2023 EDUCAUSE Horizon Action Plan: Generative AI

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INTRODUCTION

I n 2023, generative AI emerged as the most rapidly adopted technology in history. All members of the higher education community, from students to administrators, are trying to determine what impact generative AI tools can, will, and should have on life, learning, and work. To make matters more complex, there is no consensus about how or even whether generative AI should play a role in the future of higher education. Some faculty, staff, and administrators insist that generative AI should be banned from educational contexts, concerned that such tools undermine their foundational goal to teach students to be independent and critical thinkers. Other leaders embrace these tools, positing that generative AI will be the most disruptive and transformational technology our community has ever seen. Indeed, most of the higher education community falls somewhere in the middle, embracing the potential of generative AI with excitement while practicing pragmatic caution and scrutiny.

Amid all of this uncertainty, one thing is clear: If higher education leaders want to influence the future of generative AI at their institutions, there is no time to waste. To this end, a panel of teaching and learning professionals joined EDUCAUSE strategic foresight experts to envision an ideal future of generative AI in higher education in 10 years. Using a 10-year horizon allows us to consider significant advancements in society, technology, politics, the economy, and the environment, without looking so far into the future that any projections become unrealistic. Building on the trends, technologies, and practices described in the *2023 EDUCAUSE Horizon Report: Teaching and Learning Edition*, the panel crafted its vision of the future along with practical actions that individuals, units and departments, and groups of collaborators can take to make this future a reality.

Contents

Activity: Imagine Future You

Imagining the future can be challenging. Our daily lives require us to be present in the moment, considering threats and opportunities that exist around us. Take a minute to jump-start your creativity and foresight by answering the following questions:

- What will your life look like 10 years from today? Envision your home, hobbies, family, and friends.
- What will your work look like 10 years from today? Envision your workspace, daily activities, and colleagues.

Asked to describe the state of generative AI that they would like to see in higher education 10 years from now, panelists collaboratively constructed the future described below.

Generative AI developers and researchers have found ways to ensure that processes and outputs are equal, representative, and unbiased. Developers prioritize ethical considerations such as algorithmic transparency, data privacy and security, accessibility, equity, and inclusion. End users have full control over how institutions and companies use their data and intellectual property. AI training for students and professionals is built on a foundation of ethical practices. Generative AI tools are designed with safeguards to ensure they operate within the confines of developers' goals. Generative AI developers and end users build specific, reference-based datasets for various higher education contexts. Thought leaders in higher education provide insights about data quality.

Generative AI supports access to and the accessibility of educational technology. Structural and arguably arbitrary roadblocks to student success are diminished or eliminated. For example, generative AI gets rid of the writing gateway for knowledge demonstration. Generative AI facilitates multilingual education by automatically translating spoken and written communication into any language in real time, allowing educators to teach students all over the world and enriching cross-cultural experiences for students. The development of digital tools is democratized by the aid of generative AI tools. End users can create their own digital applications, and technology is not controlled by industry. Generative AI powers interactive and immersive learning experiences such as simulation and virtual reality environments, making complex concepts more engaging and tangible for students.

Faculty, staff, and students are able to think critically about generative AI tools and outputs. They are able to discern appropriate uses for generative AI tools and evaluate generative AI products. Search tools powered by generative AI provide users with credible sources of information, scaffolding information-gathering and fact-checking. Faculty have the necessary professional development and ongoing support to implement generative AI tools in teaching and learning. Educators teach students how to use generative AI tools ethically, responsibly, and effectively.

Generative AI is used to enhance human relationships and complete tasks humans don't want to do. Human time is freed to work on and solve big issues related to health, economics, and other areas. In higher education, more time is available to focus on meaningful interactions between faculty, staff, and students. Generative AI tools enable new connections between learners who share interests, and education environments are more focused on supporting these connections than on knowledge exchange because traditional pedagogical processes are more efficient and effective.

Generative AI tools report learning analytics findings in real time. Faculty and staff leverage this information to make data-informed decisions, implement targeted interventions, and continuously improve teaching methods. Learning analytics tools also provide students and faculty with detailed, targeted, and constructive feedback on assignments, projects, and assessments.

Digital assistants provide students with personalized, lifelong guides for learning. Powered by generative AI, assistants are built with personas similar to a coach or friend. Institutions use these assistants to provide wraparound (i.e., educational and psychosocial) support for students. Assistants integrate insights from earlier educational experiences and ongoing individualized learning needs to address students' unique preferences, strengths, and challenges. Higher education experiences are a seamless continuation from secondary education, with a focus on continuous upskilling and metacognition. After postsecondary graduation, students are still connected to lifelong learning pathways for gaining additional certifications and skills. Assistants also help students develop critical thinking, innovation, and creativity by presenting them with unique challenges such as creative prompts, writing exercises, and problem-solving scenarios.

Panelists generated a list of actions that individuals, units and departments, and multi-unit or multi-institutional teams can take to arrive at this preferred future in 10 years.

Individuals

Cultivate a culture of experimentation. Encourage faculty, students, and staff to experiment with AI by providing dedicated time, incentives, and access to tools and discovery opportunities. Experimentation will foster user agency, innovation, and creativity. It will also help individuals embrace new technologies and will lessen the digital divide.

Establish a community of practice. Create a safe and controlled environment, such as an AI sandbox, where faculty, staff, and students can collaborate and experiment with AI tools and applications without risk to production systems.

Establish stakeholder inclusion as a best practice. Encourage cross-group collaboration, including students and external stakeholders (e.g., K–12, industry). Create peer learning communities where stakeholders can share experiences, challenges, and best practices, and encourage collaboration and interdisciplinary projects that explore innovative applications of AI in various fields.

Provide opportunities to self-educate. Offer easy-to-access resources such as online courses and tutorials, webinars and workshops, and educational materials such as handbooks, guides, and case studies that introduce faculty, staff, and students to AI concepts, applications, and best practices.

Invest in and support ongoing AI literacy initiatives. Develop comprehensive, institution-wide training programs and resources that individuals with varying levels of technical expertise can understand and use, and create a repository of regularly updated educational resources related to AI integration in higher education.

Ensure that faculty members have access to AI tools. Provide faculty with the tools and platforms they need to experiment and incorporate AI into their teaching and research activities. Provide them with an adequate support system that includes AI experts who can provide guidance and assistance to faculty members as they integrate AI into their teaching and research.

Increase stakeholder commitment to ethics. Help stakeholders commit to being ethical users of AI by providing comprehensive and up-to-date training and resources on cybersecurity, privacy, and effective versus ineffective uses of AI, along with the risks and benefits of use.

Establish AI facilitator roles on campuses. Facilitators can help faculty and staff navigate their identity as AI users and educators. Implement professional development opportunities and resources such as trainings, workshops, coaching and mentoring programs, peer learning communities, and educational materials to help faculty and staff become facilitators. Establish recognition and reward systems that recognize those who excel in their supportive facilitator roles.

Be an engaged leader. Support your colleagues on the generative AI journey by engaging regularly in professional development and training opportunities, which will help you make well-informed and bold decisions about new institutional policies. Provide dedicated time to communicate with units and departments about important issues surrounding AI usage at your institution.

Units and Departments

Reimagine curriculum and assessments. Help faculty incorporate AI into courses in ways that create more personalized and authentic learning experiences while also incentivizing learning, creativity, and innovation over grades. Encourage units and departments to use a collaborative and evidence-based approach, and provide them with time and budget for redesign, along with an updated curriculum review process.

Train the next generations of AI users. Encourage units and departments to continually think about how AI will evolve over time and across disciplines so that they can anticipate, identify, and acknowledge new skills and knowledge that students need now and in the future.

Employ or train AI integration specialists. These specialists can assess communication and collaboration needs within units and departments and identify opportunities for AI-powered solutions.

Invest in state-of-the-art centralized AI infrastructure. The infrastructure should include high-performance computing resources, cloud services, and AI development tools to support research and implementation efforts. Provide shared access to AI tools, data storage, and technical support for all units and departments.

Provide dedicated IT support. Ensure that each unit and department has IT support to address technical issues related to AI integration and collaboration. Employ an institution-wide technical support team to assist departments in the implementation, integration, and troubleshooting of AI solutions.

Develop departmental protocols and guidelines. Establish guidelines that address security, privacy, and data management and ensure that sensitive information shared through AI-powered tools is secure and complies with data protection regulations.

Multi-Unit Collaboration

Establish interdisciplinary AI centers. Create centers where individuals from different units and departments can collaborate on projects and explore innovative applications of AI in various academic fields and solve complex problems.

Establish an AI implementation task force. Include representatives from different units and departments to oversee resource allocation, assess unit and departmental needs, and identify potential AI use cases.

Form an AI policy committee. The committee should comprise representatives from multiple administrative units and departments to develop and oversee shared AI policies and governance. The committee should review and develop policies and shared practices in the areas of fair use, assessment and academic integrity, institutional review board processes, and the scholarship of teaching and learning.

Appoint an AI Ethics and Compliance Officer. The officer should be responsible for risk management and ensuring that AI practices across units and departments align with ethical guidelines, data privacy regulations, and institutional policies. Seek legal expertise to navigate complex legal frameworks and ensure that institution-wide and unit/department AI policies adhere to relevant laws and regulations.

Establish dedicated communication channels. Create channels to inform all units and departments about shared AI policies and governance, in addition to AI literacy and integration trainings and opportunities. Encourage units and departments to use these channels to collaborate and share best practices.

Recruit a dedicated interdisciplinary team of AI experts. Allocate resources to recruit a team of interdisciplinary AI experts with diverse skill sets, including data scientists, AI researchers, software engineers, and domain specialists.

Multi-Institution Collaboration

Establish formal partnerships with other institutions.
Form a commission or consortium consisting of members from multiple institutions and disciplines to promote sustained collaboration and joint AI initiatives. The commission or consortium should focus on governance and policy across institutions, with specific attention to accreditation issues and student outcomes.

Establish cross-institutional AI research centers.
Create collaborative spaces for researchers to work together on cutting-edge AI projects. Establish resource-sharing agreements that enable institutions to pool their expertise, data, and AI tools for collective use and benefit.

Establish multi-institutional funding models. Create funding opportunities to support collaborative AI research and projects that involve multiple institutions, encouraging knowledge exchange and cross-institutional cooperation.

Appoint a dedicated outreach team. The team should comprise representatives from each collaborating institution. The outreach team should be responsible for overseeing, coordinating, and promoting AI collaboration efforts, ensuring effective communication and the alignment of goals.

Support knowledge exchange between institutions.
Organize virtual or in-person knowledge exchange forums, webinars, workshops, and conferences that bring together faculty, researchers, and administrators from different institutions to discuss their AI initiatives, successes, and challenges and to explore potential collaboration opportunities.

Encourage multi-institutional publications. Support and incentivize multi-institutional research publications, white papers, and reports that share insights and findings from collaborative AI research and projects.

Establish a dedicated multi-institutional collaborative platform. Provide access to collaborative tools and support, allowing institutions to easily share AI-related research, best practices, and resources and to foster effective cross-institution outreach.

Partner with K–12 stakeholders and institutions.
Work with K–12 stakeholders to develop a more holistic understanding of students' early experiences with AI, in addition to their future academic and workforce needs, which can help institutions redesign and/or develop curricular programs to address these needs.

Envisioning the future we want to see is important and exciting work, but real progress can only be made when individuals like you create change. Use the following activities to solidify your vision of the future and make plans to take action.

Activity: Understand Your Institution's Needs

The best plan of action always starts with understanding the starting line. Use this activity to explore the current needs and interests of stakeholders at your institution.

- Make a list of key stakeholders at your institution who will be interested in shaping the future of generative AI. Consider a wide range of perspectives from a variety of operational units: academic units, information technology, information security, privacy, student services, legal, etc.

- Select a sample of individuals from your list and talk to them about the present and future states of generative AI at your institution. Some guiding questions are:
  - What is our current state of generative AI?
  - How do we currently support or suppress generative AI?
  - What are our biggest challenges related to generative AI?
  - What are our greatest assets related to generative AI?

- Take notes on key takeaways from your conversations. Include references for resources and documents such as websites and institutional policies.

- Reflect on your findings and consider how they align with the findings in this report. Is your institutional vision aligned with panelists' ideas? Are any individuals at your institution ready to take some of the actions described in this report?

- Make a plan for next steps. Usually, this starts with identifying key members of your professional network who can partner with you. Consider stakeholders who are ready to hit the ground running, colleagues who already have considerable influence and can break down barriers, and colleagues or units that might be resistant to change and need help seeing your vision.

Your Role in the Future of Generative AI

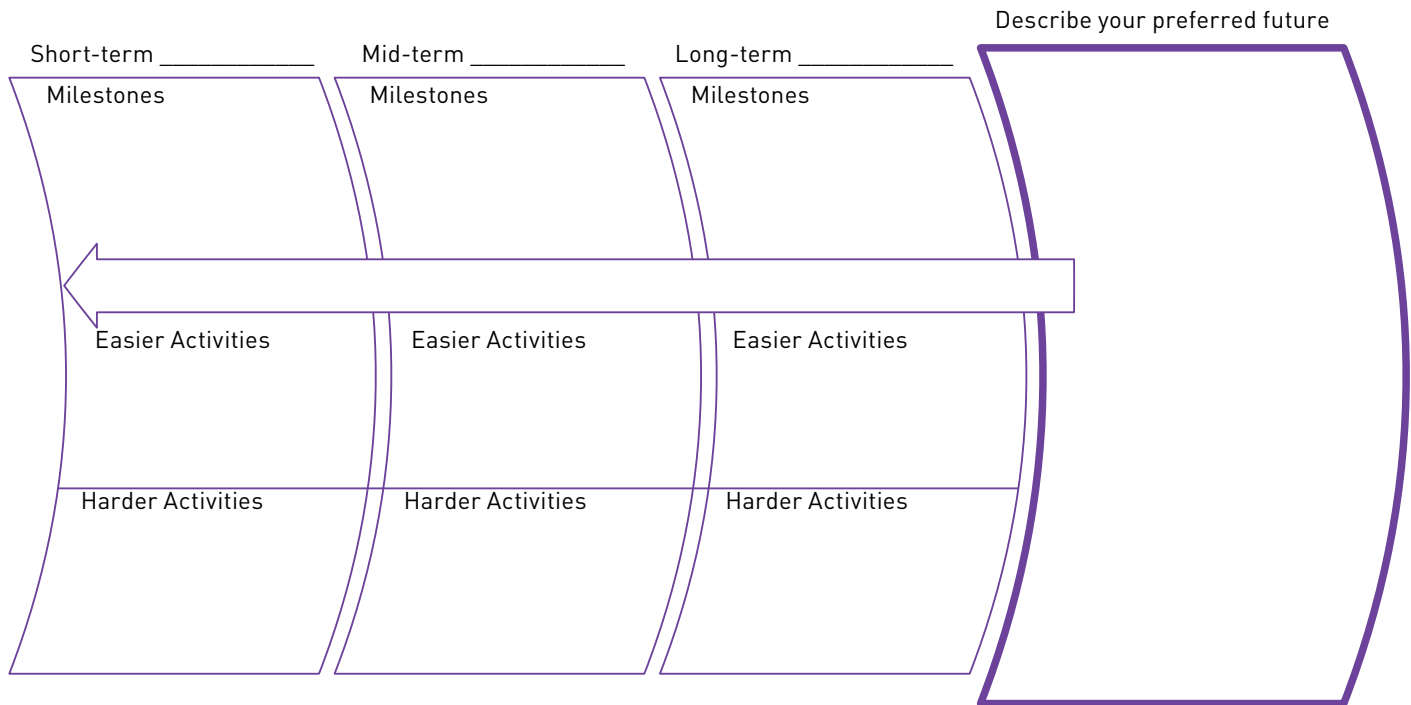As you embark on the journey, consider the following questions:

- What role do you want to take in these plans?

- Will you start with individual action, or do you want to lead collaborative efforts?

- What is the current state of generative AI at your institution, and where will your institution be 10 years from now?

Activity: Build an Action Roadmap

Now that you have a clear picture of where you are, where you want to go, and who is going to help, you're ready to develop an Action Roadmap (adapted from the Institute for the Future). This activity is best accomplished collaboratively, so consider working with some of the individuals you identified in the activity "Understand Your Institution's Needs." Start with the right side of this tool, describing the goals and elements of *your* preferred future, using the future described in this report as inspiration. Then, review the findings you generated with "Understand Your Institution's Needs" and describe the short-, mid-, and long-term actions that will carry you from today's reality to the future you want to see.

BUILD AN ACTION ROADMAP

Describe your preferred future

Short-term _____
Milestones

Mid-term _____
Milestones

Long-term _____
Milestones

Easier Activities

Easier Activities

Easier Activities

Harder Activities

Harder Activities

Harder Activities

More Resources for Generative AI

- EDUCAUSE Leadership Series | ChatGPT and Generative AI: Navigating Leadership Opportunities and Challenges
- Webinar | Generative AI in Higher Education: Embracing AI's Potential
- Learning Lab | ChatGPT in Higher Education: Exploring Use Cases and Designing Prompts
- Webinar | Artificial Intelligence: Preparing Institutions for Literacy and Leadership
- "Integrating Generative AI into Higher Education: Considerations"
- "A Generative AI Primer"
- "EDUCAUSE QuickPoll Results: Adopting and Adapting to Generative AI in Higher Ed Tech"
- EDUCAUSE Topic Page: Artificial Intelligence

This *2023 Horizon Action Plan: Generative AI* is grounded in the perspectives and knowledge of an expert panel of practitioners and thought leaders who represent the higher education teaching and learning community. The members of this group were sought out for their unique viewpoints as well as their contributions and leadership within their domain. Dependent as the *Horizon Report* efforts are on the voices of its panel, every effort was made to ensure those voices were diverse and that each could uniquely enrich the group's work.

For this action plan, we adopted and adapted different components of the Institute for the Future (IFTF) foresight methodology. First, we asked panelists to review the trends, technologies and practices, and scenarios from the *2023 EDUCAUSE Horizon Report: Teaching and Learning Edition* and to describe their own vision of the preferred future of generative AI. Second, panelists were directed to list the threats and opportunities that might imperil or bring momentum to their preferred future and to brainstorm possible actions in response to those threats and opportunities. The data produced as a result of these efforts have been used to create the action plan featured in this report.

EDUCAUSE staff provided group facilitation and technical support but minimal influence on the content of the panel's inputs and discussions. This was done to reduce the potential introduction of bias into the results and to allow for this organized group of experts themselves to discuss and converge on a set of actions for the future based on their own expertise and knowledge.

The panel discussions were held remotely on July 20, 2023, by Zoom.

EXPERT PANEL ROSTER

We would like to acknowledge and express our deepest gratitude to the panel of experts listed below who were responsible for generating all of the big ideas summarized throughout this resource. Their brilliant thinking and rich discussions were the foundation of this work, and this resource simply would not exist had it not been for their dedication to this project and their passion for serving higher education.

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