AI in Action: A SUNY FACT2 Guide to Optimizing AI in Higher Education

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Foreword

As Provost Liaison to the SUNY Faculty Advisory Council on Teaching and Technology (FACT2), it is my pleasure to present *AI in Action*, a new SUNY FACT2 Guide to Optimizing Artificial Intelligence (AI) in Higher Education, which was developed by the 2025 FACT2 Task Group. This guide both builds on and moves beyond the work of two previous guides, published in 2023 and 2024, addressing the ways in which AI has become increasingly integrated into teaching and learning in higher education and providing guidance to support faculty and administrators in navigating this continuing changing landscape.

Similarly to the two previous FACT2 Guides, the quality of work in the pages to follow represents the talent and expertise of the individuals who served on the FACT² AI in Action Task Group over the past year. The result is a focused resource designed to support faculty across the SUNY system in making informed decisions about the role of AI in their teaching and in contributing to institutional level decisions about AI.

The FACT² Council Task Group on *AI in Action,* representing faculty and staff from a range of SUNY institutions, brought depth and focus to this guide on three current areas of interest and concern with AI in higher education. Their collective expertise and collaborative spirit have produced a resource for both administrators and educators who are seeking to develop effective policies, make decisions about implementing AI tools, and implement AI to support more personalized learning for their students within their courses. The Provost's Office is extremely grateful to the entire Task Group for contributing their time and energy to this important work.

This guide would not have been possible without the exceptional leadership of the FACT² Task Group Chair and the subcommittee co-chairs who guided the writing of each chapter of the guide: Billie Franchini (University at Albany), Task Group Chair; Meghanne Freivald (Alfred University) and Dana Gavin (Dutchess County Community College), AI Policy subcommittee co-chairs; Nicola Marae Allain (Empire State University) and Shyam Sharma (Stony Brook University), Evaluating AI Tools subcommittee co-chairs; Keith Landa (SUNY Purchase) and Carrie Solomon (Binghamton University), AI Tutor subcommittee co-chairs). Their work in ensuring that this this new *Guide* moved to publication during the Fall 2025 semester is timely as many campuses are actively engaged in discussions and decision-making processes around the very issues addressed in the *Guide*.

The work of SUNY FACT2 Task Groups re generally designed to serve SUNY faculty and campuses; however, in many cases, their work is applicable beyond SUNY. That is also the case with *AI in Action,* and we hope it will serve as a resource for faculty everywhere, providing guidance, insights, recommendations, and practical tools to enhance teaching and learning. We hope this work will support educators in making sound decisions about the role of AI in teaching and learning to harness the potential of AI while recognizing the need to address the ethical, legal, and societal implications it brings.

My sincere thanks to everyone who contributed to this *Guide.* It reflects work you and we at SUNY can all be proud of, shaping what AI in higher education looks like today and what it can become tomorrow.

Kim A. Scalzo
Senior Associate Provost for Digital Innovation and Academic Services
SUNY System Administration

Introduction

This guide builds on and extends the work of two previous guides that were published by the SUNY FACT2 Council. The first edition of the *SUNY FACT2 Guide to Optimizing AI in Higher Education*, published in fall 2023, was written to help faculty get their initial footing given the sudden availability of generative AI tools and the significant challenges that ensued as a result. The second edition of that guide, published in summer 2024, built on the work of the first edition, integrating more detailed recommendations in response to emergent practices in teaching, research, creative applications and assessment. Those guides provide a broad introduction to AI in higher education, and readers who are looking for more general information may wish to consult those editions as a starting point.

Now, in late 2025, our thinking about generative AI for teaching and learning has evolved, as have the needs of faculty and institutions. Many of our initial concerns about AI remain valid, including biases that are trained into Large Language Models (LLM), negative environmental impacts, and the potential for violations of data privacy. All these concerns are addressed in some depth in the first and second editions of the *Guide to Optimizing AI in Higher Education*. At the same time, new concerns have emerged along with a more sophisticated understanding of AI's potential—and how AI is currently being applied across SUNY as well as other institutions outside of SUNY. This guide reflects that evolution and provides more specific guidance to address common concerns, including frameworks to help faculty and institutions make good decisions about the role of AI in teaching and learning.

It is important to acknowledge that caution in the adoption of AI tools is still warranted. As we prepare our students to live and work in a world where AI will remain present, we have a responsibility to help them think about the implications of their usage. Knee-jerk rejection of AI is not helpful, nor is thoughtless embracing of AI. Instead, we need to consider the potential harms along with the potential benefits—and help our students do the same. We need to help them learn how to determine when (and how) using AI is appropriate and when it is not. We need to help them think critically about the hype—both good and bad—that characterizes public discourse about AI, especially in relation to educational practices. And perhaps most important, we need to equip students and faculty to critically evaluate when it is appropriate to use AI (or not), and make informed, ethical decisions as they do so.

This guide provides frameworks to address three key areas where faculty continue to face challenges with ethical AI use and adoption: considerations for policy development, evaluating AI tools for teaching and learning, and the use of AI tutors to support student learning experiences.

Higher education institutions continue to grapple with ensuring that faculty and students have clear and helpful guidance to navigate the use of AI. Part 1 of this guide provides an overview of important considerations for the development of AI policies and guidelines. It also describes a transparent process for developing guidance with the input of stakeholders and for making decisions about framing policies in ways that will ensure buy-in. Importantly, this section acknowledges the presence of AI tools across multiple dimensions of an institution's infrastructure, not just the generative AI tools that have become widely available in recent years. Finally, this section also includes helpful examples of policies that have already been developed by other institutions as a point of reference.

A key challenge that faculty face is the proliferation of AI tools, both within and outside the landscape of educational technology. In the face of many options, it can be difficult to make deliberate choices about whether tools will serve specific teaching and learning needs and goals. Part 2 of this guide provides a clear and easy-to-use rubric for evaluating AI tools that includes key dimensions to guide our decision-making. This section also includes illustrative case studies to demonstrate how to use this rubric effectively.

Finally, higher education continues to explore the potential for AI to provide personalized learning experiences for students. Part 3 considers one of these possibilities, providing an overview of the role that AI

tutors can play in students' learning. In addition to considering best practices for use of AI tutors, this section considers the limitations and potential drawbacks of tutors for student learning.

PART I

CONSIDERATIONS FOR DEVELOPMENT OF AI POLICIES AND GUIDELINES

Introduction to Policy Considerations

Artificial Intelligence (AI) is rapidly transforming higher education, reshaping teaching, research, administrative operations, and student engagement. Because the landscape continues to change quickly, the process of developing an AI policy, especially at an institutional, departmental, or programmatic level, may feel daunting. It may appear that other institutions came onto the AI "scene" much earlier or with better coordination or resources. However, it is important to remember that the process of developing an institutional AI policy does not need to be onerous or uniform across different schools and sites.

This chapter is not a policy itself, nor is it a hard and fast list of elements that must be included in an AI policy. Rather, it provides a framework for approaching the development of policies across a variety of contexts, acknowledging that there will be variations across campuses. Not all of the elements or recommendations in this chapter will be appropriate for your campus. Much of the information here has been informed by the experiences and observations of the members of this subcommittee who have been involved in policy development on their own campuses. It is also based on many examples of AI policies that we encountered in our research. It is the responsibility of each campus to decide the norms and standards that will guide AI use in their unique environment.

Getting Started: How to Begin the Process of Developing an Institutional AI Policy or Guidelines

While the process of developing a policy or guidance will vary across different contexts, the following questions can be helpful for any campus in the very early stages of development:

- Who are the stakeholders? How do we include as many different voices and positions as possible in the conversations about institutional policy? (See next section.)
- What is the campus culture? Around shared governance? Around technology policies? Around communication across units and departments? What are timely events, exigencies, or constraints? (e.g., Are we in the middle of an accreditation process or developing a new strategic plan? Are we managing a financial deficit?)
- What is our institution's history with policy, with emerging technology, with coalition building? What existing technology policies do we have?

Although these questions may be broad, they can help determine how to proceed with developing an institutional or cross-campus AI policy. Some possible starting points could involve the following:

- **Putting together a singular event** such as a campus town hall to gather stakeholders, assess some existing areas of consensus, and begin building toward a policy. A singular event is also a good way to identify potential participants for a specific committee or task force. A visible campus event can also elicit communication from people who are not able to attend but who may reach out with interest in future discussions.
- **Appointing a task force or campus committee**. This could happen at the President's or Board of Trustees' level or with input from deans, departments, campus units, and/or campus governance leaders. An appointed committee could also involve external members with interests or expertise with AI. These external members could be representatives of community partnerships or representative members of technology/industry involved in other conversations or committees on campus.
- **Organizing an ad-hoc committee**. This is the route that SUNY Cortland took in constructing a cross-campus committee that allowed for individual outreach, volunteer participation, and fluid membership from semester to semester. Cortland's ad hoc committee has been operational from September 2023 to the present. The downsides of an ad-hoc committee (versus a standing committee or appointed task force) could be a lack of consistent representation or confusing workflow. The advantages may involve variable size of the committee, fluidity of membership, and agile decision-making or recommendation-generating (to an established governance body, for instance).
- **Integrating AI policy work within existing institutional structures** such as standing groups within a Faculty Senate or other campus governance body, the Faculty Senate/campus governance body itself, Teaching and Learning Centers, Faculty Development Committees, or other sites with a large number and broad representation of stakeholders. Some of these sites may also already have policies and practices geared toward feedback loops and inclusive conversations across stakeholder groups.
- **Using a research methodology** (such as snowball, stratified, or random sampling) to contact a larger group of potential participants across campus. This could be a useful strategy for ensuring representation in "sampling" participants from across campus or useful if those identifying/volunteering for such a group

are a very small number of stakeholders.

Regardless of the mechanism for drawing participants together in a cross-campus collaboration on AI policy, there are also some **best practices** for institutional policy development to keep in mind:

- Create an archive of meeting agenda, minutes, and other materials to ensure transparency and continuity. Follow up on topics and issues raised by constituents and document decisions and actions.
- Design multiple entry points for engagement and participation. For instance, setting standard meeting times may work for institutions that have "common hours" or identified times for campus involvement. However, all institutions should also consider rotating meeting times and locations, as well as offering opportunities for online participation (synchronous and asynchronous) to account for different schedules, family care needs, and positions with different in-person requirements.
- Expect differences and create space for constructive disagreement, difference, diversity, and a range of perspectives. It isn't necessary (or maybe possible) for all stakeholders to reach the same conclusions. However, it may still be possible to reach some agreements, consensus, and coalition building. Even identifying an important point of disagreement and the range of positions, consequences of disagreement, and future steps is a positive step toward building a transparent and inclusive policy process.

Consider dynamics of power, privilege, and possibly space across the institution. An understanding of people's positions and perceptions of their roles on campus could influence who chairs a committee or how often/if at all membership should rotate or how communication and feedback is integrated into discussion.

Additional Resources

- Educause Action Plan: AI Policies and Guidelines, by Robert Jenay and Mark McCormick
- How to Craft a Generative AI Use Policy in Higher Education, by Tom Mangan
- Influencing Policy Development, Center for Community Health and Development at the University of Kansas

Engaging Stakeholders

As AI tools are integrated into institutional systems and practices, policy development must be guided by thoughtful, inclusive consultation. It is essential to involve a diverse group of stakeholders from the outset to ensure that AI adoption is ethical, equitable, and aligned with institutional mission, values, and priorities.

Stakeholder inclusion is not a procedural formality: each decision regarding AI policy has implications for multiple campus populations—faculty, students, staff, and leadership alike. Including these voices early minimizes unintended consequences, strengthens transparency, and fosters trust across the institution.

Key Stakeholder Groups and Considerations

Leadership and Upper Administration

University leadership plays a central role in setting the institutional vision for AI. Leaders are tasked with achieving innovation through governance and ensuring that AI tools are deployed responsibly and sustainably. AI presents opportunities for improving campus operations through predictive analytics, enrollment management, and resource allocation. However, without input from a wide range of campus constituencies, decisions may overlook ethical concerns, compliance risks, environmental impacts, or the broader student experience.

Administrators must establish clear governance frameworks, aligning AI implementation with legal standards, data privacy regulations, sustainability commitments, and public trust. Moreover, they have the opportunity to position the institution as a leader in ethical, public good, and Green AI research initiatives, workforce preparation, and industry partnerships. Engaging a wide range of stakeholders ensures that strategic decisions reflect both institutional and community needs.

Teaching and Research Faculty

Faculty members are directly impacted by AI tools in both instructional and research contexts.

For teaching faculty, AI offers opportunities to enhance pedagogy and assessment, personalize learning experiences, and streamline administrative tasks. However, questions of academic integrity, assessment standards, transparency and disclosure of AI use, and intellectual engagement require clear policies and discipline-specific guidance.

Research faculty increasingly utilize AI for data analysis, modeling, and interdisciplinary collaborations. However, AI-driven research raises complex issues around data ethics, reproducibility, intellectual property, and authorship. Policies governing AI-assisted research must address these challenges while supporting innovation and academic freedom.

Faculty participation in AI policy development ensures that policies are practical, responsive to disciplinary differences, and consistent with institutional values. Institutions should also invest in professional development to equip faculty with the skills and knowledge necessary for responsible AI integration in teaching and research.

Professional Staff and Student Support Services

AI-driven automation has the potential to enhance efficiency across administrative functions such as admissions, finance, human resources, IT services, and student support. AI-powered chatbots, virtual assistants, and data analysis tools can improve student services, providing timely support and reducing workload for frontline staff.

However, these changes may raise concerns about job displacement, shifting skill requirements, and over-automation. Staff representatives from administrative units, libraries, writing centers, and academic support services should be included in policy discussions to ensure that AI supports, rather than diminishes, their roles. Institutions should prioritize staff development programs, emphasizing reskilling and ensuring that AI adoption enhances—not replaces—human decision-making and student-centered services.

Accessibility and Accommodations Offices

AI technologies have significant potential to advance accessibility through features like real-time captioning, speech-to-text tools, and adaptive learning platforms. However, these benefits will only be realized if accessibility considerations are incorporated from the start. In addition, AI-powered accessibility tools should be assessed for FERPA compliance and general privacy protections.

Representatives from the institution's accessibility or accommodations office play a critical role in ensuring AI tools meet current electronic information technology accessibility standards (including compliance with the Americans with Disabilities Act (ADA)/Title II and NYS Executive Law Section 170f) and universal design principles. Failure to consult accessibility leaders early in the process may result in policies or tools that unintentionally reinforce barriers for students, faculty, or staff with disabilities.

Students and Student Groups

Students are among the most active adopters of AI technologies, utilizing AI tools for coursework, content creation, problem-solving, and everyday tasks. Including student representatives—especially those from diverse disciplines, backgrounds, and interest groups—ensures that policies address concerns related to privacy, academic integrity, equity of access, and digital literacy.

Students are encouraged to engage directly with institutional AI policy processes. This may include participating in student government initiatives, serving on AI advisory committees, or organizing forums to discuss student perspectives on AI usage. Students should feel empowered to ask how AI policies affect their academic rights, data privacy, and learning environments, and to advocate for clear communication and ethical guidelines around AI adoption. Institutions should also offer AI literacy workshops and support student-led initiatives to cultivate responsible and informed AI use.

Ethics, Compliance, and Legal Affairs

AI adoption raises a range of ethical, legal, and regulatory questions. Issues related to data privacy, algorithmic bias, intellectual property rights, and compliance with local, state, and federal laws require careful attention. Representatives from the institution's ethics committee, legal counsel, and compliance office should be engaged early to provide expertise on risk mitigation and institutional responsibilities.

In addition, Institutional Review Boards (IRBs) should be consulted to ensure AI-related research involving human subjects adheres to ethical standards, particularly regarding informed consent and data protection. Institutions should also raise awareness of evolving policies by external entities—including publishers, businesses, and digital platforms—that may incorporate AI-generated content clauses or open-access provisions into their privacy policies, potentially impacting ownership, confidentiality, and intellectual property rights.

The AI Legal Institute at SUNY (ALIS) is a pioneering initiative at the intersection of artificial intelligence and the law, furthering SUNY's mission to harness AI for the public good. ALIS is a critical resource, providing comprehensive legal guidance and best practices for the responsible implementation and utilization of AI tools. A collaboration between industry leaders and legal scholars, ALIS develops and provides expert legal resources that organizations may adapt to maximize AI's transformative benefits while enhancing institutional integrity and workforce empowerment. The ALIS Playbook, which can be requested from the ALIS website, provides template policies and guidance documents that any organization may adapt and tailor to their specific needs when implementing and utilizing generative AI tools.

Environmental Sustainability Offices

AI systems, particularly large-scale machine learning models, often require substantial computational resources, contributing to increased energy consumption and environmental impact. Including representatives from the institution's sustainability or environmental affairs office ensures that the environmental implications of AI adoption are considered alongside other policy concerns.

These representatives can provide guidance on how to integrate green AI principles—such as energy-efficient computing practices, responsible data management, and carbon footprint monitoring—into campus AI strategies. Institutions should explore options for sustainable AI usage, including the use of renewable energy sources for AI operations, limiting unnecessary computational tasks, and educating the campus community about the environmental costs of AI technologies.

Information Technology Services, Computing Services, and AI Institutes

Information Technology Services (ITS), computing services departments, and any campus-affiliated AI research institutes play a crucial role in AI policy development. These units maintain the infrastructure and security protocols necessary for AI integration while ensuring compliance with data privacy, intellectual property, and cybersecurity standards. Their involvement is essential to address AI-specific challenges such as algorithmic bias, data confidentiality, and the ethical use of AI tools in teaching, research, and administration.

Institutions should regularly update IT policies to reflect the unique issues introduced by AI technologies. This includes establishing clear guidelines on data privacy, copyright, intellectual property, confidentiality, and responsible AI use. Involving AI research institutes can also ensure other stakeholders and policies remain informed by current developments in AI ethics and innovation.

Tailoring Stakeholder Involvement to Institutional Context

While the stakeholder groups outlined above form the foundation of inclusive AI policy development, each institution will have unique structures, cultures, and priorities. Additional voices may include representatives

from Diversity, Equity, and Inclusion offices, community partners, alumni, external advisory boards, or specialized research centers, depending on the nature of AI initiatives and institutional goals.

The successful integration of AI in higher education depends not only on the technology itself but on the collaborative process guiding its adoption. Institutions must prioritize meaningful, sustained engagement with stakeholders across all areas of campus life. Through inclusive policy development, institutions can maximize the benefits of AI while safeguarding equity, transparency, and academic integrity.

This section was written with the assistance of ChatGPT (OpenAI, 2025).

Additional Resources

- In the Room Where It Happens: Generative AI Policy Creation in Higher Education, by Esther Brandon Kotecha, Lance Eaton, Dana Gavin, and Allison Papini
- Artificial Intelligence and Academic Professions, by American Association of University Professors (AAUP) Committee on Artificial Intelligence and Academic Professions
- Guiding Principles for Artificial Intelligence in History Education, by American Historical Association (AHA)
- Statement on Educational Technologies and AI Agents, by Modern Language Association (MLA)
- Doing AI Differently: Rethinking the Foundations of AI via the Humanities, by the Alan Turing Institute

Addressing Generative AI in Existing Institutional Policies

As institutions consider how to address the use of AI, it is worthwhile to examine existing policies which may be applied to AI use. These policies were not originally developed with AI in mind; in fact, most were developed many years prior to the introduction of generative AI. For instance, many institutions have policies on academic dishonesty and academic computing, which pre-date the use of generative AI in higher education. Many of these policies can be directly applied to AI use; some institutions have updated these policies to address acceptable use of AI. As campuses think about developing universal AI guidelines or policies, it can be helpful to identify campus policies that already address (or can be used to address) generative AI use. These existing institution-wide policies provide a foundation for consistent standards, ethical considerations, and risk management. In many cases, these policies are accompanied by professional development and training. The examination of these policies may help institutions identify concerns which can be alleviated using existing guidelines and determine whether additional AI-specific guidelines or policies are needed. Examples of existing campus policies are included below. See Section VII for more examples.

A. Academic Integrity

Many institutions have updated their academic integrity policies to account for the potential use of generative AI tools for unauthorized purposes.

University at Buffalo

The Office of Academic Integrity at the University at Buffalo has provided Artificial Intelligence Guidance, which is a campus-wide policy to allow instructors to determine their policy on artificial intelligence use. This policy provides flexibility but risks creating inconsistencies in AI usage across campus:

> UB has no universal policy about student use of artificial intelligence. Instructors have the academic freedom to determine what tools students can and cannot use in pursuit of meeting course learning objectives. This includes artificial intelligence tools such as ChatGPT. (University at Buffalo)

SUNY Canton

SUNY Canton revised its existing Academic Integrity Policy to include generative artificial intelligence as part of the definitions of academic dishonesty:

> The State University of New York at Canton is dedicated to holding its academic community to the highest standards of academic integrity. We believe that in order for students to have successful careers in their chosen fields, they must master their own course work and not imitate or copy human or computer-generated content and claim it as their own. Academic integrity is essential to the success of

> the College's educational mission, and violations of this policy are considered a serious matter. (SUNY Canton)

SUNY Cortland

SUNY Cortland offers faculty and students Generative AI Resources, including recommendations and ways to get started. However, the Academic Integrity Policy in the 2024 SUNY Cortland Handbook lists the use of Generative AI under "other infractions" (vs. plagiarism).

> Obtaining a paper or assignment from an online source, paper mill, another student, Generative AI, or other source and submitting it, wholly or in part, as one's own work. (SUNY Cortland)

B. Campus Computing Policy

Many institutions have acceptable use computing policies, but these may need to be revised to specifically address AI usage. Academic integrity policies may address some issues, but an acceptable use policy may list prohibited uses of AI outside the classroom, such as Governor Hochul's ban on DeepSeek (New York State).

Boise State University

Boise State University provides a list of existing campus policies which inform AI use. This list includes the Information Technology Use Policy, which states:

> Boise State University IT Resources are provided to support the university's academic, research, and service missions; its business and administrative functions; and its student and campus life activities. Use of University IT Resources must comply with state and federal laws and regulations, executive orders, and policies of the Idaho Technology Authority (ITA), the Idaho State Board of Education, and University policies. (Boise State University)

Alfred University

Alfred University's Responsible Use of Computing Resources Policy describes activities which are permitted and prohibited using the university's computing resources (computers, network, provided software, etc.). It opens with the following statement:

> The computers and networks at Alfred University support our educational mission and promote communication among members of the AU community. Appropriate technology use can enhance your experience at AU. Unlawful or inappropriate use may result in the loss of privileges. The guiding principle for the use of computing resources at Alfred is respect for the rights of others. (Alfred University)

While the policy does not specifically mention AI, it goes on to describe the nature of prohibited activities (harassment, or illegal behavior, for example). This behavior is never permitted, regardless of the specific technology tool or program used.

C. Data Privacy and FERPA Requirements

Many AI tools may technically comply with policies but are often not responsible for users' unauthorized use of AI. Without proper training and awareness, a user can unintentionally compromise FERPA-protected data. The complexity of data privacy is growing exponentially, as it is unclear how to make data unidentifiable when AI tools can make connections from multiple data sources. AI tools may still be able to identify students from data indirectly related to students. State-level guidelines are available but have not been adopted by SUNY (see Resources for this section).

In 2023, the U.S. Department of Education released Artificial Intelligence and the Future of Teaching and Learning: Insights and Recommendations. The report stresses the importance of protecting student data, as many of the AI tools being used in education were not developed for that purpose.

A central safety argument in the Department's policies is the need for data privacy and security in the systems used by teachers, students, and others in educational institutions. The development and deployment of AI requires access to detailed data. This data goes beyond conventional student records (roster and gradebook information) to detailed information about what students do as they learn with technology and what teachers do as they use technology to teach. AI's dependence on data requires renewed and strengthened attention to data privacy, security, and governance (as also indicated in the Blueprint). As AI models are not generally developed in consideration of educational usage or student privacy, the educational application of these models may not be aligned with the educational institution's efforts to comply with federal student privacy laws, such as FERPA, or state privacy laws. (U.S. Department of Education, 2023, p. 8)

Additional Resources

- Cybersecurity Risks Arising from Artificial Intelligence and Strategies to Combat Related Risks, New York State Department of Financial Services
- Generative AI @ UW-Madison: Use & Policies, University of Wisconsin-Madison
- Academic Honesty and Integrity Policy, Rockland Community College
- Winter 2025 Webinar: National Shared Governance Response to AI, National Council of Faculty Senates

Determining What Educational Information Policies and Guidelines Should Include

Many of the policies and guidelines that we encountered contained information aimed at educating the campus population on topics related to AI use. This includes but is not limited to a glossary of AI terms, ethical use guidelines and considerations, copyright, data privacy information, and training resources. Further explanations and examples are included below.

A. Definitions and Glossary of Terms

It may be helpful to establish a common language and clearly define essential AI-related terms and concepts from reputable sources. Two examples of glossaries are the NYS Office of Information Technology Services Glossary (NYS Office of Information Technology Services, 2025) and The Language of Trustworthy AI: An In-Depth Glossary of Terms from the National Institute of Standards and Technology (Atherton et al., 2023). In addition to the resources above, many examples of key terms such as algorithm, artificial intelligence, and machine learning, are included in the appendices of the first and second editions of the *SUNY FACT2 Guide to Optimizing AI in Higher Education*.

B. Ethical and Responsible Use Guidelines

Many institutions share information regarding responsible use of AI and data concerns. This information may be included in a computing/ acceptable use policy, or it may be provided on its own. For example, Arizona State University has created a set of Digital Trust Guidelines for the use of AI in and out of the classroom. This set of guidelines covers information related to awareness of what information is being submitted to an AI tool, the ownership of the data, the nature of the usage, and whether the tool vendor provides policies on privacy, ethics, accessibility, etc.

Arizona State University is committed to the practice of Principled Innovation, embracing innovation with curiosity and wisdom. Exploration of AI tools is vital to keeping up with the rapidly evolving generative AI landscape. It is important to explore and respect university policy responsibly, protect your own privacy and the privacy of others, and keep in mind important intellectual property considerations. Navigating all of this can be challenging. The purpose of the Digital Trust Guidelines is to foster confident, responsible exploration.

These guidelines have been reviewed and accepted by Enterprise Technology, Office of General Council, and the University Provost. (Arizona State University)

Each campus should consider whether it would be helpful to clearly articulate roles, responsibilities, and ethical considerations tailored to each stakeholder group. A comprehensive section on ethical considerations is included in the first and second editions of the *SUNY FACT2 Guide to Optimizing AI in Higher Education*. Below are some examples of potential guidelines for specific campus populations.

Administrators and Staff

Guidance for administrators and staff should include AI ethics in administrative processes (e.g., admissions, evaluations, hiring), accountability and transparency guidelines, and recommended training and resources.

Faculty and Instructors

Guidance for faculty and instructors should address integrating AI into teaching and research. Teaching-specific guidelines should emphasize maintaining academic integrity in coursework and assessments while avoiding rashly punitive measures, such as judging students' work based on solely AI detectors that are not not reliable (Weber-Wulff et al., 2023; Pratama, 2025), that are prone to false positives (Giray, 2024), or that have been trained in ways that incorporate bias against certain groups of people (Liang et al., 2023; Pratama, 2025). Teaching guidance should also include recommended methods for disclosure of AI use in course syllabi.

Students

Guidance for students should include ethical guidelines on using AI for coursework, requirements on disclosure and attribution when using generative AI, information explaining that each course may have different policies in terms of generative AI use, and resources to improve data and AI literacies.

C. Information on Copyright Law (Related to AI-Generated Images and Content)

Below is an overview of information, including a recent court case regarding copyright and examples of protectable human contributions in creating content with AI, that campuses may find helpful to inform their AI use guidelines. The copyright landscape around AI is evolving rapidly as it is informed by case law. The information below was gathered in April 2025 by subcommittee member Jack Harris, with the assistance of ChatGPT (OpenAI, 2025).

Human Authorship Requirement

As of September 2025, only human-created content is eligible for copyright protection. Fully AI-generated material, where a machine determines all expressive elements, is not copyrightable. However, human contributions—such as selecting, arranging, modifying, or integrating AI outputs—may qualify for protection (U.S. Copyright Office, 2025).

In a March 2025 ruling, the U.S. Court of Appeals for the DC Circuit upheld the Copyright Office's denial of copyright for a full AI-generated work. This ruling reinforces the principle that copyrightable works must involve human authorship (Orru, 2025).

Examples of Protectable Human Contribution

1. *Zarya of the Dawn*
   Zarya of the Dawn is a short comic book written by Kris Kashtanova and illustrated entirely with the artificial intelligence Midjourney. When a copyright dispute arose in 2022, the US Copyright Office ultimately determined that the written text and arrangement of AI-generated images received copyright protection. However, the AI-generated illustrations themselves were not granted copyright protection ("Zarya of the Dawn," 2025).
2. AI-Assisted Image Collage
   In this hypothetical precedent, a composite image with significant manual selection and editing would be protected by copyright. However, the raw AI-generated AI image components would not be protected ("Zarya of the Dawn," 2025).
3. AI-Aided Writing
   When humans use AI in writing, only the human-edited and structured versions of AI-generated drafts can be copyrighted. Unedited AI-generated content is not protected by copyright (U.S. Copyright Office, 2025).

Determining Copyright Protection

An applicant for copyright protection must disclose the use of AI and document human contributions. The U.S. Copyright Office reviews applications on a case-by-base basis and may grant partial registration, as seen in the examples above. The Federal Courts rule on disputes, determining the validity and originality of human contributions (Gewirtz, 2025).

Unresolved Copyright Questions

Laws and policies continue to develop, and some issues remain unresolved. These include questions of the legality of using copyrighted works to train AI and defining authorship in human-AI collaboration (Gewirtz, 2025). The legal landscape will undoubtedly continue to evolve as use of AI grows and additional forms of human-AI collaboration emerge.

D. Data Privacy and Security Education

Each AI tool has its own data privacy and security policy. It is best to assume that unless stated otherwise, any data and interactions with AI tools might be reviewed by humans and can be used to train and further improve their models. It is the responsibility of institutions and individuals to ensure that use of AI tools does not violate legal and ethical considerations, including FERPA compliance.

Some AI tools provide different terms of service for enterprise-level products vs. consumer-level products. For example, enterprise-level products offered by ChatGPT (OpenAI, 2024) and Gemini (Google, 2025) include security and privacy policies ensuring that users' data and interactions with these AI tools are not shared outside of participating institutions or used to train the company's models. However, it is critical to understand that this enterprise-grade security and privacy policy is *only* applicable with an institutional level agreement between an institution and the AI tool vendors. It is not applicable if individuals at your institution use these AI tools without this specific arrangement, even if they are signing up for these services by using their institutional accounts.

It would be advantageous for policies to include recommendations for secure handling and storage of data, especially sensitive or student-generated data. It would also be helpful to provide guidelines on what types of data can and cannot be processed using AI tools.

E. Training and Educational Resources

It is important to direct stakeholders to resources for help, clarification, or additional information as part of an AI policy or guidelines. For example, many AI policies/guidelines include recommendations for both internal and external training, workshops, or modules from reputable organizations. They may also include resources or repositories for continuous learning on responsible AI use, or alternatives to using AI, updated on a regular basis.

Additional Resources

- Welcome To The Generative AI Short Course by NLM/NIH (Network of the National Library of Medicine, 2025)
- Google AI Essentials (Coursera, 2025)
- Microsoft's Introduction to generative AI for trainers (Microsoft, 2025)
- Belgian AI scientists resist the use of AI in academia (Walraven, 2025)
- Against AI, by Anna Kornbluh, Eric Hayot, and Krista Muratore (2025)
- Higher Ed's Rush To Adopt AI Is About So Much More Than AI | Defector, by Justin Raden (2025)

Addressing Non-Generative AI Tools Used On Campus

While a great deal of attention is being paid to generative AI, it is also important to consider how non-generative AI is being used on campus, and how to address it in a campus AI policy or guidelines. AI is embedded in many higher education products, such as learning management systems, and systems used for admissions, student alerts, and human resources. It is important to ensure data privacy, transparency in processes, and appropriate oversight and accountability. Institutional policies on data classification, retention, storage, and distribution should be followed while using or incorporating these technologies into campus operations. Institutions should ensure compliance with relevant privacy legislation (FERPA, GDPR, HIPPA).

Below are some examples of Higher Education tools that use AI and potential policy considerations.

Predictive Analytics

Early warning systems that analyze students' data to predict retention or dropout risks use predictive analytics. These include platforms like Civitas Learning and EAB Navigate. These can be powerful tools in supporting student success and retention, but there are important considerations for addressing them in AI policies and guidance.

Ethical Use and Intervention

AI policies and guidance should support ethical use of these tools. For example, policies and guidelines should recommend that predictions inform supportive interventions rather than punitive measures. They should also establish limitations and safeguards to prevent misuse or overreliance on predictive scores of classification. Finally, they should call for training for faculty and staff on how to interpret and ethically act on predictive analytics data (Wargo & Anderson, 2024; Ekowo & Palmer, 2017).

Equity and Bias Mitigation

Predictive analytics can produce biased results. For this reason, it is important that AI policies and guidelines call for regular audits of predictive models to identify and mitigate potential biases that disproportionately impact certain groups of students. Moreover, they should recommend the implementation of review processes to ensure that predictive interventions support equitable outcomes for historically underrepresented or marginalized students (Lee, Resnick, & Barton, 2019; AI Now Institute, 2018).

Student Engagement

Students are directly affected by the use of predictive analytics, and it is important that AI policies and guidelines recognize and address these effects. Policies and guidelines should call for involving students

in discussions about predictive analytics, allowing feedback and incorporating their insights into policy improvements. They should also recommend strategies to ensure that students have the option to understand, challenge, or request a review of predictive outcomes of recommended interventions (Ekowo & Palmer, 2016; Ekowo & Palmer, 2017; Piepgras & Gandara, 2024).

AI-Powered Admissions and Enrollment Management

Many admissions and enrollment tools use AI-powered algorithms for admissions screening, ranking, or recruitment targeting. These tools include enrollment forecasting software like Slate or Salesforce Education Cloud. These can be powerful tools for recruiting students, but there are important considerations for addressing them in AI policies and guidance.

Ensuring Fairness and Avoiding Bias

AI policies and guidelines should address potential biases in AI-based admissions and enrollment tools. First and foremost, AI policies and guidelines should clearly state the institution's commitment to diversity, equity, and inclusion, ensuring that algorithms reinforce these values. They should also call for regular audits of algorithms for biases that may disadvantage applicants based on race, gender, socioeconomic background, or other demographic factors. Finally, policies should establish clear criteria for evaluating fairness and explicitly outline actions to rectify identified biases (Ekowo & Palmer, 2016; Piepgras & Gandara, 2024).

Human Oversight to Prevent Unintended Discrimination

Biased algorithms, left unchecked by human judgment and intervention, can lead to unfair discrimination. Carefully-designed AI policies and guidance can help mitigate these outcomes by including several elements. First, they should outline practices to ensure that AI recommendations supplement human judgment, clearly defining when human review is mandatory. Second, they should call for documenting the decision-making process, particularly in cases where human decision-makers override AI-driven outcomes. Third, they should assign responsibility for overseeing admissions AI tools to clearly identified individuals or committees. Fourth, they should clearly define applicants' rights concerning AI-influenced admissions decisions. Finally, they should establish accessible processes for applicants to request explanations, appeal AI-influenced decisions, or correct erroneous data.

Automated Grading and Assessment

Many AI-powered tools can be used by instructors to streamline assessment and grading. These range from platforms like Gradescope or Turnitin's similarity detection tools to automated scoring for standardized tests or homework problems. These can be powerful tools to help instructors manage their workload, but AI policies and guidance should ensure that there are mechanisms in place for students to appeal AI-driven grading decisions. This includes developing a formal, accessible mechanism that allows students to appeal grades assigned or influenced by automated systems. Policies and guidance should outline clear procedures for manual re-

evaluation and human review upon student request, including timelines and responsible contacts (Wargo & Anderson, 2024; Strunk & Wilis, 2025).

AI-Driven Academic Advising and Career Guidance

AI-driven tools can be used to advise and guide students by suggesting courses or majors based on student interest and academic performance. These include tools like Stellic and Degree Compass. While students can benefit from the support these tools provide, there are important considerations for addressing them in AI policies and guidance. First, policies and guidance should call for clear boundaries between AI guidance and human advising. They should make provisions for oversight to avoid reinforcing existing stereotypes and biases. Finally, they should provide clear and specific recommendations for securing student data and ensuring student confidentiality.

Facial Recognition and Biometric Monitoring

A variety of AI-driven tools have entered the marketplace that use biometrics to identify and monitor students. These include attendance tracking tools that use facial recognition and remote proctoring services like ProctorU, Examity, and Respondus. Instructors and administrators may see value in these tools for protecting academic integrity, but there are important considerations for addressing them in AI policies and guidance. First, policies and guidance should call for procedures for ensuring privacy, informed consent, and data storage security. They should address issues around bias and accuracy, particularly for underrepresented groups. Finally, they should address ethical considerations of surveillance and student rights.

Campus Security and Surveillance Systems

Many security and surveillance systems use AI. These systems may include campus security cameras that detect anomalies or suspicious behavior or automated access control systems with facial or biometric recognition. These tools may improve security on campus, but there are important considerations for addressing them in AI policies and guidance. First, policies and guidance should address the ethical implications of these systems and call for protecting the privacy rights of students and staff. Second, they should call for transparency regarding the scope and usage of surveillance data. Finally, they should ensure provisions for data storage, access rights, and retention.

Smart Campus Infrastructure

AI is part of many infrastructure systems on campuses. Smart campus infrastructure includes energy management systems that use AI, including building automation systems (HVAC, lighting, and occupancy monitoring) used to optimize energy consumption. These tools can support efficiency on campus, but there are important considerations for addressing them in AI policies and guidance. These considerations include data privacy concerning location tracking or behavior profiling and clear standards for responsible data collection and use. Policies and guidelines should also address sustainability and environmental impacts.

Research Analytics and Impact Evaluation

AI-powered tools that make use of research analytics can be used to help faculty understand and document the impact of their work by evaluating research productivity, citations impacts, and performance metrics. Examples of these tools include Elsevier Pure and Clarivate Web of Science analytics. While use of these tools can support faculty in assessing their work, there are important considerations for addressing them in AI policies and guidance. First, AI policies and guidance should call for transparency and fairness in evaluation metrics. Second, they should make clear that promotions or tenure decisions will not disproportionately rely on algorithmic judgments. Finally, they should recommend safeguards against bias and unintended negative impacts.

Chatbot and Virtual Assistants (Non-generative)

Chatbots and virtual assistants are widely used on campuses, including customer service-style AI tools that answer student questions about administrative processes, scheduling or support services. Examples of these tools are AdmitHub and Ivy.ai. While these tools can support students' success by helping them navigate campus resources, there are important considerations for addressing them in AI policies and guidance. First, policies and guidance should distinguish between types of student interactions that are appropriate for AI and those that they should have with humans. Second, they should establish standards for accuracy, accountability, and clarity in automated responses. Finally, they should call for procedures to ensure data protection and privacy around sensitive student inquiries.

Examples of Institutional Policies/ Guidelines that Address AI Use

The second edition of *Optimizing AI in Higher Education* provides a sampling of several institutions' guidance on syllabus statements and AI use as it relates to academic dishonesty policies, beginning on page 30. While many of these institutions provide helpful guidance for course-level policies, many do not have AI-specific university-wide policies which do not directly conflate the use of Generative AI with academic dishonesty (Aaron et al., 2024).

Some institutions do not have an overarching AI policy, in order to grant faculty members the academic freedom to determine which tools are appropriate for students to use as they seek to meet learning objectives. Mentioned earlier in this guide, University at Buffalo is an example of one institution that provides guidance for faculty but does not have an institution wide-policy (University at Buffalo).

During its Winter 2025 Webinar, the National Council of Faculty Senates invited institutions from SUNY and across the country to share their AI policies and the procedures they implemented in order to develop those policies. Many of the participating institutions require faculty to share an AI statement in their syllabi, and share information and guidelines related to AI. However, they do not have institution-wide policies that specifically police AI usage (National Council of Faculty Senates).

Empire State University

Empire State University is one institution that provides an informational AI Toolkit but does not currently have a university-wide policy:

> Empire State University has not yet adopted university-wide AI policies. Therefore, AI policies and practices will vary between professors, courses, projects, and class assignments. Some faculty members may encourage or require the use of AI in an assignment. Others will prohibit it. Those decisions are based on the learning goals for the course and are at the heart of Academic Freedom and professional judgment. Be sure to communicate your expectations for each course so your students understand what is expected. (Empire State University)

Empire State University is in the process of developing and proposing an updated university-wide Technology Acceptable Use Policy which includes more restrictive guidelines for AI use.

Boise State University

Boise State University has a policy for AI use, and they require individuals to use only AI tools that have been approved by the University. They also reference a list of existing institutional policies that can be applied to AI use (referenced earlier in this guide). Data security is a top priority:

> Boise State University has a number of policies that safeguard institutional data, which university faculty, staff, students, and affiliates must follow. Those using generative AI in their work should consider what data they are using and whether or not such data usage is prohibited by university policy or otherwise generally cautioned against.

Boise State University supports the responsible use of AI tools and has approved the education editions of the following: Zoom AI Companion, Google Gemini (Education edition only), Gemini for Google Workspace, and OpenAI ChatGPT (Education edition only). These tools have been vetted to meet the University's standards for security, privacy, compliance, and legal requirements. If you wish to use other AI tools, they must first be submitted for review through the appropriate University processes, including Procurement, SARB, and legal review, and receive approval in accordance with those procedures. To ensure the safety and integrity of University data and systems, please avoid using unapproved AI tools on the University's network, devices, or with your Boise State credentials (your Boise State username and password).

Even if your use is authorized, you should not enter personally identifiable information, confidential, sensitive, private, or restricted data into any generative AI tool or service. (Boise State University)

Southern Utah University

Many institutions have provided a set of guidelines for AI use, rather than a strict policy. Southern Utah University has created a set of principles that guide the institution's use of Artificial Intelligence. SUU has committed to infusing its operations with the use of AI.

With a forward-thinking approach, Southern Utah University has consciously chosen to incorporate generative AI into its operations, guided by the following principles that encourage its responsible and ethical use. These principles reflect the University's commitment not only to advance technologically but also to enrich SUU's academic community, balancing progress with purpose.

1. Responsible AI Development: The responsible design, development, and usage of generative AI are essential for its ethical applications and societal benefits.
2. Human-Centered AI: AI should enhance human learning and creativity. AI should be primarily assistive and include human interaction.
3. Academic Freedom: SUU recognizes that these principles should not be interpreted to diminish academic freedom.
4. Accountability: Humans must be held accountable for their decisions and actions, even when assisted by AI.
5. Purpose-Driven Learning: AI literacy and education should recognize the value of human knowledge, experience, emotion, and imagination, as well as foster fulfilling career paths and opportunities for students, faculty, and staff.
6. Interdisciplinary Collaboration: Responsible AI development and implementation requires diverse expertise from fields such as ethics, law, social sciences, arts, sciences, and humanities.
7. Equitable Access: Generative AI tools in higher education should be accessible and inclusive. This commitment to equitable access also includes ensuring that AI technologies are developed and implemented with consideration for diverse perspectives and experiences.
8. Ethical Usage and Disclosure: Appropriate disclosure of AI-assisted work is essential to ethical usage. AI usage should align with the University's applicable policies. Users of AI must be aware of their individual level of authorization to disclose information.

9. Legal and Privacy: AI usage will adhere to data privacy and other applicable laws. Users of AI must be aware of the privacy risks.

10. Continuous Assessment: A flexible and evolving response to the rapid advancements in AI technology will ensure SUU keeps pace with advancements in generative AI and that our policies remain effective and relevant. This continuous assessment includes conducting evidence-based, ongoing assessment of AI usage in higher education, evaluating its positive and negative impacts on learning outcomes. (Southern Utah University)

Stanford University

Stanford University's Office of Community Standards has shared Generative AI Policy Guidance. This guidance states that unless instructors specify otherwise, using generative AI is like receiving help from others. Students may use AI for support but cannot use it to complete most assignments or exams. Additionally, they must acknowledge AI use. Instructors can set their policies in their syllabi. This example keeps the flexibility of allowing instructors to set their policies but has a default policy in place when there is no instructor guidance.

> Absent a clear statement from a course instructor, use of or consultation with generative AI shall be treated analogously to assistance from another person. In particular, using generative AI tools to substantially complete an assignment or exam (e.g. by entering exam or assignment questions) is not permitted. Students should acknowledge the use of generative AI (other than incidental use) and default to disclosing such assistance when in doubt.
>
> Individual course instructors are free to set their own policies regulating the use of generative AI tools in their courses, including allowing or disallowing some or all uses of such tools. Course instructors should set such policies in their course syllabi and clearly communicate such policies to students. Students who are unsure of policies regarding generative AI tools are encouraged to ask their instructors for clarification. (Stanford University)

Arizona State University

Similar to the institutions referenced above, Arizona State University encourages faculty to determine whether AI use is permitted or prohibited in their courses and to state this in their syllabi. This statement takes a different approach to providing faculty/staff support through resources, professional development, and guidance.

> ASU's approach to artificial intelligence is rooted in Principled Innovation, empowering you to use AI thoughtfully and responsibly.
>
> We're committed to providing the tools and support you need to harness AI's potential while prioritizing ethical and inclusive practices in your teaching.
>
> AI can enhance your teaching and enrich the student experience. This website shares knowledge and resources to help you bring AI into your classroom with confidence and purpose. Here, you'll find best practices, case studies, and workshops on incorporating AI tools in ways that foster academic integrity, engagement, and inclusivity. (Arizona State University)
>
> While each of the institutions referenced above approach Generative AI a bit differently, there are themes that many of them have in common, such as academic freedom and the requirement of AI syllabus statements. These and other themes will be discussed further in the next section.

Common Themes

As this subcommittee examined dozens of institutional policies and guidelines on the use of generative AI, we noticed several common themes. Overwhelmingly, institutions value academic freedom and allow faculty to determine the role that AI will play in their courses. For this reason, many institutions chose not to provide a university-wide policy governing how AI may or may not be used. Rather, these institutions provide a set of guidelines for use; many require faculty to include a syllabus statement which clearly communicates generative AI permissions and expectations within each course. This demonstrates an acknowledgement of generative AI and its potential for teaching and learning.

It is common for institutions to reference existing institutional policies which may impact or be impacted by AI use. Increasingly, institutions explicitly address AI in their academic integrity policies. Despite this, many institutions have declined to adopt AI detection software in favor of clear course-level policies and education. Many AI detection tools, such as Turnitin, include disclaimers due to a high level of inaccuracy. Many of the policies we encountered included an instructive element including a glossary of AI-related terms, a list of suggested guidelines, and data security considerations. Training is frequently available for faculty so they may learn how to successfully incorporate AI into their teaching practices.

Additional Resources

- Artificial Intelligence (AI) Policies, Guidelines & Resources, St. John's University
- Generative AI Guidelines for MSU, Mississippi State University

Summary of Recommendations

This subcommittee makes the following recommendations for institutions interested in developing AI policies or guidelines, keeping in mind that not all suggestions in this chapter will be appropriate for all institutions.

- Develop policies and guidelines with the engagement and input of a variety of campus stakeholders, including faculty, staff, students, and administrators.
- Recognize that there is not a one-size-fits-all solution; policies/guidance may be needed at different levels (institution, school, college, division, department, course) and for different disciplines.
- Consider existing policies that address or can be modified to address AI use.
- Examine how AI is used in existing systems across the institution (not necessarily for teaching and learning) and its repercussions on data security.
- Address procedures for obtaining permission before others' content is used in prompts or training data.
- Provide or procure educational opportunities for campus community members to learn how AI works, as well as its strengths and weaknesses; encourage faculty to align potential AI use with learning goals.
- Avoid AI detection tools and de-prioritize detection of cheating; instead, focus on how students are learning in this landscape (Trice, 2025).
- Consider mechanisms or processes for the institution to support faculty as they use AI and as it is used in their classes (e.g., processes for addressing academic integrity).
- Ensure that policies or guidelines are flexible/adaptable to account for the rapidly evolving AI environment.
- Ensure that any policies or guidelines are easily discoverable and accessible to the institution's community members; it is important to have transparency throughout the process.
- Provide transparency in communicating how AI is used on campus, as well as during the policy development process. It is helpful for campus constituents to be aware of AI and its role at the institution and to have the opportunity to offer constructive feedback.

Conclusion

If your institution is interested in creating an Artificial Intelligence use policy, the individuals involved must recognize that any newly-developed policy should be a living document. The process for creating and updating the policy needs to be ongoing as available tools and best practices evolve. The world is an ever-changing place, and the AI landscape is rapidly evolving, as it has been since the fall of 2022 when ChatGPT first gained a presence on college campuses. If your institution has not yet developed a policy, engaging with this document is a great first step. Creating an AI policy requires a great deal of commitment, but the faculty, students, and campus operations will ultimately benefit from the creation of consistent, supportive messaging.

PART II

EVALUATING AI TOOLS: FRAMEWORK AND ILLUSTRATION

Introduction to Evaluating AI Tools

As AI increasingly impacts higher education, we must develop deliberate, context-aware strategies for evaluating AI tools and their uses. This chapter shows that engaging with AI responsibly and effectively requires a balance of knowledge, skills, and ethical responsibility on the part of educators who need informed guidance for evaluating AI tools and tool uses. To understand this need for understanding not just the affordances of AI tools but also how the user is using them, we could imagine a see-saw where the user and the AI tool are on two sides: if the user lacks the knowledge of the subject to judge AI content, the skill to do the task with or without the tool, or a sound ethical commitment against undue reliance on automation, then the balance tips—leaving the user suspended while the machine slumps to the ground.

The processing power of AI is enormous, but that power does not justify offloading human responsibility, concern for each other and society, or the need to achieve the goals of teaching/learning and knowledge-making just to "get the job done." Whether one is conducting research, designing assignments, evaluating learning outcomes, or integrating tools into the curriculum, using AI effectively means asking paired questions about human and machine capabilities: Do I understand the topic well enough to evaluate the AI's contribution, and does the tool have adequate information needed to perform the task well? Am I able to use the tool proficiently, and is the tool capable of doing what I'm trying to do with it? Am I ethically grounded in how and why I'm using AI, and is the tool itself designed/behaving in ways that help me to be transparent, accountable, and just? When the focus shifts from benefiting oneself to potentially adversely impacting students, over whom institutions and instructors have power, the issues of professional ethics become significantly more important. In addressing these issues, we move away from either fear or blind enthusiasm and toward a more critical and practical approach.

Our goal in this chapter is to help educators take a systematic approach to evaluating AI tools and their use within the unique contexts of their disciplines, their teaching/learning and other purposes, and the boundaries of knowledge/skills/ethics that their contexts and purposes demand. The chapter is organized into five major sections and a conclusion.

- Section I outlines the evaluation framework, offering strategies and reflective prompts for selecting and assessing tools in teaching and learning contexts.
- Section II presents a series of case studies that apply the instrument to real-world evaluations, including tools used in teaching, research, and student-centered activities.
- Section III turns attention to accessibility, representation, and alignment with DEI principles—issues that remain under-addressed in many AI platforms.
- Section IV focuses on student input, emphasizing the importance of gathering feedback, capturing lived experiences, and preparing students to use AI with agency and critical awareness.
- Section V discusses challenges with AI detection tools.
- The conclusion offers reflections on iterative evaluation practices as both a pedagogical and institutional imperative.

Across these sections, we encourage readers to adopt a critical lens as they test our evaluative framework and develop their own reflective practices—not only to determine which AI tools to use or avoid and when or why, but also to build a culture of inquiry and responsibility around AI's role in higher education.

A Framework for AI Technology Evaluation

The evaluation of artificial intelligence tools for educational purposes requires a structured, multidimensional approach that acknowledges both the technological capabilities and pedagogical applications of these emerging technologies. Our subcommittee on AI Tools for Teaching and Learning developed a comprehensive evaluation framework to assess diverse AI tools and uses, ranging from general-purpose conversational models to specialized educational applications. This framework was designed to provide consistent assessment criteria while remaining flexible enough to accommodate the varying architectures and functionalities of different AI systems. The following overview describes our evaluation process, the instrument's key dimensions, and preliminary insights from our small but diverse sample of eight tool evaluations.

To support the situated evaluation process, this section introduces an AI Tool Evaluation Rubric for Teaching and Learning, developed by a subcommittee. The rubric is designed to guide systematic and comparative evaluation of AI tools across seven dimensions, considering diverse contexts and purposes: (1) functionality and pedagogical usefulness, (2) accessibility and inclusivity, (3) ease of use and faculty adoption, (4) ethical considerations and data privacy, (5) cost and sustainability, (6) AI transparency and explainability, and (7) institutional support and integration. Each category includes both guiding questions and a 5-point scale, alongside opportunities for narrative feedback.

Evaluators used the rubric to score tools individually, and then combined the findings to inform shared recommendations. This approach recognizes that AI tools vary significantly in their design, with some offering direct conversational interfaces while others function as specialized applications with embedded AI capabilities. The instrument therefore provides parallel assessment pathways tailored to each tool type. Several illustrative cases are shared to demonstrate its application.

Subcommittee volunteers representing diverse academic disciplines, including education, computer science, arts and humanities, and social sciences, evaluated eight distinct AI tools using the rubric: Brisk, Claude, ChatGPT, Co-Pilot, Gamma, Gemini, Magic School, and NotebookLM. This small but intentionally diverse sample allowed us to explore variations across tool types and potential applications. Evaluations were conducted independently, with evaluators documenting their findings through the survey instrument and in summary reports that included external references to support their assessments. These concise summaries captured key insights about each tool's effectiveness for teaching and learning while acknowledging the rapidly evolving nature of these technologies.

General Findings

The evaluation results revealed both common patterns and tool-specific insights across our sample. Regarding potential pedagogical usefulness, most tools received ratings of "strong educational value" (4/5) or higher, with evaluators noting their potential for enhancing specific teaching and learning activities. However, these positive ratings were often qualified with important caveats about use-case dependency and the need for faculty guidance; without adequate, contextual, and practice-supported guidance, the tools' educational potentials would not be realized, instead potentially creating increasing dependency and harm to learning.

- Ease of use was generally favorable across tools, though NotebookLM was noted to have a steeper learning curve compared to more intuitive interfaces such as Claude, ChatGPT, Deepseek, and Gemini.
- Accessibility and inclusivity ratings showed greater variation, indicating caution that faculty and

institutions need while adopting AI tools—especially in light of the new federal ADA updates and the many concerns of bias, exclusion, and prejudices that research and discourse about AI have revealed in the past few years.

- Ethical considerations and data privacy emerged as the most critical dimensions requiring careful attention. Several evaluators expressed concerns about data handling practices, particularly for tools that process user-generated content.
- Cost and sustainability assessments varied widely, with some tools offering free access with institutional licenses while others required subscription models that might present barriers to widespread adoption.
- AI transparency and explainability—the ability to understand how tools generate their outputs—remains an evolving challenge across most platforms, although new approaches are emerging that enable clearer reasoning explanations and step-by-step problem-solving capabilities.

While these preliminary findings offer valuable insights, they are meant as illustrations for how faculty and administrators might go about making their own evaluations and judgments rather than ready-made guidelines or decisions for all contexts and purposes. The illustrations should further be viewed as exploratory rather than definitive due to the limited sample size and the rapidly evolving nature of AI technologies. Individual evaluations reflect specific use cases and disciplinary perspectives of the evaluators that may not be generalizable across all educational contexts. Nevertheless, this structured evaluation process provides a foundation for more informed decision-making about AI implementation in teaching and learning environments. The framework itself provides a model that others may adapt and extend as they assess AI tools for their own educational contexts.

Developing an Evaluation Framework

Below are the key approaches we took in our own collaborative development of the AI tool and use evaluation framework. Our evaluation framework is situated at the institutional level, as well as instructional, and its real value lies in adapting it to different contexts.

1. **Research and Identify AI Tools**: Conduct thorough research to identify various AI tools that are likely to offer educational benefits for faculty and students. Look for tools with good reviews, documentation, user feedback, and proven track records in education.
2. **Assess Features and Functionality**: Review the features and functionalities of each AI tool. Ensure that they align with your specific learning objective(s) and enhance the learning experience.
3. **User Interface and Experience**: Test the user interface of the AI tool to ensure it is intuitive and user-friendly. A complicated interface can hinder student engagement and learning, as well as faculty adaptation and use.
4. **Data Privacy and Security**: Evaluate the AI tool's data privacy and security measures. Ensure that student data is protected and that the tool complies with relevant privacy regulations. 1EdTech's TrustEd Apps™ Generative AI Data Rubric (Data Privacy section) is a self-assessment tool for suppliers that is still in the early stages of being developed but may be useful in helping to identify the questions that need to be asked.
    1. **Data Collection, Storage, and Use**: Determine what data the AI tool collects from students and how it is stored. Ensure that personally identifiable information (PII) and sensitive data are handled securely and that data retention policies comply with relevant regulations. Determine if the data collected is used to train the tool and the potential impacts this may have on teaching or learning in terms of privacy or intellectual property rights. Students should be able to refuse to use tools if they believe their personal information is not protected.
    2. **Vendor Policies and Agreements**: Carefully review the privacy policy and terms of service of the AI tool provider to understand how they handle student data and what responsibilities they hold. Students should be able to see this and the rest of the issues on their end as well.
    3. **Data Sharing**: Check if the AI tool shares student data with third parties or if it aggregates data across institutions. Be cautious about tools that may share data without explicit consent or for purposes beyond the scope of the educational context.
    4. **Data Anonymization and De-identification**: Verify if the AI tool anonymizes or de-identifies student data to protect their privacy. This is essential to prevent data breaches and unauthorized access.
    5. **Access Controls**: Check the access controls and permissions for the AI tool. Instructors should only have access to the data necessary for teaching, while students should have appropriate control over their personal information.
    6. **GDPR and Compliance**: If the AI tool operates in or collects data from users in the European Union, ensure that it complies with the General Data Protection Regulation (GDPR) and other relevant data protection laws.
    7. **Security Audits and Certifications**: Inquire whether the AI tool provider undergoes regular security audits and holds relevant certifications to ensure that their data protection practices meet industry standards.
    8. **Incident Response and Data Breach Policies**: Understand the AI tool provider's incident response plan and data breach policies. Make sure that they have processes in place to handle any potential security breaches promptly and responsibly.
    9. **Data Ownership and Portability**: Clarify who owns the data generated through the AI tool and ensure

that students have the right to access and export their data upon request.

5. **Compatibility and Integration:** Check if the AI tool can integrate seamlessly with the existing learning management system or that it can be easily accessed—if that is your expectation.
6. **Vendor Reputation and Support**: Research the reputation of the AI tool's vendor. Consider factors like customer support, ongoing updates, and responsiveness to issues or concerns. This could impact teaching/learning post adoption.
7. **Instructor Training and Support**: Consider what training and support is provided to instructors in using the AI tool effectively—including through demo video that the tool's makers may have provided. If there is no support after adoption, imposing a tool upon students or faculty can adversely impact teaching/learning.
8. **Institutional Approval and Policy Compliance**: Ensure that the AI tool meets institutional policies and guidelines for educational technology adoption. (The New York State Information Technology policy on the Acceptable Use of Artificial Intelligence Policies may also be a helpful resource to consult.)

Once a potential tool has been identified for use in a course or program, faculty should evaluate the tool prior to implementation. Here is a step-by-step guide to evaluating AI tools:

1. **Define Learning Objectives**: Determine how the AI tool can complement or enhance the achievement of course learning objectives.
2. **Trial and Pilot Testing**: Conduct a trial or pilot test of the AI tool with a small group of students or colleagues. Gather feedback on its effectiveness and usability.
3. **Learning Analytics**: Assess the tool's ability to provide valuable learning analytics and insights for instructors and students. Analytics can help identify areas for improvement and measure learning outcomes.
4. **Feedback and Assessment**: Collect feedback from students who used the AI tool and assess its impact on their learning experience and outcomes.
5. **Integration with Curriculum**: Ensure the AI tool can be integrated seamlessly into the course curriculum without disrupting the overall flow of the course.
6. **Comparison with Evidence-based Pedagogies**: Compare the AI tool's effectiveness with proven (instructor-led, both F2F and technology-based) teaching methods to gauge its added value.
7. **Support for Multimodal Learning**: Verify if the AI tool supports multimodal learning, allowing students to engage with content using various formats, such as text, audio, video, and interactive elements.
8. **Long-Term Viability**: Assess the long-term viability of the AI tool, considering its potential for future updates and scalability.

Rubric for AI Tool Evaluation

We translated the above framework into a rubric to help institutions and instructors evaluate AI tools for their effectiveness, usability, and ethical considerations in teaching and learning contexts. Readers can also access and adapt for their own contexts the Google Form version of the rubric.

Assessment 1: Functionality & Pedagogical Usefulness

Score the tool on each of the items below using the scale provided.

- Does the tool enhance teaching and learning (i.e., is it either designed for or adaptable to teaching/learning)?
- Does it support instructional strategies such as active learning, personalized learning, or formative assessment?
- Does it align with faculty needs in various disciplines?

- 1 – No clear educational application/value
- 2 – Limited usefulness in teaching and learning contexts
- 3 – Neutral—or I haven't tried it
- 4 – Strong educational value, albeit use-case dependent
- 5 – Highly valuable across instructional contexts

Optional: Please comment on your top one or two choices in terms of "Functionality & Pedagogical Usefulness," sharing one or two reasons (each) about why you "recommend" faculty (or students) to adopt/explore the AI tool(s).

Assessment 2: Accessibility & Inclusivity

Score the tool on each of the items below using the scale provided.

- Is the tool accessible to students with disabilities (e.g., screen reader compatibility, closed captions, keyboard navigation)?
- Does it support multilingual learners (e.g., translation, speech-to-text, adaptive features)?
- Do its underlying dataset and algorithm seem culturally/globally informed and sensitive?
- Does it offer flexible options for diverse learning needs?

- 1 – Not at all
- 2 – Somewhat
- 3 – Neutral—or I haven't tried it
- 4 – Good
- 5 – Excellent

Optional: Please comment on your top one or two choices in terms of “Accessibility & Inclusivity,” sharing one or two reasons (each) about why you “recommend” faculty (or students) to adopt/explore the AI tool(s).

Assessment 3: Ease of Use & Faculty Adoption

Score the tool on each of the items below using the scale provided.

- Is the tool intuitive for instructors and students?
- Does it require significant training to use effectively?
- Is it easy to integrate into existing teaching workflows (e.g., LMS, productivity tools)?

- 1 – Very difficult to use or implement
- 2 – Steep learning curve, requiring substantial training
- 3 – Neutral—or I haven’t tried it
- 4 – Mostly intuitive and easy to integrate and train users
- 5 – Very user-friendly with seamless integration

Optional: Please comment on your top one or two choices in terms of “Ease of Use & Faculty Adoption,” sharing one or two reasons (each) about why you “recommend” faculty (or students) to adopt/explore the AI tool(s).

Assessment 4: Ethical Considerations & Data Privacy

Score the tool on each of the items below using the scale provided.

- Does the tool respect student privacy and comply with FERPA, GDPR, or other regulations?
- Beyond being merely legal, will the tool potentially undermine students’ privacy/confidentiality and intellectual property rights?
- Does it have clear policies on data storage, AI-generated outputs, and user tracking?
- Are there risks of bias, misinformation, or unethical use?

- 1 – Major privacy or ethical concerns
- 2 – Some ethical or privacy concerns
- 3 – Neutral—or I haven’t tried it
- 4 – Clear ethical and privacy protections in design and user policy
- 5 – Strong policy and design to ensure ethical use and data security

Optional: Please comment on your top one or two choices in terms of “Ethical Considerations & Data Privacy,” sharing one or two reasons (each) about why you “recommend” faculty (or students) to adopt/explore the AI tool(s).

Assessment 5: Cost & Sustainability

Score the tool on each of the items below using the scale provided.

- Is the tool free, subscription-based, or pay-per-use?
- Is it sustainable for long-term faculty and student use?
- How significant are hidden costs (e.g., user data is used for training, free usage is limited and premium features are required for being fairly useful, ads disrupt use, information asked for creating an account)?

- 1 – Prohibitive in cost or unsustainable
- 2 – Somewhat costly or unclear long-term viability
- 3 – Neutral—or I haven't tried it
- 4 – Generally cost-effective and sustainable
- 5 – Free (monetarily) or highly sustainable for academic use

Optional: Please comment on your top one or two choices in terms of "Cost & Sustainability," sharing one or two reasons (each) about why you "recommend" faculty (or students) to adopt/explore the AI tool(s).

Assessment 6: AI Transparency & Explainability

Score the tool on each of the items below using the scale provided.

- Does the tool link to and stay true to human sources (instead of merely generating plausible patterns that require expertise, time, and labor on the user's part to verify)?
- Can faculty and students fairly easily validate AI-generated outputs?
- Does the tool frequently "hallucinate" or otherwise fail to do what it promises?

- 1 – Opaque/no transparency or fault-prone
- 2 – Limited insight into data/process or often faulty
- 3 – Neutral—or I haven't tried it
- 4 – Mostly clear AI reasoning and reliable outputs
- 5 – Highly transparent, strong safeguards, and reliable response

Optional: Please comment on your top one or two choices in terms of "AI Transparency & Explainability," sharing one or two reasons (each) about why you "recommend" faculty (or students) to adopt/explore the AI tool(s).

Assessment 7: Institutional & Instructional Design Support

Score the tool on each of the items below using the scale provided.

- How easy is the tool to support at the institutional level (e.g., IT, instructional design, faculty development)?

- Does the tool have adequate documentation, training materials, and support resources?
- Can the tool be easily integrated into existing instructional design frameworks and pedagogical models?
- Does the tool require significant ongoing maintenance or technical support?

- 1 – Very difficult to support; requires extensive technical expertise or custom infrastructure
- 2 – Challenging to support; limited documentation or high maintenance needs
- 3 – Moderate support required; some training or infrastructure adjustments needed—or I haven't tried it
- 4 – Generally easy to support with existing IT and instructional design resources
- 5 – Minimal support required; well-documented with strong institutional alignment

Optional: Please comment on your top one or two choices in terms of "Institutional & Instructional Design Support," sharing one or two reasons (each) about why you "recommend" faculty (or students) to adopt/explore the AI tool(s).

Of course, not all criteria and variables will be relevant for instructors, researchers, and other users; our goal is to prompt similar development of criteria and to assess both tools and tool uses in context. If the use of AI tools hurts more than helps the task at hand, any broader purpose or cause, or the overall mission of education or its contribution to society, then the tools' "helpfulness" in itself must be judged accordingly. With this in mind, when developing the case studies summarized and discussed below, we asked evaluators to contextualize their evaluation in their disciplines. We also asked them to rank and comment on the tools they recommended. We hope that academic leaders and staff, faculty scholars, and students will benefit from the general ideas of evaluating AI tools and their uses, as well as from adapting the framework and rubric here. The next section illustrates our evaluation of a few AI tools.

Case Studies: Illustration of AI Tool Evaluation

Building upon the evaluation framework detailed in the previous section, we now present a small sample of case studies that demonstrate how faculty have implemented AI tools to address specific educational challenges. These narratives bridge the gap between theoretical assessment and practical application, showing how educators move from evaluating AI capabilities to purposeful implementation in real educational settings. Rather than treating evaluation as a pre-adoption phase, these narratives also emphasize the importance of continued critical engagement with AI tools after adoption—through iterative review, classroom observation, and policy revision.

The four case studies in this collection showcase diverse applications across computer science education and administrative contexts.

- Learning Technologies Specialist Abby Bechtel's exploration of Microsoft Copilot for faculty reporting highlights AI's potential for reducing administrative burden.
- Associate Professor Xin Ye's implementation, using Notebook LM to support students in a programming course, illustrates how different AI tools can assist with notetaking, organization, synthesis, and scaffolded learning.
- Associate Professor Julie Cuccio Slichko's pilot study of Brisk demonstrates a measured approach to integrating AI into teacher preparation.
- Dr. Cory Look made a reflective use of ChatGPT to scaffold student critique and creative ideation.

What distinguishes these case studies is their problem-first approach to technology integration. Each implementation begins with a clear instructional or administrative challenge—difficulty organizing course materials, struggles understanding explicit instruction components, or the time-intensive nature of required documentation. The selected AI tools were then evaluated specifically for their capacity to address these challenges, rather than being adopted for their novelty or technical capabilities alone.

We must note here that evaluating tools only before adoption is not sufficient. It is important to revisit and revise AI use policies, practices, and pedagogical framing after initial adoption or implementation. Faculty should consider their own and their students' responsibilities in monitoring AI use, establishing boundaries, and learning from unexpected outcomes. The contributors' reflective practice reveals these important insights about AI's current educational capabilities and limitations. Across diverse implementations, we see common themes emerge: AI tools can effectively supplement but not replace traditional educational resources; they require thoughtful integration with clear guidelines for ethical use; and their greatest value often lies in reducing cognitive load for routine tasks while preserving human judgment for more complex aspects of teaching and learning.

In all cases, meaningful outcomes require not just evaluating the tool, but also teaching students how to use it responsibly, interpret its outputs critically, and understand its limits. These case studies offer modest but concrete examples of how educators can approach AI implementation thoughtfully. By documenting both successes and limitations, they provide colleagues with realistic models that acknowledge both the potential and constraints of current AI technologies in educational contexts. They also reinforce the need to center student rights, educational equity, and critical thinking in all phases of AI use. Faculty must not only evaluate tools for effectiveness but also consider how to teach students to use AI meaningfully, ethically, and with growing awareness of its limits. More importantly, these cases emphasize a cycle of use, evaluation, reflection,

and adaptation—an approach that supports not only effective teaching but also student agency and data ethics.

Case Study #1: Copilot for Professional Documentation

In this case study, Learning Technologies Specialist Abby Bechtel (Monroe Community College) examined how Microsoft Copilot with Enterprise Data Protection could assist employees with creating Annual Faculty Development Reports (AFDRs), which is a high-stakes documentation process. Using Copilot to analyze Outlook calendars, interpret guidelines, and generate report drafts, the study targeted a specific administrative pain point that affects both individual wellbeing and institutional efficiency. The implementation leveraged the college's existing Copilot subscription with enterprise-level privacy protections, making it (potentially) a practical, accessible solution without additional technology investments.

The results revealed Copilot's strengths and limitations for administrative documentation tasks. The tool excelled at extracting and organizing calendar data, correctly interpreting formal guidelines from PDF documents, and rapidly producing initial drafts—reducing an estimated 7.25 hours of work to approximately 1.25 hours. However, the quality of the AI-generated content exposed clear limitations: the writing lacked substance and authenticity, overused buzzwords, and failed to capture the employee's voice even when provided with examples. Particularly concerning was the tool's tendency to omit previously included information when asked to make revisions, creating potential accuracy issues in a document tied to employment decisions.

Bechtel's case study provides practical guidance for using AI in professional documentation contexts. She recommends clearly distinguishing between more technical tasks where Copilot provides genuine value (sorting through large quantities of information, extracting objective data, listing, organizing and formatting material, organizing content according to guidelines, creating initial drafts) and those requiring human judgment (ensuring accuracy, authentic voice, and meaningful reflection). The study's conclusion—"Copilot was impressive at collating information. But it's not you, and it wasn't close"—succinctly captures an essential insight for institutional AI adoption: these tools can effectively reduce administrative burden for routine documentation tasks but cannot replace the human elements of professional reflection and authentic communication. This balanced assessment helps institutions set realistic expectations when implementing AI for administrative purposes.

Case Study #2: NotebookLM in Computer Science Education

Associate Professor of Computer Studies Xin Ye (Rockland Community College) implemented NotebookLM by Gemini 2.0 in an introductory Java programming course to address a specific educational challenge: students' difficulty with organizing and retaining information, particularly content accessed through AI tools. This implementation targeted a fundamental academic skill gap—effective note-taking and information management—that impacts student success across disciplines and is essential in programming courses where concepts build upon one another. By introducing NotebookLM as a centralized repository for course materials, AI-generated content, and student notes, Ye aimed to scaffold students' organizational skills while simultaneously enhancing their ability to synthesize and review programming concepts.

The outcomes of this implementation reveal NotebookLM's strength as an organizational and summarization tool that supports students' learning processes. The platform's ability to automatically generate study guides and practice quizzes from collected materials provided valuable learning aids, particularly benefiting students who had not yet developed systematic note-taking habits. This functionality addressed a critical need in the learning process—bridging the gap between information collection and knowledge synthesis. However, the limited student engagement with the audio feature suggests that not all technological affordances align with student preferences, underscoring the importance of flexibility in AI tool implementation. Indeed, if students use multifunction and powerful tools like this to summarize, synthesize, analyze, and interpret complex educational concepts and texts, offloading these critical literacy and disciplinary skills to AI tools that promise to do the "hard thinking" for us (NotebookLM's tagline) can be convenient but educationally counterproductive. The case study demonstrates that the effectiveness of tools like this depends on thoughtful integration into course activities and consistent modeling by instructors.

Case Study #3: Using Brisk Teaching to Support Explicit Lesson Planning in EPSY 3029: Survey of Exceptional Children

Associate Professor of Educational Psychology, Counseling and Special Education Julie Cuccio Slichko (SUNY Oneonta) introduced Brisk Teaching to help education majors understand Explicit Instruction (EI) lesson planning, a concept students found difficult to grasp. Students were given the option to use this AI tool to generate actual lesson plans in their certification areas (such as ninth-grade poetry). This hands-on approach transformed abstract educational concepts into concrete examples that students could analyze against established EI frameworks. The implementation was conducted as an optional extra credit assignment with seven students, allowing for a focused pilot before potential wider adoption.

Results showed some specific strengths in Brisk's capabilities. Students found that with adequate prompting skills, the AI-generated lesson plans included most required EI components (matching the Archer & Hughes template), produced grade-appropriate content, and incorporated student choice elements. However, they also identified clear limitations: the AI couldn't account for students' prior knowledge (a critical EI component), produced excessively detailed plans requiring teacher editing and often loss of time, and lacked the contextual awareness that comes from knowing specific students. These findings led students to conclude that while Brisk can assist with lesson planning, teacher expertise remains essential for effective implementation.

This case study offers practical insights about AI's role in teacher preparation. Slichko's reflection on having future students first create their own EI lessons before comparing them with AI-generated versions reveals an important pedagogical approach: using AI as a comparison point rather than a model to imitate. As long as the teacher can successfully help students be in the driver's seat, be the expert of both topic and AI use/skills, rather than being dependent on AI assistants, and learn by judging rather than by relying on AI's response, such tools can enhance student agency and engagement instead of undermining them. The pilot nature of this implementation—with just seven volunteer students—demonstrates a measured approach to integrating new technologies. By having future teachers critically evaluate AI-generated lesson plans against theoretical frameworks, both of which the student must become capable of judging, the activity developed not just lesson planning skills but also the critical thinking needed to appropriately integrate technology in their future classrooms. The case shows how AI tools can serve both as practical teaching aids and as objects of critical analysis in professional education programs.

Case Study #4: ChatGPT for Content Development and Critical Engagement at SUNY Farmingdale

Assistant Professor of Environmental Anthropology and Archaeology Cory Look (SUNY Farmingdale) evaluated ChatGPT's capabilities as a support tool for academic instruction, primarily using a thorough literature review, as this most popular AI tool has already garnered substantial research attention. ChatGPT demonstrated greater utility in generating draft content, summarizing readings, and explaining complex ideas at varying levels of difficulty. Its strengths were most evident in economics and creative writing. Students appreciated the immediacy of its feedback and its ability to scaffold learning through low-stakes dialogue. Look emphasized that ChatGPT works best with well-structured prompts that specify the desired format, tone, and level of detail.

However, the review highlights significant limitations. ChatGPT has a well-documented tendency to generate plausible but inaccurate information, posing challenges in educational contexts where accuracy is paramount. While its multimodal capabilities—such as image generation, voice interaction, and data visualization—offer new affordances, they also increase the risk of unverified or misleading outputs. Ethical concerns include data privacy, potential bias, and environmental impact. For instance, while OpenAI claims to anonymize data, its collection practices have raised questions about transparency and compliance with privacy regulations like GDPR and CCPA. Look noted that the tool's strengths are most pronounced when students and instructors use it critically—reviewing, editing, and contextualizing its outputs rather than accepting them at face value. ChatGPT can support content generation and ideation but should be used to supplement, not substitute, core cognitive work. As such, effective use requires clear instructional framing, ongoing oversight, and ethical guidance from faculty.

Tool Evaluation Process Overview

Contributors to this Guide, experts from across the SUNY system, have tried to provide a few practical resources for faculty and students swamped with responsibility. Beyond supporting AI literacy, we want to help faculty and students use AI to develop and use their own best practices. Trying to keep up with the latest advancements in AI is not easy; as soon as information about an AI tool is printed in this Guide, the tool may have evolved or been replaced by something better. So, what we've done, therefore, is model a process of how to:

1. Evaluate AI tools that are currently available.
2. Choose a tool for a given task.
3. Try the tool.
4. Learn from the experience whether you would use the AI tool again in the same way or recommend it to others.

Following this process, we conducted case studies for teaching and research, professional productivity, and student agency. Feel free to apply and adapt these experiences to your own needs and workflow.

Strategies for Evaluating Accessibility

Creating equitable learning environments with AI requires ensuring that all students, including those with disabilities, can access and interact with digital tools and content. The following strategies support faculty and institutions in evaluating and improving accessibility in AI-enhanced teaching.

Conduct Comprehensive Accessibility Audits

Conducting regular accessibility audits ensures that AI tools and digital content meet the needs of all learners, including those with disabilities. These audits should evaluate key features such as screen reader compatibility, keyboard navigation, and closed captioning. Involving users with disabilities in the testing process helps surface barriers that automated tools may miss. This participatory approach ensures that accessibility efforts are grounded in real user experience.

Implement Universal Design for Learning (UDL) Principles

UDL offers a proactive framework for designing learning environments that accommodate variability in how students perceive, engage with, and express learning. By offering multiple means of representation, engagement, and expression, educators can make AI-integrated learning more inclusive from the start. UDL supports not just accessibility compliance, but also pedagogical flexibility that benefits all learners.

Generative AI tools can be used to support UDL by allowing students to convert content into different modalities, for example, transforming a written lecture into a podcast, infographic, or summary. AI can also help learners explore material at varied complexity levels or generate personalized practice questions to reinforce concepts. For instructors, AI can support the creation of alternative assignments that align with the same learning objectives but offer choice in how students demonstrate mastery. These tools can also assist in generating accurate alt text for images, improving screen reader compatibility, and converting documents into accessible formats (e.g., tagged PDFs or accessible HTML). By using generative AI intentionally, educators can increase learner autonomy while removing traditional barriers to access and engagement.

Leverage Assistive Technologies

Integrating assistive technologies such as screen readers, speech-to-text tools, and alternative input devices into digital learning environments is essential for equitable participation. These tools enable students with sensory, physical, or cognitive impairments to engage fully with academic content. Importantly, the benefits of these technologies often extend to all learners—a principle known as the curb-cut effect. For example, captions support not only deaf and hard-of-hearing students but also multilingual learners and those in noisy or quiet environments. Assistive tools can also support varied learning preferences and offer multiple means of action and expression, allowing students to interact with content, demonstrate knowledge, and navigate platforms in ways that align with their strengths. When evaluating AI tools, it is important to ensure they are compatible with commonly used assistive technologies.

Faculty and staff can seek support through their institution's disability services office, instructional technology team, or digital accessibility coordinator. Additionally, most learning management systems (LMS),

such as Brightspace, Canvas, or Blackboard, include built-in accessibility checkers that can help identify barriers in course content. Free web-based tools like the WAVE Web Accessibility Evaluation Tool (wave.webaim.org), Microsoft Accessibility Checker, and Grackle for Google Workspace also offer quick ways to assess and improve digital materials. These resources can help ensure AI-enhanced learning environments are inclusive and aligned with accessibility standards.

Diversity, Equity, and Inclusion (DEI) Evaluation Strategies

As generative AI becomes integrated into higher education, institutions must ensure that its use aligns with diversity, equity, and inclusion goals. The strategies described below can help faculty in making equitable, reflective, and inclusive decisions about AI tools and assignments.

Assess Representation and Bias

AI tools can inadvertently reinforce systemic bias due to limitations in their training data (including lack of any knowledge on many non-mainstream issues as well as lack of accurate, adequate, or unbiased knowledge about marginalized communities), the nature of model architecture, or problems in deployment or use. In higher education, where inclusive pedagogy and academic integrity are essential, it is necessary to evaluate AI tools for equitable representation across race, gender, culture, nationality, language, ability, and other identity categories. Since content generated by AI cannot reflect a wide range of lived experiences, it must be used with the awareness that it could perpetuate false narratives, tokenism, or harmful stereotypes; users must take responsibility for AI-assisted content and actions.

Faculty and students should be made aware of the ability to provide structured feedback on generative AI outputs—flagging inaccuracies, biased language, or exclusionary content—through integrated feedback mechanisms within the platform. This user feedback loop plays a critical role in model refinement and offers a tangible way for academic communities to participate in the ethical shaping of AI systems.

Institutions should also consider building internal protocols for reviewing AI-generated content used in curriculum or student work to ensure alignment with inclusive education goals and ethical academic standards. By embedding these practices into the educational framework, higher education institutions can harness the potential of generative AI while upholding their commitment to diversity, equity, and inclusion.

Use Strategic Prompt Engineering

In addition to reactive feedback, faculty can employ strategic prompt engineering to proactively guide AI outputs toward more inclusive and representative results. This involves crafting prompts that specify diverse perspectives, inclusive language, and culturally responsive framing. For instance, educators might prompt AI tools with questions like, “How does this content align with our institution’s DEI principles?” or “Does this output consider diverse cultural perspectives relevant to our student body?” Teaching students to formulate such prompts fosters digital literacy and models responsible engagement with AI tools. While expecting AI tools to produce accurate, adequate, unbiased, or equitable just by “learning to ask” is naive at best, the ability for critical interaction, to doubt, to reject, and to cross-check with human sources is far better than the mere ability to “use” AI without such critical and cultural literacy elements.

Promote Inclusive Pedagogy and Andragogy

Inclusive pedagogy encourages educators to examine how power, privilege, and identity shape both the formal

and hidden curriculum. It calls for intentional design of classroom norms, assignments, assessments, and interactions that foster equity and belonging. In higher education, particularly when teaching adult learners, inclusive pedagogy builds on this foundation by emphasizing principles such as learner autonomy, relevance to life and work, the importance of prior experience, and the need for immediately applicable knowledge.

Faculty can actively apply these principles by designing learning experiences that integrate generative AI tools in ways that promote personalization, autonomy, and critical engagement. For instance, instructors might invite students to use AI to draft case studies based on their own professional contexts, then analyze the output for bias, accuracy, or cultural sensitivity. These activities both validate learners' experiences and develop their capacity for digital and ethical literacy.

By using AI in ways that honor adult learning needs and inclusive design, faculty can co-create more equitable, relevant, and empowering learning environments. Ultimately, inclusive pedagogical and andragogical use of AI invites educators to reflect on how their design choices shape access, engagement, and outcomes for a diverse community of adult learners.

Engage in Continuous DEI Reflection and Training When Integrating AI

Faculty are encouraged to bring a DEI lens to the way they evaluate and use generative AI tools in their teaching. This includes considering how AI platforms may encode bias, whose perspectives are centered or excluded in AI-generated content, and how tool selection and assignment design impact equity in student learning. Given the rapid pace at which AI technologies evolve, faculty should approach each use as a new opportunity for critical evaluation. A tool or output that once seemed appropriate may shift significantly due to system updates, training data changes, or new use contexts.

Developing and sustaining this critical lens requires ongoing reflection, peer dialogue, and professional learning. DEI-focused training can help faculty enhance their ability to assess tools, design inclusive assignments, and model ethical AI use. Rather than a one-time intervention, DEI development is best treated as an iterative process that supports inclusive innovation in higher education.

Faculty might reflect on questions such as:

- Who benefits most from this tool's design?
- Whose perspectives or voices might be missing?
- How transparent is the tool about its sources and limitations?
- Would this tool produce equitable results for all learners in my course?

Establish Feedback Mechanisms

Creating formal channels for students and faculty to report DEI-related concerns is essential for iterative improvement. Feedback mechanisms can include surveys, focus groups, and anonymous reporting tools. These insights should inform institutional policies and the evaluation of learning technologies, including AI. Faculty can contribute by participating in feedback channels and collaborating with administrators to ensure AI use remains aligned with shared DEI values.

Align AI Use with Institutional DEI Goals

The use of AI tools in education must align with broader institutional goals around diversity, equity, and

inclusion. Evaluations should consider whether a tool supports or hinders campus-wide DEI efforts and accords with evolving commitments to social justice. Regular review and alignment ensure that technology enhances, rather than undermines, inclusive learning environments. Faculty can play an active role in advocating for alignment and participating in institutional review efforts. They can foster critical AI literacy that foregrounds DEI goals. To get the best results from AI tools, students need more advanced prompting skills beyond simple queries. Techniques like context-rich, chain-of-thought, and critique-based prompting help clarify context, demand reasoning, and reveal weaknesses in AI responses—to students who are also educated and sensitive about cultural and other biases. These ("prompt engineering") skills not only improve output quality but also train students to detect bias, simplification, and dominant assumptions in the AI's responses. By reframing prompts or asking for multiple perspectives, students can expose cultural blind spots or disciplinary limitations. In this way, prompting becomes a form of critical literacy—essential for using AI both effectively and ethically.

Using Student Input in AI Adoption and Use

To encourage the most ethical and effective implementation of AI across the curriculum, students must be central to shaping AI policy and usage in their learning experiences. Recent student surveys from Western Governor's University (WGU) reveal both opportunities and concerning disparities in how students perceive and engage with AI technologies. Understanding these nuanced perspectives is essential for developing inclusive AI strategies that serve all learners effectively.

Current Student Perspectives on AI

The most recent research from WGU's Student Insights Council, which surveyed over 4,500 students, reveals that students approach AI with cautious optimism. Fifty-nine percent of students expressed positive attitudes toward the use of AI in education, while 24 percent remained neutral and 17 percent reported negative views (WGU Labs, 2025). This overall optimism, however, masks gender disparities that institutions must address. Women are 12 percent less confident in their ability to use AI tools than men, revealing a concerning gap that could exacerbate existing inequities in technology access and career opportunities.

These confidence disparities become particularly important when considering students' comfort with different AI applications. While 58 percent of students expressed that they are comfortable receiving AI-generated feedback and 66 percent were open to real-time feedback during exams or assignments, only 35 percent trusted AI to grade their work (WGU Labs, 2025). This distinction between AI as a supportive tool versus evaluative authority suggests students maintain clear boundaries about where human oversight remains essential.

Students also expressed thoughtful skepticism about AI's role in personal support systems. Only about one-third of students supported the use of AI for social or emotional support, with just 32 percent seeing AI as beneficial for emotional or mental health guidance (WGU Labs, 2025). This finding underscores students' preference for human connection in areas requiring emotional intelligence and personal understanding.

Building on Local Insights

These student sentiments are reflected in smaller-scale institutional experiences that provide additional context for policy development. In Fall 2024, business students at Monroe Community College completed projects designed to address existing challenges with AI and recommend process improvements. Seven student groups each defined a question related to AI use, surveyed students and faculty (sample sizes ranging from 50 to 85 respondents), analyzed data, and proposed solutions.

The MCC findings aligned with broader national trends while revealing specific implementation preferences. Overwhelmingly, students and faculty supported the use of AI integration into teaching and learning, with both groups using AI primarily for brainstorming and reviewing writing. However, students diverged from faculty in usage patterns—the percentage of faculty who did not use AI was double that of students (27% of students versus 55% of faculty). This usage gap highlights the importance of parallel training initiatives that simultaneously address both student and faculty competency development.

The MCC students proposed four high-level solutions to encourage desired AI use in higher education:

- Develop clear guidelines and policies that govern the ethical use of AI in the classroom.
- Have mandatory training for staff and students on the ethical use of AI.
- Position AI as a supportive tool to enhance learning rather than a replacement for academic work.
- Implement AI plagiarism- and cheating-detection tools.

Students also suggested possible implementations of courses on AI and its proper usage, content within courses to review AI, clubs for AI usage, tutors that specialize in AI, resources for AI on the college website, and accessible support and training.

Translating Student Input into Institutional Strategy

Understanding student perspectives should assist institutions in the development of responsive AI policies. The WGU research reveals five key areas where student input should directly inform institutional decision-making. First, transparency in AI-supported learning is a top priority for students, with 92 percent stating it's important to know when they are interacting with AI (WGU Labs, 2025). This overwhelming consensus suggests that clear disclosure policies should be foundational to any AI implementation.

Student preferences also emphasized the importance of choice and human access. Additionally, 84 percent wanted the option to opt out of AI-driven experiences, 83 percent believed access to a human is essential, and 79 percent wanted clear disclosure when content is AI-generated (WGU Labs, 2025). These findings indicate that successful AI integration requires maintaining human alternatives and ensuring students retain agency in their learning experiences.

Systematic Data Collection Strategies

To effectively incorporate these insights into ongoing policy development, institutions need systematic approaches to gathering student feedback. Campus-wide surveys can capture broad institutional trends while preserving anonymity, particularly important given confidence and competency gaps that might otherwise limit honest responses. Course-specific surveys, meanwhile, provide granular insights into how AI tools function within specific disciplinary contexts and pedagogical approaches.

Both MCC students and the broader WGU research point to similar implementation strategies that institutions can pursue based on student recommendations. These include developing clear guidelines governing AI use, providing mandatory training for both students and faculty, positioning AI as learning enhancement rather than replacement, and implementing robust oversight systems that maintain human connection and evaluation authority.

Addressing Equity Through Student-Centered Design

The gender confidence gap revealed in the WGU research requires immediate institutional attention. Institutions must rapidly expand AI training and support specifically designed to address confidence disparities among underrepresented groups. This approach aligns with student preferences for personalized learning while ensuring that AI tools enhance rather than perpetuate existing educational inequities.

Student feedback consistently demonstrates that successful AI integration depends on centering learner

voices throughout the design and implementation process. By systematically gathering and responding to student input, institutions can develop AI strategies that align with learner goals, maintain necessary human connections, and prepare students for AI-enabled workplaces while preserving the educational values students prioritize most.

Student Coursework on Topics of AI

Student coursework offers us a non-traditional channel for learning from students. When students research, explore, and reflect on AI topics, they contribute to the scholarship that is available to inform AI policy and usage. Instructors can ensure that students develop AI literacy by designing assignments that help students learn to do the following:

- **Locate AI-related information** effectively using tools appropriate to their academic discipline (e.g., prompt engineering in ChatGPT, evaluating AI-generated summaries, comparing search vs. synthesis tools like Perplexity or Copilot).
- **Evaluate AI outputs** from a variety of tools and sources, with attention to authority, bias, origin, and validity (e.g., comparing human-written vs. AI-written texts; analyzing bias in LLM responses).
- **Demonstrate ethical awareness** of AI tools by reflecting on the implications of using generative AI in academic work, including privacy concerns, authorship, and misinformation.
- **Create or critique AI-generated content** to explore its value and limitations in communication, research, or creative expression.
- **Engage in discussions or reflections** about how AI is shaping knowledge creation and access, and how that connects to issues of digital equity and academic integrity.
- **Use AI literacy projects** (e.g., annotated prompt logs, source-checking activities, or tool comparison reports) to apply critical thinking across disciplines.

These approaches ensure that student coursework reflects not only familiarity with emerging AI tools, but also a thoughtful, ethical, and critically informed approach to their use.

Challenges with AI Detection Products and their Use

Plagiarism detection started with the professor manually reading every assignment and trying to find a place where the student copied material without mentioning the source of such material. The next step was the digital solution, such as detection software which looks for matching content between what is in a database and what the student turns into the professor. This involved serious ethical issues, such as student privacy and their right to their intellectual property—issues that haven't yet been adequately addressed by academia. (Leong and Zhang, 2025)

AI Detection Limitations

Today Artificial Intelligence tools are trained to detect copying, paraphrasing, translated text and AI-generated content—and the situation is even more problematic. AI detection can lead to a variety of undesirable outcomes.

False positives

False positives can come from different scenarios. One scenario is where a student's work uses terms and other jargon used by the professor; if those terms and other jargon are used repeatedly by students, AI detectors may count that as plagiarism. Another source for false positives is many students submitting work that have conducted similar research, writing, or problem-solving; when the AI detector compares newly submitted assignments to older ones, it may consider the new ones as AI-generated.

Bias

A person familiar with technology would think that AI bias would only come from the data that an AI tool is trained in—which certainly is a widely established problem. But the more consequential problem in education has to do with how Large Language Models (LLM) actually work. AI algorithms may inadvertently exhibit bias in detection because they rely on language datasets that only have one language pattern and academic style (Leong & Zhang, 2025). They cannot detect other language sets or ways of conveying languages. This can disadvantage non-standard academic English students.

AI Evasion Techniques

Perkins et al. (2024) examined six widely used generative AI text detectors to assess their sensitivity to simple adversarial tricks for evading detection. Straightforward manipulations—such as deliberately introducing spelling mistakes, varying sentence lengths (a technique known as "burstiness"), or increasing syntactic complexity—substantially reduced detection rates.

Recommendations for AI Detection

AI detection tools differ significantly in their design and capabilities. Leading tools typically rely on either Natural Language Processing (NLP), which analyzes syntax, semantics, and contextual meaning, or Machine Learning (ML), which detects patterns across large datasets of human- and AI-generated content and continuously improves through retraining. Beyond technical function, data handling practices also vary, raising concerns about data privacy and institutional control. For example, Microsoft's Copilot integrates with campus security systems, offering more institutional oversight compared to web-based solutions.

Emerging scholarly consensus supports a multi-layered approach to academic integrity: combining traditional plagiarism detection with AI-specific tools. However, automated tools should not replace human judgment. Faculty must interpret AI-generated reports carefully and avoid making accusations based solely on algorithmic flags. Overreliance on detection software can undermine student trust and discourage engagement. Human oversight remains essential to fair and pedagogically sound academic practice.

AI detection tools must be evaluated within the broader context of teaching, learning, and institutional responsibility. Institutions must resist the urge to implement top-down mandates without student input. A holistic, participatory approach increases both the legitimacy and effectiveness of academic integrity efforts, and student-centered policy and pedagogy are essential.

In short, AI detection is not only unreliable but may erode trust between faculty and students even more than traditional plagiarism detection tools. If faculty or departments decide to use AI detection tools, they must be integrated into teaching that is dialogic, ethical, and attentive to student experience. Our professional responsibility is not just to detect misconduct, but to guide students in using AI wisely and well.

Conclusion

As AI technology develops at a rapid pace, the responsible evaluation and implementation of AI tools in higher education must prioritize human-centered values: student agency, educational effectiveness, and faculty and institutional accountability. This chapter has outlined a comprehensive framework that guides educators and institutions to systematically assess not only the functionality and accessibility of AI tools, but also their ethical, pedagogical, and social implications. As the case studies demonstrated, AI can support teaching and learning when used intentionally—but without adequate support and critical engagement, these tools can undermine learning, reduce transparency, and erode trust.

Preserving student agency means more than giving students access to tools; it requires helping them develop the critical awareness, disciplinary knowledge, and ethical reasoning needed to meaningfully use AI. Educators must resist both extremes—either romanticizing or banning AI—and instead help students navigate its affordances and risks with care. This includes institutions and instructors evaluating tools to adopt, modeling critical engagement, embedding opportunities for feedback and reflection, and maintaining clear boundaries between human judgment and algorithmic assistance. Faculty agency is equally vital, as instructors must be empowered to make informed decisions within their disciplinary and pedagogical contexts.

Institutions also have a professional and ethical obligation to create environments where AI is implemented transparently, inclusively, and with safeguards that protect student rights. This includes ensuring data privacy, supporting inclusive design, aligning AI use with inclusive education goals, and centering student input in adoption decisions. Institutional policies must not only respond to emerging technologies but also reinforce established missions of higher education to foster critical inquiry, ethical citizenship, and public good. Ultimately, ethical and effective AI use is not just a matter of technical affordances or compatibility: it is a pedagogical/professional and civic responsibility. Educators and institutions alike must approach AI with clarity of purpose and a commitment to iterative reflection.

PART III

USING AI TUTORS

Introduction to AI Tutors

An “AI Tutor,” also known as an “Intelligent Tutoring System” (ITS) or “AI-powered tutoring system” (AI-PTS), is an advanced educational tool that uses artificial intelligence algorithms to replicate the functions of a human tutor. These systems are designed to simulate a one-on-one tutoring experience by performing human-like tasks such as reasoning, meaning-making, generalization, and learning from past experiences (Maity & Deroy, 2024; Malami, 2024; AI-Pro, 2024).

Key characteristics and functionalities of AI tutors

Personalized and Adaptable Learning

AI Tutors are designed to understand and adapt to each student's unique learning preferences, needs, and abilities. They provide customized and adaptive learning experiences by tailoring materials and feedback to meet the needs of students as they progress (Basri, 2024; Maity & Deroy, 2024; AI-Pro, 2024).

Interactive Capabilities

Equipped with Natural Language Processing (NLP), AI Tutors enable students to interact through various modalities, including text, voice, or virtual reality, and facilitate turn-by-turn conversations (Heart, 2024; Malami, 2024; Mollick & Mollick, 2024).

Immediate Feedback and Remedial Instruction

AI Tutors provide instant feedback and remedial instruction, enabling students to understand and learn from their mistakes quickly (Malami, 2024; AI-Pro, 2024).

Support for Diverse Teaching Strategies

AI tutors can adopt various teaching strategies, such as a Socratic approach or guiding students to reflect on their work (Bailey & Warner, 2024; Solomon, 2025).

Availability and Accessibility

AI Tutors are available 24/7, which enhances education accessibility regardless of geographical barriers (Chen et al., 2022; Heart, 2024; AI-Pro, 2024).

Overall, AI tutors have the potential to be a transformative force in education, providing a personalized, responsive, and widely accessible learning experience that complements other course instruction activities. They are not designed to replace human tutors, teaching assistants, or instructors. Instead, they enable students to have additional support beyond that already made available to them.

Why Use an AI Tutor

If deployed and implemented with care and consideration, there can be many benefits to using an AI tutor.

- **Enhanced Engagement and Motivation**: A study by Kestin et al. (2024) suggests that students interacting with AI tutors experience significantly greater engagement and motivation compared to those in traditional classrooms.
- **Reduced barriers to help seeking behavior**: Because AI tutors are available 24/7, students always have access to the help they need. In addition, students who feel embarrassed about approaching an instructor or teaching assistant with questions may feel more comfortable interacting with an AI tutor (Chen et al., 2022; Heart, 2024; AI-Pro, 2024).
- **Improved learning outcomes**: Some studies have shown gains in student learning with the use of AI tutors, particularly when tutors provide formative feedback to support ongoing improvement and development (Bailey & Warner, 2025; Fazlollahi et al., 2022; Maity & Deroy, 2024).

Possible Roles for an AI Tutor

According to Mollick and Mollick (2024), AI tutors can be assigned various roles to enhance student learning in the classroom, including the following:

- **AI as Tutor**: Provides direct instruction and educational guidance, pushing students to generate responses and think through problems.
- **AI as Coach**: Helps students engage in metacognition by reflecting on past experiences or planning for future projects.
- **AI as Mentor**: Offers frequent and ongoing feedback on student work.
- **AI as Teammate**: Increases collaborative intelligence by prompting discussions and offering alternative viewpoints in group settings.
- **AI as Student**: Allows students to "teach" the AI about a topic, evaluating its output and correcting inaccuracies, which enhances the student's own understanding.
- **AI as Simulator**: Creates opportunities for practicing hard-to-practice skills through role-playing scenarios, allowing students to apply knowledge and receive performance feedback.
- **AI as Tool**: Extends student performance by assisting with various tasks like writing software or analyzing data.

Examples of AI Tutor Use in Higher Education

Walden University

Julian™ is described as the Walden AI tutor, which utilizes Google Cloud's AI and machine learning to enhance students' understanding of concepts (AI-Pro, 2024).

Harvard University

A randomized controlled experiment was conducted at Harvard University, comparing student performance when participating in peer instruction (the control group) to that when students were working through the same lessons using an AI tutor (the experimental group). The study showed that students utilizing this AI tutor learned more than twice as much in less time and reported significantly higher engagement and motivation compared to those who participated in the peer instruction format (Kestin et al., 2024).

Uni-Distance Suisse

A semester-long study was conducted at Uni-Distance Suisse where a personal AI tutor app was provided to psychology students taking a neuroscience course. This AI tutor used GPT-3 to generate questions from course materials and then provided personalized learning. Students who actively engaged with this AI tutor achieved significantly higher grades, with an average improvement of up to 15 percentile points compared to a section without an AI tutor (Baillifard et al., 2025).

University of California, Berkeley (UC Berkeley)

The Open Adaptive Tutor (OATutor) is an open-source adaptive tutoring system that serves as a platform to deliver mathematics questions with hints. Its human tutor-authored hints were produced by UC Berkeley undergraduate students who had prior math tutoring experience (Pardos & Bhandari, 2024).

Stanford University

Stanford's National Student Support Accelerator conducts research on the effectiveness of AI tutor systems, including recent research on topics such as the impact of matching AI tutor gender in the effectiveness of STEM education for girls (Bleiberg, et al., 2025) or the impact of virtual tutoring on early elementary school education (Robinson, et al., 2024).

State University of New York (SUNY)

In 2024-25, the SUNY system launched an initiative to implement an AI tutor for potential deployment across all campuses in the system. The project team worked throughout summer 2025 to finalize the requirements for the tutor and piloted multiple systems in fall 2025.

AI Tutor Basics

Background information on AI and Education

The concept of using AI in education has been explored for over three decades, with its roots in "Intelligent Computer Aided Instruction" (ICAI) and the subsequent emergence of "Intelligent Tutoring Systems" (ITS) in the research community. This evolution highlights a continuous effort to harness technology for more efficient and personalized learning, aiming to replicate the highly effective one-on-one human tutoring model, which often faces challenges in terms of scalability and cost. (Baillifard et al., 2025; Memarian & Doleck, 2023)

How AI Tutors Work

AI Tutors function as advanced educational tools that simulate human instruction, providing personalized and adaptable learning experiences. At their core, these systems are powered by a combination of artificial intelligence algorithms and machine learning models, which enable them to learn from data and continuously improve their performance. Natural Language Processing (NLP) and Large Language Models (LLMs), such as GPT-3, GPT-4, and ChatGPT, play a crucial role in facilitating human-like conversations and generating relevant educational content, including explanations, examples, and customized questions. Some AI tutors also utilize neural networks to predict a student's evolving knowledge levels and adapt learning paths accordingly. Incorporating knowledge graphs can further enhance the system's ability to provide accurate answers. These underlying technologies allow AI tutors to offer personalized learning by adjusting content based on real-time student performance, provide immediate and timely feedback on assignments, generate diverse learning materials, actively engage students through interactive dialogue, and monitor progress to identify knowledge gaps (Baillifard *et al.*, 2025; Kim & Kim, 2020; Maity & Deroy, 2024).

Setting up an AI Tutor

Setting up an effective AI tutor system requires careful planning, design, and ongoing management. The specific setup of your tutor depends on the underlying software you choose, but there are four key parts to the setup process.

1. **Choosing and preparing content to train the tutor**. In most cases, the process begins with thorough content and data preparation, which involves curating content such as research articles and PowerPoints, providing outlines of learning objectives and outcomes, and reviewing past example questions from homework, previous exams, or other assignments.
2. **Prompt engineering**. For LLM-based tutors, meticulous prompt engineering is essential. This includes clearly defining the AI's role (e.g., "an encouraging tutor"), stating its goal (e.g., "help students understand concepts"), providing step-by-step instructions (e.g., "ask one question at a time, wait for a response"), tailoring explanations to the student's level (e.g., "a college freshman"), guiding without directly giving answers (e.g., "Socratic methods"), and adding specific constraints (e.g., "limit responses to 150 words"). Prompts often require thorough testing to ensure proper responses and mitigate incorrect information, also known as "hallucinations," which are further discussed in a later section of this chapter.
3. **Deciding how students will access the tutor**. In terms of infrastructure, using web-based chatbots or

integrating AI into existing Learning Management Systems (LMS), such as Brightspace, is the most common approach. Students should have clear instructions on how to access the tutor for support.

4. **Testing and validation**. It is essential to review AI-generated responses for bias and inaccuracies, design assignments to minimize over-reliance on AI, ensure data privacy and security, and emphasize human oversight to effectively combine AI's computational power with human creativity and judgment. We will continue to discuss each of these issues in more detail in the "Considerations and Concerns" section of this chapter. Ultimately, continuous testing, validation, and research are crucial for refining the AI tutor and validating its effectiveness (Bailey & Warner, 2024; Kestin et al., 2024; Mollick & Mollick, 2024).

Pedagogical Strategies for Integrating AI Tutors into Teaching and Practice

Before integrating an AI tutor into a course, instructors need to be very clear about why and how they want students to use a tutor. This decision begins with careful examination of the goals of the course and considering how interacting with an AI tutor will help students reach those goals as well as how it will help them develop as learners. AI tutors should be integrated into courses in ways that help students become more empowered as learners and that will reduce the potential for over-reliance on the tutor. The key is to consider what AI does well and focus students on using the tutor to support them in those tasks (Alby, n.d.; Bowen & Watson, 2024; Mollick, 2024).

After identifying the goals that an AI tutor will serve, it's important to communicate these goals to students, to help them understand that the tutor is set up to support their learning, and to help them understand how they will use the tutor. Remind them, also, that the tutor is an additional resource and not a substitute for the teacher or teaching assistants. Here is an example of the kind of language that might be included in a syllabus:

> You will have access to an additional resource in this course, an AI tutor called [name]. You can find this tutor in [describe where/how students will access the tutor]. I have implemented this tutor because it has four key benefits. First, it is available to you 24/7 and can provide you with opportunities to have guidance for working through course materials at any time. Second, it has been trained on materials from the course, so it can provide you with help that is tailored to the course content and assignments. Third, it will adapt and personalize its work with you so that you are getting the specific help you need. Finally, it has been trained to let you know when you may need to reach out to me for help—and I encourage you to do that! It's great to use the tutor, but I also want you to work with me as you learn in this course. As the course continues, I will provide you with guidance for how you can use the AI tutor to help you review challenging concepts, check your understanding, and receive feedback on your work. I will also help you understand when you should reach out to me for support.

The specific use cases will vary across courses, and instructors need to think carefully about how students will benefit from using an AI tutor in their specific context. Most importantly, instructors need to provide students with clear guidance to help them make the most of the tutor without offloading important cognitive work to AI (Bowen & Watson, 2024; Mollick, 2024).

Using AI tutors to review challenging concepts

Students can use the AI tutor to help them build their understanding of course material that is challenging to them. For this type of use, the instructor may guide students to ask the tutor to work through explanations of difficult concepts, help them solve problems (in a course requiring quantitative problem-solving), or work through a case study with them. Rather than simply having the AI do the work while students watch, students should be provided with strategies for interacting with the tutor as part of the review (Bowen & Watson, 2024).

Using AI tutors to quiz or check students' understanding

Students can use an AI tutor to help them prepare for course assessments by asking it to quiz them on their

understanding of content or on their ability to think through problem-solving tasks. For example, students can be guided to explain that they are about to take a quiz on a specific set of course materials and direct the tutor to ask them questions that require them to recall, explain, or use key concepts. The tutor can provide feedback on specific strengths and weaknesses, offer multiple attempts at questions, and offer hints instead of simply providing answers to questions they got wrong. The tutor can also give more challenging questions as students move through a tutoring session. Importantly, the tutor should be trained to recommend that students reach out to a faculty member or teaching assistant if they continue to struggle with a specific concept, problem, or process (Alby, n.d.).

Using AI tutors for feedback and to prompt student reflection

Students can use an AI tutor to help them think critically about work they are doing for a course by asking for feedback and support in determining their next steps. For example, in a course where students are writing an essay or report, the instructor may guide them to upload a draft and ask the AI tutor to give them feedback (based on the criteria for the assignment) and help them make a plan for revision. They may also upload a partial draft and ask the tutor to help them determine whether they are on the right track or if they may need to shift course. In a course that requires quantitative problem solving, they can enter their solution to a problem and ask AI to help them identify errors in reasoning. Alternatively, they can enter a partial solution and ask the tutor to give them feedback on their progress and help them take effective next steps. With any of these uses, it's important that students be required to reflect in writing on what they have learned and to articulate how they will use the feedback from the AI tutor to guide their next steps (Bowen & Watson, 2024; Mollick, 2024; Mollick & Mollick, 2024).

Concerns and Considerations

Over-Reliance and Passive Learning

AI tutors, while promising, carry a significant risk of fostering passive learning and over-reliance among students. This often happens when students are tempted to delegate all their work to the AI or outsource cognitive tasks rather than actively engaging with the material. They might use the AI as a "crutch," copying and pasting answers or relying on it to summarize texts, outline papers, or analyze information without truly grappling with the underlying concepts. This passive approach means students are less likely to critically assess and interrogate AI outputs, instead accepting them without verifying facts, which can lead to neglecting knowledge reinforcement and a potential decline in learning performance (Mollick & Mollick, 2024; Morrone, 2024; Palmer, 2024).

The consequences of this over-reliance are substantial, primarily stifling the development of essential skills. When AI provides quick answers and detailed analyses, it can undermine critical thinking, creativity, and reflection, leading to a shallow understanding of complex concepts. Students may miss out on learning valuable skills like writing, summarizing, analyzing, and drawing conclusions because the AI performs these tasks for them. Studies even suggest that while AI can initially improve performance, it can substantially inhibit learning in the long run, with students performing significantly worse when AI access is removed. This dependency can create "volatile learning patterns that become erased without the presence of AI," hindering genuine knowledge retention (Bastani et al., 2024; Memarian & Doleck, 2023; Mollick & Mollick, 2024; Wang & Fan, 2025).

To counteract these issues, educators must implement strategies that promote active learning and a "human-in-the-loop" approach. Students need to be taught to critically assess and interrogate AI outputs, actively verifying facts and challenging the AI's suggestions. Prompt engineering is key here, with prompts designed to spark debate and encourage students to ask good questions rather than just receiving answers. It's vital to clearly communicate that AI is a supplementary tool for exploration, not a replacement for critical thinking. Promoting critical AI literacy, which includes understanding AI's limitations, biases, and tendency to "hallucinate," is essential to student success. Furthermore, designing AI-resilient assignments that cannot be easily completed by AI, such as personal reflections, can encourage deeper engagement. Ultimately, emphasizing the irreplaceable value of human skills, context, and oversight ensures that AI tutors enhance, rather than hinder, genuine learning (Chauncey & McKenna, 2023; Slimi, 2023; Vee, 2025).

Limitations of AI Tutors

AI tutors are designed to mimic human tutors, offering personalized and adaptable learning by leveraging AI algorithms. They can provide direct instruction, offer immediate feedback, generate custom questions and examples, and monitor student progress to identify knowledge gaps. Unlike traditional resources, AI can simulate human-like intelligence to analyze, synthesize, and generate insights, providing on-demand expertise. However, both faculty and students must understand that AI's "reasoning" is an illusion of automatic syntax generation, not genuine human-like intelligence. AI tutors are effective for quick information checks but often fall short when addressing profound, fundamental misunderstandings that require deeper human intervention (Bailey & Warner, 2024; Solomon, 2025).

Environmental Impact

Faculty who are considering whether to use an AI tutor with their students should make themselves aware of the environmental impact of AI use and weigh the benefits of AI tutors against those negative impacts. The first and second editions of the *SUNY FACT2 Guide to Optimizing AI in Higher Education* include additional information about environmental impact that can help instructors make an informed decision.

Hallucinations

AI hallucinations, also known as "confabulation," refer to the tendency of Large Language Models (LLMs) to produce information that is incorrect yet sounds entirely plausible. These errors can be deeply embedded in the AI's output, making them difficult to detect, and are particularly common when the AI is asked for detailed information, such as quotes, sources, or citations, often leading to the fabrication of non-existent references. This phenomenon is further complicated by "behavioral drift," where an AI's responses can vary over time due to updates or changes in prompting. Underlying this issue is the nature of self-supervised learning, where models like GPT-3 may generate synthetic information based on patterns learned from their training dataset, rather than strictly adhering to factual data, which can result in the application of "wrong knowledge" (Chauncey & McKenna, 2023; Mollick & Mollick, 2024).

In educational settings, the risk of AI hallucinations presents a significant challenge, potentially having detrimental effects on student learning if AI-generated hints or responses contain errors. When students rely on AI tutors without critical engagement, there's a risk of "outsourcing thinking" rather than truly engaging with the material. AI tutors might convey only superficial knowledge or provide subtly incorrect answers that students, lacking the necessary expertise, may not be able to identify as inaccurate. This can hinder learning performance, perception, and higher-order thinking, and some studies even suggest a reduction in creative writing abilities with AI use. The risk of confabulation is particularly high when AI functions in a tutoring role, as incorrect guidance can actively derail the benefits of teaching (Kestin et al., 2024; Pardos & Bhandari, 2024; Wang & Fan, 2025).

Biases

Concerns about the ways in which AI outputs reflect biases have been well-documented and are described extensively in the first and second editions of the *SUNY FACT2 Guide to Optimizing AI in Higher Education*. It is important to be aware of the impact these biases can have for students' use of AI tutors. If AI-generated hints or responses contain errors or reflect biases, they can hinder learning outcomes and negatively affect equitable teaching and learning processes. For instance, language models might generate examples or scenarios that reflect cultural or socioeconomic biases, potentially disadvantaging learners from diverse backgrounds. Students, often unaware of these inaccuracies or lacking the knowledge to spot biased content, might over-rely on the AI, stifling critical thinking. Moreover, AI-generated biased information often sounds authoritative and credible, making these subtle and malign errors difficult for users to detect. Instructors who choose to implement an AI tutor should inform themselves and their students of these potential biases and provide guidance to help students think critically about AI outputs.

Equity and Access

Highly effective LLMs, such as GPT-4, are proprietary, and their cost can raise inclusivity concerns for low-income students. The first and second editions of the *SUNY FACT2 Guide to Optimizing AI in Higher Education* provide a more in-depth consideration of equity and access concerns for AI in higher education. AI tutors present opportunities for bridging these disparities by offering centralized learning opportunities, especially in areas with teacher shortages, and instructors can fine-tune LLMs with diverse data to significantly narrow performance gaps across different languages and cultures, thereby enhancing inclusivity in educational tasks (Kwak & Pardos, 2024; Memarian & Doleck, 2023; Morrone, 2024).

Implementation, Deployment, and Management

When instructors consider implementing an AI tutor, they need to approach it with a comprehensive understanding of its capabilities and limitations. They also need to recognize the investment of time and energy that is required to ensure that the tutor functions in ways that will support students' learning and mitigate the concerns that have been described throughout this section. While using an AI tutor may save time during a course, the initial setup and deployment will be time-consuming and requires iterative work.

To design, implement, and manage an AI tutor effectively, instructors must plan to do the following before deploying the tutor to students.

Master prompt engineering

Instructors must craft well-designed prompts that clearly define the AI's specific role (e.g., "an upbeat, encouraging tutor") and its goal (e.g., "help students understand concepts"). Providing step-by-step instructions, like asking one question at a time and waiting for a response, is essential. Prompts should also guide the AI to adapt explanations to the student's learning level and prior knowledge, and crucially, to lead students to their own solutions rather than providing direct answers. Adding constraints and specific domain knowledge helps mitigate shallow responses or inconsistencies. Instructors should anticipate that AI can be unpredictable. It might refuse prompts, get stuck in loops, or even become argumentative, so it is wise to instruct students on how to redirect or restart interactions when needed. Prompt refinement is an iterative process that requires repeated testing across different LLMs to achieve the desired behavior and avoid "hallucinations."

Prepare content

Instructors should fine-tune AI tutors with curated datasets, including lesson plans, research findings, or past student assessments. This ensures the AI tutor provides specific expertise and aligns with the instructor's goals. For complex subjects like math, providing comprehensive, step-by-step solutions is necessary to guide the AI in delivering accurate explanations. Generating a diverse set of questions, ranging in difficulty and format, from lecture materials is also important, with each question needing individual review and validation by the course instructor to ensure accuracy and relevance.

Conduct thorough testing and evaluation

Instructors should personally interact with the AI tutor multiple times with course topics or concepts to observe its reactions. It is beneficial for instructors to intentionally "break" the AI by asking for direct answers (pedagogical breaking) or making common student mistakes (conceptual breaking) so they understand AI's limitations. A critical review of AI-generated responses for accuracy and appropriateness, especially for diverse student needs, is vital. If the AI consistently provides incorrect or fabricated information, it shouldn't be used for that specific topic. Instructors should also test for consistency and adaptability, checking if the prompt works

reliably across multiple attempts and for students with varying proficiency levels, as different AI models may behave differently with the same prompts. This design and development process can involve significant time commitment.

Guide students on responsible use

Instructors must be transparent about the use of the AI tutor in syllabi and other course materials, providing clear guidelines and expectations for its proper usage and citation. They should also plan for how the course will help students learn how to critically evaluate AI outputs rather than passively accepting them, understanding that they are ultimately responsible for the accuracy of their work. As part of their interactions with an AI tutor, students should be educated about the risks of AI, including confabulation and bias. They should also be aware of privacy concerns and know the risks of entering personal data into the AI. Assignments should be designed to promote productive struggle and thoughtful engagement with AI content, ensuring it serves as a supportive tool, not a "crutch" to circumvent learning. Finally, emphasize that human oversight is always necessary, advocating for an AI-human partnership, and consider offering an opt-out option for AI assignments if feasible.

Conclusion

This guide has presented a set of strategies for addressing some of the key challenges and opportunities surrounding AI in higher education in our current moment. As we look forward to the further development and integration of AI, new challenges and opportunities will undoubtedly arise. Regardless of the direction of the development of AI as a technology, we as educators have a responsibility to continue making informed, ethical decisions about how AI will be integrated in our teaching (including the decision NOT to use AI in particular contexts) and how we will prepare our students to live and work in a world with AI. This means being cautious about the potential impacts of AI use on student learning, keeping in mind the long-term effects of AI use are still unknown. It also means recognizing that students don't just need to know how to interact with AI: they need to understand how it works and how it can be applied effectively in their disciplinary contexts. They need to understand its potential as well as its limitations. They need to learn how to think critically so they can separate AI hype from reality. Most importantly, they need to be clear about the essential role of human creativity, agency, and intelligence.

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