which faculty, staff, and students are thoughtful and responsible creators and consumers of digital content. Critical digital literacy is therefore relevant for all higher education stakeholders and contexts, necessitating both professional development for faculty and staff and relevant curricula for students.

> ***"Both the liberal arts model and the career-focused model of education require that students possess a critical mind within their fields, and digital knowledge production and consumption is pervasive in both work and life."***

One panelist warned, "Critical digital literacy is an easy topic to overlook because of how long this has been a point of discussion. Still, [critical digital literacy] is essential as digital technologies have continued to evolve rapidly and with recent social and political trends." Additionally, creating good professional development and learning experiences is time-consuming and expensive. Similar to the other technologies and practices described in this report, supporting critical digital literacy in higher education adds more work for faculty and staff already experiencing overwhelm and burnout. Finally, there is some risk that stakeholders will not be able to agree on what critical digital literacy is or how it should be taught, particularly as social and political divisiveness continue to rise. As one panelist pointed out, "What some may see as healthy skepticism of information, others could view as being out of touch with mainstream culture."

> ***"Critical digital literacy is important for teaching and learning professionals because of the alignment between digital and critical literacies. Critical digital literacy equips learners with the skills to critically examine digital media to identify embedded biases and assumptions in order to make determinations and decisions."***

Taking Action

Start with your own critical digital literacy. Seek your own professional and personal development, both before you start teaching it to your students and on an ongoing basis.

> ***"Higher education institutions should be explicit in how they develop critical digital literacy, either within or alongside their curricular offerings. Top-down strategy, policy, and curriculum initiatives are ways that leadership may drive this at an institutional level."***

Remember the full scope of critical digital literacy. Critical digital literacy is not just about identifying "fake news" on social media. All digital tools and content are created with human biases and errors. Thus, critical digital literacy applies to social media, digital communications, computing applications, data-informed decision-making, and more. Further, critical digital literacy is relevant not only to digital outputs but to digital processes as well. For example, when evaluating digital tools, consider who created the tools, who benefits from the tools, how the tools impact our environment, etc.

Embed critical digital literacy across the curriculum. Instead of stand-alone training, help students see how digital content is embedded in their discipline and in their daily lives. Almost any lesson can include some element of critical digital literacy. Ask students to bring real examples of digital tools and outputs to classes, and help them critically evaluate that content.

Collaborate with librarians. Critical digital literacy has evolved from information literacy, which has long been an area of focus for library professionals.

> *"Librarians have been teaching critical literacy skills since the internet was introduced in classrooms. They have a wealth of knowledge about how to check for factual information as well as how to verify sources."*

Promote data literacy awareness. Simple reminders and microlearning opportunities for students and faculty alike make data literacy more approachable and less overwhelming. Bite-sized pieces of information help reiterate how critical digital literacy exists all around the teaching and learning environment. A diverse strategy of campus-wide communications, discipline-specific examples, or even gamification allows critical digital literacy strategies to meet students and faculty where they are on the ever-evolving journey to data literacy.

In Practice

Digital Literacy Pop-Up Teaching

This initiative features a series of bite-sized digital literacy learning activities that meet students where they are: walking by with five minutes to spare. Developed at the University Libraries at Virginia Tech, this program engages learners with critical reflection on big questions and small actions related to misinformation, generative AI, representation in media, digital well-being, and more. Digital literacy pop-up teaching can happen anywhere learners gather.

Developing a Learning Pathway to Enhance Critical Digital Literacies and Address Social Inequities

The University of the Free State in South Africa created a self-paced, competency-based Digital Skills learning pathway for all students to become digitally literate. Included in this pathway are critical digital literacies such as digital citizenship; information, data, and media literacy; digital creation; and IT proficiency. Aimed at enhancing student success and employability, this pathway is part of the compulsory First Year Seminar and positioned as a graduate attribute for curricular and co-curricular integration.

The B.C. Digital Literacy Hub

The B.C. Digital Literacy Hub supports postsecondary educators by providing a curated collection of openly licensed digital literacy resources, including course content and professional development materials. The resources cover topics such as ethics in digital spaces, digital well-being, and information literacy, which can be easily adapted for a variety of courses. Additionally, it offers tools such as the Digital Superpower Quiz to assess and enhance educators' own digital literacy skills.

GenAI Essential Skills: Building Students' AI Literacy

GenAI Essential Skills is a faculty-led, multi-campus initiative designed to provide students with practical AI literacy skills for studying, research, and productivity. Co-developed by faculty experts from across Indiana University's multiple campuses and supported by our Learning Technologies Division, the course emphasizes ethical AI use, prompt engineering, and responsible integration of AI into learning, among other topics. Students earn digital badges to showcase their knowledge.

AI for Students: A Free E-Course for Navigating Generative AI in Higher Education

Artevelde UAS and Odisee UAS have developed "AI for Students," a free, interactive e-course designed to introduce students new to higher education to the world of generative AI. This self-paced online course covers AI fundamentals, practical applications in various domains, and ethical considerations such as bias, copyright, and sustainability. Featuring interactive exercises, AI-created self-tests, and a gamified final assessment, the course empowers students to confidently leverage AI for academic success.

UCI Compass MAPSS and DataGPS: Creating Critical Digital Literacy through a Data-Driven Campus Culture

At the University of California, Irvine, we recognize that student digital literacy and success hinge on fostering a campus-wide data culture. Through curated Compass MAPSS and DataGPS role-specific tracks, data analytics courses, and community practice forums, we develop technically adept, continuous learners across staff, faculty, and leadership. Participants gain skills to interpret, analyze, and communicate complex information effectively. This holistic approach cultivates critical digital literacy, bridging data understanding and real-world application.

FURTHER READING

Florida International University,
Insider
"A Fresh Take on Digital Media Literacy and Online Critical Thinking Skills"

Inside Higher Ed
"Digital Media Literacy Becoming a Graduation Requirement"

Evolve
Critical Digital Literacy

IEEE
Digital Literacy in Higher Education: A Key Area to Close the Digital Divide

Postdigital Science and Education
"Postdigital Teaching of Critical Thinking in Higher Education: Non-Instrumentalised Sociality and Interactivity"

Folgerpedia
Teaching Critical Digital Literacy

Association of College & Research Libraries
ACRL Framework for Information Literacy Sandbox

Inside Higher Ed
"A Call for Digital Literacy Across the Curriculum"

University World News
Digital Literacy Is a Non-Negotiable Competency for Students

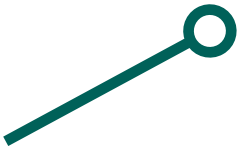
SCENARIOS

With the trends we're observing and the technologies and practices emerging around us that are already shaping the future, we can begin to imagine how all of these elements might coalesce into larger stories about who we'll be as people and what higher education will be in the future. In this section we offer several of these larger stories through a series of scenarios that reflect on where these trends and technologies and practices may ultimately lead us in 10 years' time.

To paint these scenarios, we use a forecasting framework from the Institute for the Future (IFTF) to envision four distinct possible futures that each take a different angle on how today might be leading into tomorrow. The first scenario we envision is characterized as Growth, a scenario in which the current trajectories of things today have continued along their same paths into the future, breaking past previous limits. The second scenario is Constraint, a scenario in which higher education has organized itself around a common threat or core guiding value or principle that drives our decision-making and animates our daily practices. In the third scenario, Collapse, we imagine a future in which higher education has experienced a series of breakdowns and widespread changes that ultimately leave many institutions decimated due to a failure of human systems to overcome inherent tensions or weaknesses. In the Transformation scenario, a new paradigm has been established within higher education that has led to a fundamental shift in the ways we think about and carry out education, stretching our imaginations and challenging our assumptions.

For Growth, we see a shift away from face-to-face environments toward virtual ones as AI and virtual reality technologies grow unfettered during a period of ongoing polycrises. In the Constraint scenario, institutional operations are limited by government regulations that mandate the use of analytics for decision-making. The potential future for Collapse sees rapid and unregulated generated AI proliferation, leading to a collapse of truth. And finally, in the Transformation scenario, a period of political instability leads to a series of revolutionary changes in higher education where industry and workforce needs drive enrollments and curriculum.

The scenarios we offer here only represent our potential futures, of course. With so much changing around us seemingly on a daily basis, it is impossible to know with any degree of certainty who we'll be and what higher education will be in 2035. The best we can do in the present day is use exercises like these to get better at anticipating and planning and to practice creative thinking about our future, grounded in the best information we have available to us so that we can be more prepared to face whatever future does eventually arrive.



Growth

Constraint

Collapse

Transformation

GROWTH

Daylon finishes with a few final pencil scratches on the notepad in front of him before setting the pencil down on his desk. "Done," he says to himself as he looks up from his notes, an expression of satisfaction on his face. He wiggles his toes underneath him and feels warm sand. Just ahead of him waves crash into the beach beneath a slowly setting sun. Scanning left and right down the shoreline, he sees miles of no one and nothing but palm trees and tall grass against lush green mountains—a deserted paradise, save for Daylon sitting alone at his simple wood desk with its notepad and pencil.

ding

Daylon taps his ear. "I've analyzed your notes," a disembodied woman's voice says. It's Daylon's instructor, or at least a voice programmed to sound like Daylon's instructor. "Your critical analysis is sound, though I'm concerned some of your evidence may still be lacking. This is good enough for today, but let's make more progress tomorrow."

"Thanks, Teach. See you tomorrow," Daylon says as he taps his ear again. He swipes his left hand and a large screen appears in front of him, hovering just above the sand. He calls up season 2, episode 5, of his favorite show, a zero-gravity space cooking competition. The screen blinks on and the show intro starts to play against the sound of the waves.

ding

Daylon taps his ear. "You've reached your five-hour limit. Powering down to ensure optimal physical and mental conditioning," a man's voice with a proper English accent instructs. Bit by bit the ocean waves and sky and sand and TV screen all begin to blur and pixelate. Daylon's vision goes dark. He removes the visor from his head and looks at the dorm room around him, blinking to get his eyes to refocus. Sirens blare from somewhere down the street. Rain pounds against the window, unrelenting for the third straight day that week. Daylon's roommate is asleep on his bunk, visor still on his head faintly playing sounds of something like a carnival or theme park. Daylon sets his visor on its charging dock. "5% charged..." it reads. Daylon sighs.

This scenario describes the growth of AI and virtual reality during an ongoing period of polycrises. By 2035, the higher education community has begun to shift away from face-to-face environments and toward VR—but not everyone is benefiting.

How Did We Get Here?

For many reasons, 2025 is commonly referred to as the year of the polycrisis. Land wars, trade wars, and the dissolution of global alliances interrupted supply chains and collaboration, straining economies all over the world. By 2026, global shortages of food and medicine were on the rise. Social and political unrest were becoming the norm. Yet as daily life was becoming more and more challenging, technological advancements were skyrocketing. In particular, new lithium stores discovered in the United States enabled technology giants to rapidly expand their data centers and AI programs, as well as their production of virtual and augmented reality hardware. In just a few years, the United States solidified its position as the leading producer of data centers and home to the largest AI companies in the world.

Life in 2030 was an odd mixture of struggling in the real world and exploring new frontiers in the digital world. Though international relations were beginning to improve, the repair was slow. Even now in 2035 we are still working to rebuild social and economic systems and partnerships. Still, technology growth continues. In partnerships with government leaders all over the world, the International Energy Agency has recently issued new clean energy subsidies, helping companies decrease the costs of AI and other big-data processes. Hardware has also become less expensive and more readily available for consumers, opening doors for more digital work and life. Because basic computers and VR hardware are more affordable and AI models have become so advanced, growing numbers of people are able to immerse themselves in digital realities. Entirely new communities have formed in VR—people who are tired of daily struggles and eager to escape into worlds they can create and mold into whatever they imagine. And because people love connecting with each other and creating together, many technology advancements are shared as open-source content.

Just 10 years ago, only a handful of higher education institutions had thriving VR campuses. Now, nearly every institution has at least some AI-powered presence in VR. Of course not all VR campuses are created equally. During the worst years of supply chain interruption and international disconnection, some colleges and universities had to focus resources on supporting students' basic needs, especially food and medicine. Budgets that were previously applied to keeping technology infrastructure updated were redirected to food pantries and medical centers. Thus, those institutions were not able to adopt cutting-edge technologies in the same way as their better-resourced counterparts. Such differences have widened institutional technology gaps. Institutions with sufficient resources enjoy robust digital programs including critical digital literacy training and faculty development. Those with fewer resources are working to keep up with basic AI tools for teaching and learning and evolve essential cybersecurity protocols.

CONSTRAINT

Tov Sanders slams his fist down on the provost's desk. His daughter, Sara, flinches and then rolls her eyes. "You're going to sit there and tell me my daughter is going to be the first Sanders in four generations NOT to attend this school?! All because of...," he gestures at the provost's tablet on the desk, "... some algorithm?!"

"Mr. Sanders," the provost says as she leans forward in her chair and taps the screen on her tablet. The screen jumps to life, displaying a dashboard of dials and charts. She considers the display for a moment and then looks back up at Tov and Sara. "I hear your frustration. And I sympathize with you and sincerely appreciate your family's loyalty to our institution these past many decades. But you need to understand the decision we're having to make. Your daughter's record...." The provost stops herself and shifts her attention to Sara. "Sara, your record simply doesn't allow us to admit you as a student at this school."

The provost turns her tablet around to face the Sanders. A voice from the tablet begins to narrate, highlighting dials and charts as it talks. "Looking at your academic history, our analysis of your digital footprint, and your federal socioeconomic markers, you score in the lowest quartile of student likelihood to complete your education," the voice concludes.

The provost interjects, gesturing at the American flag in the corner of the office, "And as you know, if we don't admit students with the highest likelihood of completion, we risk losing our good standing and even our funding."

Sara blushes, embarrassed, but persists. "I know what kind of student I used to be. And I know some of the dumb choices I've made. But if you look at the last 12 months of my digital footprint data, you'll see that I'm not that person anymore. I've turned my academics around, I've stabilized my personal spending, and I've cleaned up my digital profile."

The provost sighs. "Be that as it may, 12 months simply isn't enough time to correct 12 years of data. Keep doing what you're doing, keep improving, and maybe in a few years we'll start to see your score improve and we can revisit our options for ensuring the Sanders legacy stays here with us." She glances at Tov with a wink, and smiles at Sara. "Now," she says, "why don't we walk over to the dining hall and get you both some coffee or a pastry. It's the least I could do."

This scenario describes a future in which institutional operations are constrained by government regulations mandating the use of analytics for decision-making and for proving their value to society. Institutions that are able to comply experience unprecedented success, but this success comes at the cost of limiting students' access to higher education.

How Did We Get Here?

In 2026, OptiGrad, a new AI-powered tool predicting student success in higher education with 98% accuracy, was released. OptiGrad was the first tool of its kind to integrate generative AI dashboards capable of speaking to end users in plain language, generating figures, and making recommendations for action. Anyone with access to the tool could converse with it as seamlessly as they could with any human at their institution. Soon, institutions all over the world adopted the tool for beta testing, with some institutions observing increased retention rates as early as 2028. By 2030, local and federal government agencies began requiring use of OptiGrad for any institution seeking public funding, creating a list of KPIs institutions must meet in order to stay in good standing and maintain compliance with new "quality control" regulations.

Mandated OptiGrad adoption proved to be challenging for many institutions. Those that were not already early adopters had generally avoided the tool because of privacy and security concerns, a lack of AI-ready data governance, or a preference for human-driven decision-making models. However, those same institutions had already faced significant cuts to government funding in the late 2020s and could not stand to lose more. Thus, institutions adopted OptiGrad even if they lacked stakeholder support or adequate governance structures, negatively impacting the accuracy of the tool and making it nearly impossible to meet KPIs. Today, we are beginning to see the first institutional closures due to the budgetary shortfalls introduced by noncompliance.

Some institutions have flourished in this new AI-powered, data-driven model of higher education. As OptiGrad has expanded its analytics capabilities across the lifetime education spectrum (i.e., pre-kindergarten to postsecondary education and beyond), the pool of students "qualified" to even enter higher education has diminished. This, coupled with new "off ramp" protocols, has greatly increased institutions' compliance with local and federal quality control regulations. The new influx of funding has enabled institutions to expand their teaching and research operations, in some cases even leading to shifts in classifications and rankings. Opponents of these new higher education models argue that we serve fewer students than ever before and are limiting the intellectual expansion of our society. Others argue that OptiGrad helps individuals find the best possible career paths, leading to a happier and more productive society overall.

COLLAPSE

Dr. Bhatti opens the virtual meeting room, and students trickle in. Some students have their cameras turned off and their mics muted. Others are on screen seated against the backdrop of their bedroom or a virtual tropical or wooded landscape.

"Good to see everyone, or at least good to see the ones I can see," Dr. Bhatti begins. "Last session we were continuing our discussion on NASA's Apollo program and the social and cultural impacts of that program on our nation's history. I want to revisit something that came up near the end of our session that we didn't really have time to resolve."

Dr. Bhatti switches to "screen share" mode and displays a grainy black and white photo depicting astronaut Neil Armstrong walking across a lunar surface, the Apollo lunar module in the background behind him. On the upper left edge of the photo, just in view, the faint outline of a television studio lighting rig can be seen. On the bottom left edge of the photo, the silhouette of a studio crew member who'd wandered just into view of the camera.

"As we were studying these archival photos of the moon landing hoax," Dr. Bhatti continues, "Sam brought up the question of the authenticity of these photos which, as we know, were only recently declassified and made public by the United States government. Specifically, Sam seems to be suggesting that this photo could have been AI-generated, with the implication that perhaps the moon landing wasn't a hoax after all."

The virtual chat window lights up with comments and GIFs and links. One student comments, "Sheeple will believe anything" with a laughing emoji. Another student shares a link to an article with the title "7 Biggest Lies of History and Why We Fell for Them." Sam adds their own comment in the chat, "So we're just going to pretend 70 years of space exploration never happened?"

Dr. Bhatti pulls down his screen share, and his face comes back into full view. He glances at the chat window and grins. "Of course, Sam, we know that not ALL space exploration has been a lie, especially the more recent, privately funded exploration. I think the bigger point we're trying to stress here, if I can bring us back to the focus of this session, is that in the mid-20th century we started to see a concerted effort by those in the government and positions of power to obscure truth and create new versions of facts that served their own purposes."

Dr. Bhatti pastes a link into the Zoom chat, a video titled "Why Space Travel in the 1960s Was So Believable."

"A friend of mine shared this video with me," he explains. "Some interesting ideas in here about the role of the media and entertainment industries in fostering untruths. I recommend checking it out, but only after class of course!"

This scenario describes the collapse of truth as a result of rapid and unregulated generative AI proliferation. Higher education is challenged to maintain its role as a source of information in the post-truth era, and institutional leaders remain hopeful that these turbulent times are opportunities for future stability.

How Did We Get Here?

In the late 2020s, generative AI development shifted significantly. Previously, developers and the general public were mostly focused on improving generative AI models (e.g., large language models). However, model improvement began to plateau in 2025, and the journey to explore all the applications of generative AI ensued. At the same time, global political unrest made it challenging for AI users to create and enforce effective AI governance policies at any level. Finding ways to ensure the accuracy of generative AI outputs in general use applications such as social media became particularly challenging. An abundance of generative AI tools were freely available and easy to use, but most end users struggled to understand how they work or evaluate the accuracy of their outputs. These challenges were analogous to what our society faced with the expansion of social media in the early 2000s; we've been following a similar path toward complacency regarding critical digital literacy.

Over the past few years, the general public seems to have stopped caring about the accuracy of generative AI outputs. "Agree to disagree," has become a standard refrain, with end users asserting that they have a right to believe whatever they want. The very idea of "fact" is being openly challenged by some media and political figures. They argue that perception is reality, objectivity is impossible, and efforts to seek truth are futile. This post-truth era has been challenging for higher education institutions, traditionally a primary source for truth and new knowledge generation. In a society that does not value truth, the public perception of higher education has declined rapidly. And because higher education was already suffering sweeping cuts to funding in the late 2020s, institutions now rely more on tuition dollars than ever before.

Higher education institutions today are working to maintain their value and recruit students by engaging in more community outreach and support. For example, many institutions have greatly expanded their open education resources for the general public. Every day, new educational offerings are available at no cost to the learner. These resources serve two main purposes. First, they help learners focus on real-world applications and processes that have tangible impacts for daily life. Second, they support an emerging "freemium" business model for higher education. Learners who use and enjoy free resources are encouraged to enroll in traditional courses that incur tuition costs. Higher education leaders are optimistic about the future, despite these challenging times. They see the post-truth era as an opportunity to reconnect with the public at large, with people who have been losing their faith in higher education for years. Further, institutions are already seeing increased enrollments as a result of their free-to-paid pipelines, generating hope for future financial security.

TRANSFORMATION

FOR IMMEDIATE RELEASE

Swanson Industries

March 25, 2035

Leading security solutions provider Swanson Industries announces a national search for its 2035 class of management trainees. This is an exciting opportunity for recent college-prepared and college-certified individuals to gain valuable experience in a work environment that is results-oriented, challenging, and rewarding!

Up to 6 applicants will be selected as this year's trainees and will serve a 12-month term in their designated area of functional potential. Training will focus on gaining hands-on experience, acquiring new requisite skills, and building on existing proficiencies that will help them land their first big job and launch them on their professional journey. Trainees may also receive priority consideration for long-term employment at Swanson as opportunities become available.

Applicants must have accumulated a minimum of 200 college-work points in order to be eligible, and strong preference will be given to applicants with work-preparation scores demonstrating satisfactory skills attainment in their designated area of functional potential. Proof of certifications may be required depending on the applicant's designated function, though completion of a full college cycle is not required, regardless of function.

Each college affiliated with our 6 successful applicants will receive a one-time investment of $50,000 to help fund their skills programming and will receive a special "training partner" designation with privileges for the 12-month duration of the management trainee program (see terms and conditions for "training partner" privileges).

Swanson is dedicated to keeping our jobs and industries in the United States, and applicants must be fully certified U.S. citizens in good standing and must be willing to agree to Swanson's "commitment to U.S. industry" standards.

To apply, submit the application form linked below along with the requested supporting documentation no later than May 25, 2035. Applicants will be notified of a decision no later than June 12, 2035.

This scenario describes the transformation of higher education in response to a period of economic and political instability. As workforce readiness becomes the primary driver of student enrollments, institutions shift away from liberal arts, working collaboratively with industry leaders to prepare learners for work.

How Did We Get Here?

In many ways, 2025 was a year of instability. Social, economic, and political trends in particular were difficult to track, with conditions sometimes changing by the hour. Such widespread uncertainty created an urgency among the general populace to seek stability in their personal lives. On the heels of the craze for remote work and life, people were craving more face time with others, and they started heading back to offices, schools, and social gathering places. Ironically, technology trends continued to lead to more effective digital experiences, creating new and interesting hybrid work and learning environments. By 2030, the general understanding of "hybrid" no longer meant a combination of home and another place; instead, people left their homes to gather in physical spaces, interacting with each other and digital tools.

New hybrid environments have been especially interesting in higher education, as the focus on workforce readiness has intensified. Educators were already reimagining the landscape of instructional practices in response to the expansion of generative AI tools, and the need for authentic workforce training added to that reimagining. Now, students are able to connect with each other and their faculty on campuses and then engage with digital tools that simulate or facilitate authentic workforce learning. Institutions are partnering with industry leaders to design hybrid learning experiences—environments and curricula. Students increasingly arrive in a classroom only to put on a VR headset or log in to a remote workstation. In any given instructional space you might find students designing space vehicles with engineers at the European Space Agency in Paris, planning crop cycles with the Latin American Family Farm Coalition in Argentina, or training algorithms for manufacturing robotics with Toyota's computer scientists in Japan.

Many exciting changes are taking place in higher education, but some stakeholders are concerned about potential negative impacts of those changes. The increased focus on workforce readiness means that resources are being diverted away from liberal arts programs. The closures and mergers of the late 2020s have already left fewer liberal arts institutions, and some warn that they could be all but extinct within the next decade. Decreased liberal arts offerings may have deleterious societal impacts as well. Higher education leaders are concerned that graduates lack essential interpersonal skills and social intelligence—competencies considered absolute requirements for effective leadership. Thus, as workforce preparation continues to be the focal point in this new paradigm, educators are making efforts to reimagine the role of liberal arts in curricula, creating a more balanced and robust future of higher education.

METHODOLOGY

The Horizon Report methodology is grounded in the perspectives and knowledge of an expert panel of practitioners and thought leaders from around the world who represent the higher education, teaching and learning, and technology fields. Members of this report's panel were sought out for their unique viewpoints, as well as for their contributions and leadership within their respective domains. The panel represents a balance of global contexts, and we also sought to balance our panel across professional and institutional perspectives. Dependent as the Horizon Report is on the voices of its panel, every effort was made to ensure each voice could uniquely enrich the group's work.

This expert panel research utilized a modified Delphi process and elements adapted from the Institute for the Future (IFTF) foresight methodology. In the Delphi process, an organized group of experts discusses and converges on a set of forecasts for the future, on the basis of their own expertise and knowledge. For this report, panelists were tasked with responding to and discussing a series of open-ended prompts, as well as participating in subsequent rounds of consensus voting (see sidebar "Panel Questions"), all focused on identifying the trends, technologies, and practices that will be most important for shaping the future of postsecondary teaching and learning. Ideas for important trends, technologies, and practices emerged directly from the expert panelists and were voted on by the panel. EDUCAUSE staff provided group facilitation and technical support but had minimal influence on the content of the panel's inputs and discussions. This was done to protect the core intent of the Delphi process—capturing a reliable consensus from a group of experts that represents their collective expertise and knowledge.

The framing of the questions and voting across each round of panel input was adapted from IFTF's foresight methodology and drew upon the IFTF framework and process for collecting evidence and impacts for trends. Ensuring an expansive view across all the many factors influencing the future of higher education, the IFTF "STEEP" framework enabled our panel to focus on social, technological, economic, environmental, and political trends. This effectively broadened the panel's input and discussions beyond the walls of higher education to more explicitly call attention to the larger contexts within which teaching and learning takes place. These larger trends—and the current evidence and anticipated impacts of these trends—served as the grounds on which the panel built its discussions on the emerging technologies and practices influencing postsecondary teaching and learning.

As they provided their inputs and engaged one another in discussion, panelists shared news articles, research, and other materials that would help reinforce their inputs and provide evidence for their particular viewpoints on current and future trends. In addition to enriching the panel's discussions and supporting the panel's voting and consensus processes, these materials were collected by EDUCAUSE staff for use as evidence and further reading in the writing of this report. In the Delphi and IFTF methodologies, these collected materials also serve the purpose of ensuring that the panel's future forecasts are sufficiently grounded in "real" data and trends.

For information about research standards, including for sponsored research, see the EDUCAUSE Research Policy.

Panel Questions

STEEP Trends

Round 1 (for each STEEP trend category):
In the appropriate STEEP category below, nominate trends that will impact the future of teaching and learning in higher education. Your nomination should include (1) a sentence to describe the trend as the title of the card; (2) how this trend will impact teaching and learning in higher education; (3) links to supporting news or research; and (4) your name. Your name MUST be included to receive credit for the activity. To enrich the content, we encourage you to comment on the posts of your colleagues to add your thoughts.

Round 2 (for each STEEP trend category):
The list below summarizes the trends provided by this year's Horizon panel. Please rank-order the trends based on which you believe will have the most/least influence on the future of teaching and learning in higher ed. Drag the seven (7) trends from the left-hand list to the right-hand list and then rank them in the order of most influential (1) to least influential (7).

Round 3 (for each of the top 15 trends identified by the panel):

- Please provide additional evidence supporting this trend. Make sure that your evidence is relevant to the future of teaching and learning in higher ed. Examples of good evidence include recent (i.e., within the last year) research reports, credible news stories, personal experiences, etc.
- What potential impacts might this trend have on the future of teaching and learning in higher ed? Please be specific. Describe not only how this trend would impact teaching and learning in higher ed but also how resulting changes in teaching and learning would then affect stakeholders and different departments/units, academics, business operations, strategic planning and decision-making, etc.

Key Technologies and Practices

Round 1: Use the "+" sign below to nominate Key Technologies and Practices that will impact the future of teaching and learning in higher education. In particular, consider technologies and practices that have the potential to mitigate or accelerate the trends identified by the panel.

The list of trends can be in the activity email. Each nomination should include (1) a description of the key technology or practice as the title; (2) its impact on teaching and learning in higher education; and (3) links to supporting news or research. To enrich the content, we encourage you to comment on the posts of your colleagues to add your thoughts. Your name must be included to receive credit for the activity.

Round 2: The list below summarizes the key technologies and practices provided by this year's Horizon panel. From this list, please select the top twelve (12) items you believe will have the most influence on the future of teaching and learning. Drag those twelve (12) items from the left-hand list to the right-hand list and then rank them in the order of most influential (1) to least influential (12).

Round 3: Panelists were asked to respond to the following questions about each of the top six technologies and practices:

- Why is <tech/practice> important for teaching and learning professionals?
- What specific action items related to <tech/practice> can you recommend for teaching and learning professionals?
- What risks, if any, might be introduced or exacerbated by <tech/practice>?
- How, if at all, does <tech/practice> impact your institution's ability to foster a welcoming environment for all stakeholders?
- What further resources (e.g., news articles, institutional examples) about <tech/practice> can you suggest for readers of the Horizon Report?

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