

# Where AI Meets Accessibility: Considerations for Higher Education



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# About Our Organizations



[Teach Access](#) is a US-based nonprofit organization dedicated to bridging the gap between the demand for digital accessibility skills in the workplace and the supply of professionals equipped with this knowledge. They collaborate with educational institutions, industry leaders, and disability advocacy groups to integrate accessibility principles into curricula.

Teach Access offers free programs and resources aimed at both students and educators. These initiatives include professional development opportunities, collaborative projects, networking events, and funding for accessibility-focused endeavors. The organization also provides teaching materials and resources through their curriculum repository to support the integration of accessibility concepts into educational programs.



Every Learner Everywhere is a network of partner organizations with expertise in evaluating, implementing, scaling, and measuring the efficacy of education technologies, curriculum and course design strategies, teaching practices, and support services that personalize instruction for students in blended and online learning environments. Our mission is to help institutions use new technology to innovate teaching and learning, with the ultimate goal of improving learning outcomes for every learner. Our collaborative work aims to advance student success in higher education centered on the transformation of postsecondary teaching and learning. We build capacity in colleges and universities to improve student outcomes with digital learning through direct technical assistance, timely resources and toolkits, and ongoing analysis of institutional practices and market trends. For more information about Every Learner Everywhere and its collaborative approach to transforming higher education through digital learning, visit [everylearnereverywhere.org](https://www.everylearnereverywhere.org).

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# Introduction

Welcome to the *Where AI Meets Accessibility: Considerations for Higher Education* toolkit! This resource is designed to support educators and administrators in higher education in exploring the intersection of artificial intelligence (AI) and accessibility, with a particular focus on the needs of people with disabilities (PWD). As AI becomes increasingly embedded into educational settings and practices, it offers both opportunities and challenges. This toolkit will help you navigate both aspects—demonstrating how AI can help overcome technology barriers and highlighting areas where it may inadvertently create new obstacles for PWD.

## GUIDE TO ACRONYMS

**AI** – artificial intelligence

**AT** – assistive technologies

**PWD** – people with disabilities

**WCAG** – Web Content Accessibility Guidelines



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## Structure

The resource starts with an introduction to accessibility and AI, explaining key concepts and their relevance in higher education. It then examines specific challenges that PWD face when using AI, including biases and ableist assumptions that may hinder accessibility. Additionally, the toolkit explores the role of AI in assistive technology (AT) and how it can be used as an assistive tool in educational contexts. The document also addresses how AI can support broader accessibility initiatives and provides insights into making AI more inclusive. The resource concludes with practical advice for educators and administrators on implementing and using AI inclusively. Throughout, you will find quotes, prompts, examples, and considerations to help you apply what you're learning.

## Toolkit Creation

This resource was developed by Teach Access in partnership with Every Learner Everywhere. It was created through collaboration with experts from academia, industry, and the disability community. And yes, generative AI tools were also used to develop some of the examples and ensure that the language is accessible. The content in this publication reflects the state of AI technology and accessibility considerations as of the publication date; however, because these fields are continually evolving, you should verify current information and best practices to ensure accuracy and relevance. The mention of specific tools throughout this document is for illustrative purposes only and should not be interpreted as an endorsement by the authors or affiliated organizations.

Our goal is to shift the conversation around AI in higher education beyond topics like academic integrity or the student experience, and instead encourage a focus on how AI can promote accessibility and inclusion. Whether you are new to AI or already exploring its possibilities, we hope this toolkit helps you discover innovative ways to foster access and opportunity in higher education for PWD.



# Let's Talk About Accessibility

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## What is Digital Accessibility

Siyana and Elise are classmates, meeting at a coffee shop to edit one another's papers. Siyana is sighted and is reading Elise's paper from her laptop screen. Elise is blind and uses screen reader software on her laptop to read Siyana's paper. The screen reader reads text out loud, allowing Elise to access all the content in the paper. Even though Siyana and Elise interact with digital documents in different ways, they are both able to read and edit each other's work. This is possible because of digital accessibility.

Digital accessibility means that people with and without disabilities can get equivalent experiences and opportunities from digital content, similar to how Siyana and Elise can both read and edit papers using different methods. This may be accomplished using existing technology and resources and the most recent version of the Web Content Accessibility Guidelines (WCAG) provided by the [World Wide Web Consortium \(W3C\)](#). When technologies are designed with accessibility in mind, PWD may use AT to independently navigate and use these digital tools and resources.



### DEFINING ACCESSIBILITY

**"Accessibility is the capacity and ability for someone to access something. For me, it is about accessing education. When there are barriers to accessing education, the accessibility of that education is hindered. Accessibility is also dependent upon the context or conditions of the educational experience, who is accessing it, and which assignments or tasks need to be completed. It is a feature that needs to be considered when designing any learning experience."**

— Alejandra Dashe, Senior Instructional Designer at ASU

### Further Reading:

- [What Is Accessibility?](#)
- [What Is Digital Accessibility? Guide for an Accessible Website](#)

# Why Should We Care About Accessibility?

## The Legal Perspective

There are many reasons to prioritize accessibility, and one of them is that it's legally required. As digital technology becomes more important in everyday life, countries around the world have developed laws and regulations regarding digital accessibility. Some states, provinces, and cities may have their own accessibility regulations in addition to national laws. While we prefer to focus on accessibility as being the right thing to do, it's also backed by laws that require institutions to provide accessible environments, resources, and services for employees and students.

The Americans with Disabilities Act (ADA) is a US civil rights law that prohibits discrimination based on disability, requiring institutions to ensure that their physical spaces, resources, and services are accessible. Section 504 of the United States Rehabilitation Act, on the other hand, requires that programs and activities that receive federal funding, such as public universities, provide equal access to PWD. More recently, guidance from the Department of Justice (DOJ) clarifies that Title II of the ADA applies to web accessibility, meaning that educational institutions must make their websites and digital resources accessible to PWD. To comply with these new requirements, institutions of higher education are enhancing their readiness across multiple departments, including web development and information technology (IT) teams, campus accessibility offices, and individual academic programs.

Similarly, various countries have been creating their own digital accessibility laws. For example, Canada has the Accessibility for Ontarians with Disabilities Act (AODA), the European Union has the Web Accessibility Directive, and Kenya has the Persons with Disabilities Act.

### Further Reading:

- [Web Accessibility Laws & Policies](#)
- [IT Accessibility Laws and Policies: Section508.gov](#)
- [Accessibility for Ontarians with Disabilities Act \(AODA\)](#)
- [The European Web Accessibility Directive](#)
- [Federal Register: Nondiscrimination on the Basis of Disability](#)
- [Global Directory – Disability:IN](#)

## | The Social Justice Perspective

In terms of social justice, ensuring accessibility is a shared fundamental responsibility. According to the World Health Organization (WHO), approximately 1.3 billion people globally, or about 16 percent of the world's population, experience some form of disability.<sup>1</sup> In the United States, the Centers for Disease Control and Prevention (CDC) report that more than one in four adults lives with a disability.<sup>2</sup> In higher education, the number of college students with disabilities has nearly doubled over the past two decades, with an estimated 3.5 million students currently enrolled.<sup>3</sup> Additionally, disability is a universal experience that any individual may encounter at any point in life, underscoring the importance of building accessible technologies that benefit everyone.

## | The Quality Perspective

Accessibility can also be viewed as a critical indicator of quality in education. Various frameworks emphasize its importance as an essential element of course design and teaching practice. For example, the [SUNY \[State University of New York\] Online Course Quality Review Rubric \(OSQCR\)](#) integrates accessibility into its criteria, underscoring its role in enhancing the overall learning experience. Similarly, the [Quality Matters Rubric](#), used in both higher education and K–12, includes a dedicated standard on Accessibility and Usability (Standard 8). The [ISTE \[International Society for Technology in Education\] Standards](#) further highlight accessibility as a pillar of effective educational technology use. They call for educators to advocate for equitable access to digital tools and learning opportunities (Standard 2.2b), encourage collaboration to foster inclusive learning environments (Standard 4.4c), and emphasize accessible design as a key competency in computational thinking. Other frameworks encourage incorporating Universal Design for Learning (UDL) guidelines to improve accessibility and provide inclusive, high-quality educational experiences that cater to learner variability.

## | The Sustainability Perspective

Accessibility offers significant advantages to an institution's success and sustainability. First, it fosters innovation by removing barriers and promoting experiences that prioritize access for all constituents, including those with disabilities. This approach often leads to more intuitive processes and services. Second, accessibility enhances an institution's reputation and cultivates student/alumni loyalty by demonstrating a tangible commitment to access. By ensuring that academic content and services are accessible, institutions can recruit a wider pool of employees and students. Furthermore, adherence to accessibility standards helps minimize legal risks, ensuring that institutions remain compliant with regulations and maintain long-term stability and growth.

## | The Accreditation Perspective

Accrediting bodies are increasingly emphasizing the importance of supporting students with disabilities. For example, the Western Association of Schools and Colleges Senior College and University Commission (WSCUC) explicitly addresses this in its accreditation Standard One.<sup>4</sup> Additionally, WSCUC encourages institutions to assess the steps taken to ensure equitable outcomes for this population.<sup>5</sup> At the program accreditation level, organizations such as the Accreditation Board for Engineering and Technology (ABET) are working to ensure that accessibility is central to the student experience.<sup>6</sup> Some of these efforts include incorporating accessibility principles into curricula, ensuring that students not only experience accessibility in practice but also are taught about it as part of their education. These shifts reflect a growing recognition that accessibility is an essential component of quality education and institutional accountability.

### **Making the Case for Accessibility at Your Institution**

When making the case for accessibility at your institution, you might need to tailor your approach based on your audience. For example, when speaking to leadership, focusing on legal and business reasons might be more persuasive, while colleagues in Academic Affairs may respond better to arguments about social justice and improving quality. Consider what motivates your audience and tailor your message to align with their priorities.



## Frameworks for Accessible Design

The [WCAG](#) are a set of standards for designing accessible digital products. Although not legally binding, lawmakers often refer to them when drafting digital accessibility regulations. Businesses and organizations around the world use these standards to help them design, develop, and test their digital content and products for accessibility. An international group of developers, researchers, educators, and specialists works together on the WCAG, developing new versions of the standards as our understanding of digital accessibility improves and changes.

Although the WCAG contain “web content” in their name, these standards apply to all types of digital interfaces, tools, and resources, including websites, apps, online learning platforms, digital documents and books, and kiosks such as ATMs and voting machines. They are composed of principles, guidelines, success criteria, and techniques and have three levels of conformance: A (lowest), AA, and AAA (highest).<sup>7</sup> One challenge for higher education institutions is explaining technical accessibility standards to a diverse audience. To address this, we recommend starting with the broader principles of accessible design: perceivable, operable, understandable, and robust (POUR). The POUR principles are easier to grasp and serve as a foundation for raising awareness and advocating for accessibility.

### The Principles of Accessibility

You can use the acronym POUR to remember the core components of digital accessibility per the WCAG.

**P is for Perceivable.** Can everyone get equivalent information from the tool or interface, regardless of how they use their senses (sight, hearing, touch) to receive this information?

**O is for Operable.** Can everyone interact with the features and controls? Must you use a mouse or will the controls work with keyboard navigation, voice input, or other technologies?

**U is for Understandable.** Is the content presented in a way that everyone can understand? Is it designed to include people who are neurodivergent or have learning disabilities?

**R is for Robust.** Is the tool or content available across different screen sizes? Devices? Browsers? Is it compatible with assistive technologies?

Universal Design for Learning is another useful framework for engaging faculty in conversations about accessibility, as it focuses on creating inclusive learning environments and materials. The UDL guidelines encourage flexible teaching methods and assessments to accommodate diverse styles and needs, making UDL a key approach in accessibility efforts. To support this, many campuses are providing faculty and staff with training on UDL principles and practical strategies for implementing accessible teaching. However, it's important to note that UDL alone does not ensure full compliance with accessibility standards. A comprehensive approach requires integrating both UDL and accessibility frameworks to meet diverse needs and legal requirements effectively.

#### Further Reading:

- [WCAG 2 Overview](#)
- [Microsoft Inclusive Design Guidebook](#)
- [Universal Design for Learning 3.0 Guidelines](#)
- [Accessibility Testing for Websites and Software](#)

## Accessibility in Higher Education

Accessibility in higher education is a major focal point, with discussions centered on creating inclusive digital environments, designing accessible curricula, and fostering inclusive campus experiences.

Section 504 of the Rehabilitation Act of 1973 has played a key role in ensuring that PWD are not excluded or discriminated against in higher education programs or activities funded by the federal government. It mandates that higher education institutions make their facilities, programs, and resources accessible, and provide reasonable accommodations to students with disabilities to guarantee equal access to educational opportunities. With the US DOJ recent guidance on how Title II of the ADA applies to digital accessibility, colleges and universities are facing renewed urgency to ensure that their digital resources meet legal accessibility requirements.

As learning platforms, tools, and online content become central to education, institutions must guarantee accessibility for all students, including those with disabilities. They should also review their policies for selecting third-party tools, ensuring that accessibility is a key consideration during procurement. Additionally, colleges and universities should prioritize redesigning their websites to enhance navigation for all users and ensure compatibility with assistive technologies. While this guidance currently applies to public institutions, a comparable regulation for private institutions is expected to be released later in 2025 or early next year.

Information technology professionals, instructional designers, and faculty developers have often led the way in championing accessibility in higher education. Their expertise in technology, course design, and faculty training has been essential in creating inclusive environments. However, building a truly accessibility-focused culture requires more than individual efforts—it demands collective responsibility. Success depends on embedding accessibility into every aspect of the institution, from leadership to teaching staff to support services. It's vital that this responsibility doesn't fall on a single person or a small team but is distributed across all roles in the institution. Accessibility education, both for students and for the workforce, can play a crucial role in achieving this goal. By equipping individuals with fundamental accessibility knowledge, institutions can prepare future professionals who prioritize accessibility in their fields, fostering long-term cultural change and more inclusive practices across industries.



### ACCESSIBILITY EDUCATION

**"For students, an understanding of accessibility provides them with better opportunities to work alongside their peers with disabilities. Students can also use their knowledge of accessibility as an advantage when entering the workforce. Across both the private and the public sectors, more and more organizations are looking for employees who can understand and apply accessibility principles. Accessibility experience can give new graduates a competitive edge."**

— Erica Braverman, User Experience Researcher at Larunda Inc.

#### Further Reading:

- [Accessibility in the Spotlight: Department of Justice Regulations](#)
- [Meeting the Looming Web Accessibility Regulations: The Time to Start Was Yesterday](#)
- [Survey on New DOJ Regulation on Accessibility of Web Information and Services](#)
- [1EdTech TrustEd Apps Accessibility Rubric](#)
- [Accessible EdTech Resources](#)
- [Accessible Technology Skills Gap](#)
- [Survey Findings on Accessibility Skills and Training Opportunities in the Workplace](#)
- [Accessibility Skills Hiring Toolkit](#)



# Now Let's Talk About AI

CONTRIBUTORS: BERNABÉ SOTO BELTRÁN AND STEPHEN THOMAS

## What Is AI?

Artificial intelligence is the field of technology focused on developing computers and machines to be capable of simulating tasks that would normally require human intelligence,<sup>8</sup> such as comprehension, learning, problem-solving, decision-making, creativity, and autonomy.<sup>9</sup> Thus, AI encompasses a wide range of technologies, from simple decision-making algorithms to complex neural networks and advanced deep learning models. It's a rapidly evolving field that is becoming increasingly integrated into everyday life, powering tools and applications across industries.



### DEFINING AI

**"I personally think of artificial intelligence as the development of computer systems that can perform tasks typically requiring human intelligence. This includes processes like learning from data, recognizing patterns, making decisions, problem-solving, and generating content."**

— Stephen Thomas, Assistant Dean of STEM Teaching and Learning at Michigan State University

Let's break down some key concepts in AI to better understand how it works and its implications for educators and students:

1. **Machine learning:** This is the idea that machines can learn from data instead of being programmed for every specific task.<sup>10</sup> They identify patterns and behaviors from the information provided. For example, recommendation systems like those on Netflix or Amazon use machine learning to suggest movies or products to viewers. The more data the system processes, the better it gets at making predictions.
2. **Natural language processing (NLP)**<sup>11</sup>: This field of AI focuses on how machines can understand and generate human language. Things like virtual assistants (e.g. Alexa, Siri) and chatbots are examples of NLP in action; NLP analyzes and processes spoken or written language so that machines can interact with us in a more human way. It's like teaching a computer to "understand" what we say.
3. **Language model:** This type of AI system is trained to predict the next word, character, or piece of text based on what it has seen before. It looks at the context of the words or characters that come before (or sometimes after) a specific point in the text to predict what is most likely to come next.<sup>12</sup>
4. **Artificial neural networks:** These are networks that mimic how the human brain processes information. They are used for more complex tasks, such as facial recognition or image analysis. Imagine a network with many layers that learns to recognize increasingly detailed features of an image. This type of AI is key in the creation of technologies like autonomous cars.

It's also important to understand how AI tools generate responses. Instead of retrieving exact information, AI models generate responses by predicting the next word or sequence based on the probability of what typically follows a given input. This means that when users ask AI a question, the response is a construction of likely answers, not a retrieval of specific facts from a database or a direct source. Because AI generates responses based on probabilities rather than retrieving exact information, it may produce incorrect or entirely fabricated answers, often referred to as **AI hallucinations**. Since AI lacks a true understanding of facts, its outputs can sometimes be nonsensical or misleading, making it essential to verify the information it provides.

#### Further Reading:

- [What Is Artificial Intelligence \(AI\)?](#)
- [Artificial Intelligence](#)
- [What Are AI hallucinations?](#)

## AI in Higher Education

Artificial intelligence is sparking diverse and dynamic conversations across higher education, touching on several critical areas, particularly teaching and learning. A key topic is pedagogical innovation, as AI offers tools for enhancing curriculum development, instructional design, and teaching and learning. These tools can analyze large educational datasets to help educators identify trends and challenges, offering actionable insights for improving curricula. For example, AI tools can highlight common difficulties students face with specific topics or courses, enabling educators to create targeted resources that address these challenges effectively.

In instructional design, AI can simplify and enhance the process of creating effective and equitable learning experiences. Tools powered by AI support instructional designers and subject-matter experts with tasks like generating course materials, quizzes, and assignments. These tools can also simulate learner interactions, enabling designers to evaluate the effectiveness of course designs before implementation. This provides actionable feedback, helping designers to refine content, improve engagement, and address potential challenges.

Additionally, AI has the potential to transform classroom interactions by fostering real-time engagement between educators and students. For example, intelligent tutoring systems adapt to individual learning progress, offering personalized feedback tailored to each student's needs. Similarly, AI-powered chatbots can handle routine questions about course logistics or clarify fundamental concepts. By delegating these repetitive tasks to AI, educators can focus more on mentorship and addressing complex teaching challenges.



### PERSPECTIVES ON AI

**"In higher education, AI is a topic that generates many interesting conversations. One of the most important topics is pedagogical innovation. Another big topic is ethics and bias in AI. There is a strong debate about how to ensure that AI systems do not perpetuate social or cultural biases and how to use them fairly. And finally, there are discussions about access, as some see AI as a way to democratize education, while others fear that it could increase inequalities if not implemented properly."**

— Bernabé Soto Beltrán, Director for Online Learning and Internationalization at Universidad Interamericana de Puerto Rico, Aguadilla Campus

There are ongoing discussions about how to design and implement AI systems in a way that ensures fairness and transparency, and does not reinforce societal biases. In the context of accessibility, this means actively involving PWD in the development of language models and the creation of training datasets. This approach helps create AI tools that are not only fair but also specifically designed to support PWD.

Other discussions around AI in higher education focus on its potential to improve access to education. However, it is important for institutions to recognize that unequal access to technology—particularly AI tools—can worsen existing disparities, especially for underrepresented groups like PWD.

Finally, AI literacy is becoming a critical focus in higher education. As AI rapidly evolves, institutions must ensure that students understand not only the technology's capabilities and limitations but also its ethical implications, especially for underrepresented groups. Educators play a key role in teaching about these ethical concerns and ensuring that AI is used responsibly. Also, accessibility should be a critical component of AI literacy education. By integrating accessibility into AI education, institutions can shape a future where technology enhances education and promotes access and opportunity.

### **Questions to Spark Meaningful Discussion on AI and Accessibility in Education**

Use these questions to facilitate meaningful conversations about AI and accessibility at your institution.

- **How can AI be used to promote creativity, critical thinking, and innovation in ways that haven't been possible before?**
- **How can AI enhance teaching and learning practices to better meet the diverse needs of students, including those with disabilities?**
- **How might AI-powered tools, like virtual tutors or chatbots, change how educators and institutions support students with disabilities?**
- **How does AI challenge traditional methods of achieving student outcomes, and what changes are needed to maintain academic integrity while ensuring fairness and accessibility for all students?**
- **How can higher education institutions ensure equitable access to AI tools and resources for all students, particularly those with disabilities?**
- **What steps should be taken to ensure that all students, including students with disabilities, benefit equally from AI advancements?**
- **What knowledge or skills should students acquire to effectively understand and ethically engage with AI in their academic and professional lives?**
- **How can education systems adapt to ensure that students, particularly those with disabilities, are prepared for careers shaped by AI advancements?**
- **What strategies can institutions use to harness the potential of AI while ensuring accessibility, minimizing its risks, and promoting its responsible use?**

# AI and People with Disabilities

CONTRIBUTORS: RUA MAE WILLIAMS, TESSA WOLF, AND VAISHNAV KAMESWARAN

Artificial intelligence offers significant potential to address some of the key challenges faced by people with disabilities (PWD), particularly by enabling scalable technology solutions and personalized user experiences. However, as with previous technological shifts, there is a risk that PWD may be excluded due to barriers in design, implementation, or equitable access. In this section, we will explore key issues related to AI's impact on PWD. As you read, please remember that each person's experience with disability is unique. Even if individuals share a similar disability, diagnosis, or condition, their needs, preferences, and challenges may vary significantly.



## DEFINING DISABILITY

**A disability is a physical or mental impairment that substantially limits one or more major life activities.**

– [American with Disabilities Act \(ADA\) National Network](#)



## Barriers for PWD

To address the barriers that AI can create for PWD, it is essential to first define what is meant by AI. There are various categories of AI, each distinguished by the type of output it produces. All of these categories rely on machine learning<sup>13</sup> as their foundational technique, enabling systems to recognize patterns and make predictions based on data. Understanding these distinctions is crucial for evaluating how AI systems may either support or hinder accessibility for PWD.

1. **Classifier AI** is trained on large datasets, labeled by humans, in order to learn how to label new data on its own. However, it can create barriers for PWD due to errors when it encounters data that doesn't match anything it's been trained on, often referred to as "outliers,"<sup>14</sup> or when biases in the training data lead to inaccurate labeling. These errors can result in scenarios such as an autonomous vehicle not recognizing a wheelchair user as a pedestrian,<sup>15</sup> a healthcare AI system denying a disabled person's insurance claim by assessing "medical necessity" using criteria designed for non-disabled patients,<sup>16</sup> or an image recognition tool providing incorrect information to a blind user, leading to unsafe or uninformed decisions.
2. **Predictive AI** builds on Classifier AI systems by making predictions based on multiple data points and their correlations. However, this type of AI can be particularly harmful for disabled people, as they are often underrepresented in datasets. Predictions that work well for non-disabled individuals often fail to account for the needs of PWD. For example, autocomplete features may overlook how individuals with motor or cognitive impairments interact with text input, such as relying on alternative spellings or phrasing. While increasing the representation of disabled people in datasets can help, it doesn't fully address the issue. Often the most biased aspect of a system is actually its design, and not its training data (outliers). For example, medical insurance and benefits algorithms are designed to prioritize cost-saving measures, focusing on short-term financial outcomes rather than long-term health benefits. This design often disregards the life-saving needs of patients. Disabled people are especially vulnerable to insurance denials based on these cost assessments, which can worsen their medical conditions and accelerate their decline.
3. **Generative AI** builds on predictive AI by using probabilities from large datasets of text or images to predict what comes next in a sentence or image. While some ethical concerns may not directly involve disability, they remain critical to address. For instance, the data used to train these models is often sourced from creators without consent, and generated content is sometimes used to imitate their work, harming their reputations and livelihoods. Additionally, generative AI has accelerated the spread of misinformation, disproportionately affecting vulnerable populations, including PWD, by perpetuating harmful stereotypes or disseminating false information about disability-related topics. Finally, the ecological impact of generative AI systems is significant, placing strain on power grids and depleting water resources—issues that, as past energy and environmental crises have demonstrated, disproportionately affect PWD.<sup>17</sup>



## AI BARRIERS FOR PWD

“In my experience as a disabled person, there are a lot of barriers that I see in terms of people with disabilities accessing and benefiting from artificial intelligence. The biggest one that comes to mind is how AI systems are often not designed with accessibility in mind. For one example, speech recognition systems might not work as well for people who have disabilities that impact their speech. This ties into another issue with AI, which is the bias in AI algorithms—AI models are often trained using datasets that do not accurately represent people with disabilities, resulting in these systems being harder for people with disabilities to use. One last barrier that I think is overlooked is the digital divide that exists when it comes to people with disabilities learning about and accessing AI. For instance, people with learning disabilities tend to have lower digital literacy, which makes learning how to use AI more difficult.

As for my own interactions, the greatest barrier for me personally is learning how to use certain AI tools. Oftentimes, the instructions are unclear or too complex, and I just don't have the time or the energy to try to figure them out. Another barrier that I face is that the cost of the tools is too much for me, which is unfortunate because I feel as though they could really help me, especially in my education.”

— Tessa Wolf, Learning and Education Studies Student at University of Illinois, Urbana-Champaign

### Further Reading:

- [Barriers to Digital Inclusion 1](#)
- [Barriers to Digital Inclusion 2](#)
- [On Being an Outlier](#)

## Perpetuating Biases and Ableist Assumptions

The ethical implementation of AI in higher education should be a critical area of focus, particularly as institutions aim to advance access for all students. Despite AI's potential to transform education, it often falls short of addressing the needs of PWD. For example, some automated speech recognition systems struggle to accurately interpret speech patterns of people with speech impairments. This shortcoming stems largely from the lack of representation of disabled perspectives in AI development processes. Because AI systems rely on datasets curated by humans, any existing biases or omissions in the data are inevitably reflected in the technology. The underrepresentation of PWD in these datasets can be attributed to two key factors.

First, PWD are often not considered a “profitable” user group. Large technology companies, which hold the resources to develop AI models and applications, tend to prioritize innovations that promise high financial returns. Myths persist in the industry that PWD do not form a significant market or lack purchasing power.<sup>18</sup> As a result, fewer technologies are designed to meet their unique needs.

Second, PWD are rarely prioritized in the design of AI technologies. While discussions about inclusion in AI often focus on race and gender, they frequently overlook disability. Like other marginalized groups, disabled people are underrepresented on design and development teams. This lack of representation means that AI systems fail to reflect their experiences. Moreover, the discrimination disabled people face differs fundamentally from other forms of bias, making it essential to center their voices in inclusion efforts.



### DEFINING ABLEISM

**Ableism is the discrimination of and social prejudice against people with disabilities based on the belief that typical abilities are superior. At its heart, ableism is rooted in the assumption that disabled people require “fixing” and defines people by their disability. Like racism and sexism, ableism classifies entire groups of people as “less than,” and includes harmful stereotypes, misconceptions, and generalizations of people with disabilities.**

— [Access Living](#)

When PWD are excluded from the creation of AI systems, the resulting datasets and design processes become less inclusive. This exclusion perpetuates harmful stereotypes and limits access to innovations that could enhance the educational experience for students with disabilities. AI systems often assume a “one-size-fits-all” model, which overlooks the diverse needs of students with disabilities, including the accommodations they may need to succeed.

For example, automated grading systems may evaluate student responses based on specific patterns, such as the structure or formatting of written answers. This approach can disadvantage students with cognitive disabilities, dyslexia, or processing difficulties, as they may need more time or have alternative ways of expressing their ideas. As a result, these systems could unfairly penalize students who deviate from the expected norms of response.

Ongoing research by Dr. Vaishnav Kameswaran at the University of Maryland highlights how the use of AI in hiring, particularly automated video interview systems, can discriminate against PWD. These platforms assess candidate suitability based on behavioral, prosodic, and lexical features, such as the amount of eye contact a candidate maintains. These features are then abstracted into qualities like engagement and enthusiasm, which contribute to a candidate's suitability score. This approach is inherently ableist as it prioritizes "normative" characteristics that may be discriminatory. Moreover, these AI tools shift the power dynamic, often overlooking the specific needs of PWD. Traditionally, interviews, including those for educational opportunities, are two-way exchanges, allowing candidates to assess whether institutions can provide the necessary accommodations. With AI systems prioritizing efficiency and objectivity, PWD may be denied this opportunity, further exacerbating inequities in higher education and the labor market. Therefore, it is crucial to explore how AI systems can be made accountable to prevent further discrimination against PWD.



#### BIASES IN TECHNOLOGY

**"The biases and ableist practices that AI can have reflect how often society focuses on 'normal' standards when creating technology."**

— Tessa Wolf, Learning and Education Studies Student at University of Illinois, Urbana-Champaign



# AI and Assistive Technologies

CONTRIBUTORS: JORDAN COLBERT AND SUZANNE DAVID

Artificial intelligence has already been integrated into many assistive technologies (AT), improving their functionality and making daily tasks more accessible for PWD. Tools like screen readers, speech-to-text software, and navigation aids now leverage AI to enhance accuracy, efficiency, and customization. For example, AI features in screen readers can process text more naturally, making it easier to understand complex content. Similarly, AI-powered captioning tools offer real-time, context-aware transcriptions, improving accessibility for people who are deaf or hard of hearing. So, AI is not just enhancing existing assistive technologies—it is becoming a powerful assistive tool in its own right, offering innovative ways to address accessibility needs. Tools driven by AI, such as conversational agents, predictive text, and personalized learning platforms, can support people with cognitive, speech, or mobility impairments by adapting to user preferences and learning from interactions. This adaptability allows for more personalized and inclusive experiences.

In this section, we'll explore how AI intersects with AT, looking at current applications as well as future possibilities. We'll also examine important ethical considerations and challenges involved in using AI in this context, ensuring that AI-driven solutions truly improve accessibility without creating new barriers.

## Let's Talk About AT

**Assistive technology** describes tools and devices that help PWD in various areas of daily life, such as work, education, communication, entertainment, and shopping. These technologies can be used with computers, smartphones, and other devices to increase independence and provide better access to education and employment opportunities.

Common examples of AT include eyeglasses, prosthetic limbs, wheelchairs, augmentative and alternative communication (AAC) devices, and hearing aids, many of which have been enhanced through AI advancements. Also, AT includes customizable settings on devices or programs, like enabling captions on videos, activating text-to-speech functions, or using dark mode on smartphones. Some AT solutions combine both software and hardware, such as switch control devices that allow users with limited dexterity to navigate devices without a traditional mouse, or refreshable Braille displays that convert text on a screen into Braille by raising and lowering plastic dots. Other AT solutions are purely hardware-based, such as touch wands that can be held in the mouth or attached to a headband to interact with a touchscreen.

### Further Reading:

- [What Is AT?](#)

## AI in AT

Artificial intelligence has become an integral component of AT. Many AT devices now integrate AI capabilities, leveraging machine learning to enhance existing features and expand their functionality. One of the most common AI applications in AT is virtual assistants such as Google Assistant, Amazon Alexa, and Apple Siri. Although many people may not recognize these AI-powered tools as AT, they help streamline tasks and activities for people with various disabilities. Further, AI aids in tasks like setting reminders, navigating complex websites, and making phone calls. Thus, AI is continually enhancing the functionality and power of AT, making devices more useful across various areas like orientation and navigation, communication, mobility, closed captioning, and home automation.

An increasing range of AI-powered assistive technologies is transforming how students and educators with disabilities engage in communication and learning. For example, enhancements to AAC devices, such as the Vocale AAC app, now include features like OpenAI's ChatGPT-powered SmartAssist. This tool allows users to choose from suggested responses based on AI's understanding of past interactions, reducing the need to type or select individual words.<sup>19</sup> Similarly, Voiceitt uses AI to recognize non-standard speech, such as stuttering or speech affected by motor impairments, supporting clearer communication in academic settings.

Additionally, AI-driven tools are improving accessibility for people who are deaf or hard of hearing. For instance, Ossy provides real-time transcription of classroom audio,<sup>20</sup> while Echo Labs improves caption accuracy by isolating sounds and analyzing mouth movements.<sup>21</sup> Virtual meeting platforms like Zoom offer AI-powered live captions and transcription, making lectures and discussions more accessible. Mobile apps such as Otter.ai and Ava enable students to capture and review spoken language as real-time text on their devices. Also, text-to-speech tools like Speechify use machine learning to generate natural-sounding voices and summarize lengthy texts, helping students and educators process academic content more efficiently.



## AI as AT

Artificial intelligence is becoming a powerful tool in higher education, helping both students and faculty break down access barriers. Although AI is still a rapidly evolving field, there is already a growing body of research, including comprehensive literature reviews and practical studies, on its impact in the classroom.<sup>22</sup> Moreover, AI can enhance writing skills—and tools like Grammarly go beyond basic spell-checkers, offering valuable support for students and educators with learning disabilities in reading or writing. When used appropriately, these tools allow a person to understand the changes in their word choice or placement and help them identify spelling errors that may have previously been undetected due to their disability.

Also, AI offers significant support in reading—a critical skill for both students and faculty. Students who struggle with focus or concentration due to disabilities benefit from text-to-speech tools like Speechify and NaturalReader. These programs not only read content aloud but also use AI to create summaries and outlines, helping students review key concepts and check their understanding. For educators, especially those with neurocognitive disabilities, these tools can enhance focus and efficiency.

Additionally, AI can help reduce the mental strain of higher education, especially for students with disabilities who often face additional responsibilities. These might include advocating for accommodations, attending support meetings, or learning how to use assistive tools. By simplifying classroom tasks, AI tools can help create a more equitable learning environment. For example, tools that summarize notes, highlight key concepts, and create study guides save time and support learning, enabling students to keep pace with the course. This allows students with disabilities to focus more on their education and less on overcoming accessibility barriers, giving them a fairer chance to succeed.

## AI Tools to Support Disabled Educators

Tools powered by AI are invaluable for educators with visual impairments or text-based disabilities such as dyslexia. Features like Adobe Reader’s “Read Out Loud” and Microsoft Word’s “Read Aloud” enable users to efficiently access large volumes of text. These tools allow for text highlighting and customizable voice settings, including speed and pitch, ensuring comfortable and flexible use across devices.

Speech-to-text technologies, such as dictation tools in Microsoft Office, Google Workspace, and most modern operating systems, further enhance accessibility. These tools help educators with disabilities affecting vision, language, or dexterity by enabling voice commands to draft course materials, provide feedback, or communicate effectively. Predictive typing features, which suggest words or phrases in context, streamline written communication and boost productivity.

Generative AI tools also support time management and efficiency, especially for those skilled in crafting effective prompts. For example, Microsoft Copilot can assist color-blind educators by converting color-based data in charts into accessible formats. Tools like Elicit and Consensus simplify literature reviews by summarizing research articles and highlighting key insights, which is particularly helpful for educators with visual or language disabilities.

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Also, AI-driven devices aid educators who are blind or visually impaired by interpreting their surroundings. Be My Eyes' Be My AI, for instance, allows users to take photos with their smartphone and receive descriptive feedback. Similarly, Microsoft's Seeing AI app offers tools for reading text, describing images, and identifying products, enhancing independence and accessibility for educators with visual disabilities.

For educators with executive function challenges, AI-driven task management tools embedded in email platforms like Apple Mail and Microsoft Outlook suggest calendar events from email content, promoting better organization and focus. Real-time transcription tools, available on platforms like Zoom, Microsoft Teams, and Google Meet, provide live captions, helping educators follow discussions and refer back to transcripts. While not as precise as human-generated captions, these tools offer essential support for those with attention difficulties or occasional transcription needs.

## AI Tools to Support Disabled Students

Students with disabilities can benefit from many of the same AI tools as educators, as well as additional features specifically designed to address their needs. For students who are blind or have low vision, tools like ASU's [Image Accessibility Generator](#) and generative AI-based image description services provide essential context for visual content. While these descriptions may not match the depth of well-crafted alt text, they still convey essential information. Similarly, students who are deaf or hard of hearing—or those learning another language—can use automatic transcription and speech-to-text tools to access resources without captions or to participate more effectively in virtual classes. Text-to-speech tools integrated into platforms like Adobe Reader, Microsoft Word, and operating systems help students efficiently process written materials such as textbooks and lecture notes. Additionally, tools like Immersive Reader and BeeLine Reader support focus and comprehension, offering valuable support for students with learning disabilities or attention challenges.

Artificial intelligence can also assist with executive functioning tasks, helping students stay organized and manage their time more effectively. Generative AI tools can break down large assignments into smaller steps, create personalized schedules, and set reminders to keep students on track. A great example is Vanderbilt University's Planning Assistant project, which scans course syllabi to extract key dates and automatically adds them to a student's calendar. Future iterations of this tool aim to further assist students by dividing complex assignments into subtasks and suggesting timelines, making it easier to stay organized and meet deadlines.<sup>23</sup>

# AI and Accessible Content

CONTRIBUTORS: JAMIE NIMAN AND ROLANDO J. MÉNDEZ FERNÁNDEZ

Artificial intelligence serves as a powerful tool for improving accessibility in higher education. By generating alt text for images, transcribing spoken language into text, and providing real-time captioning, AI empowers educators and administrators to make campuses more inclusive. In this section, we'll explore how AI can support and advance accessibility initiatives within higher education.

## Image Descriptions and Alt Text

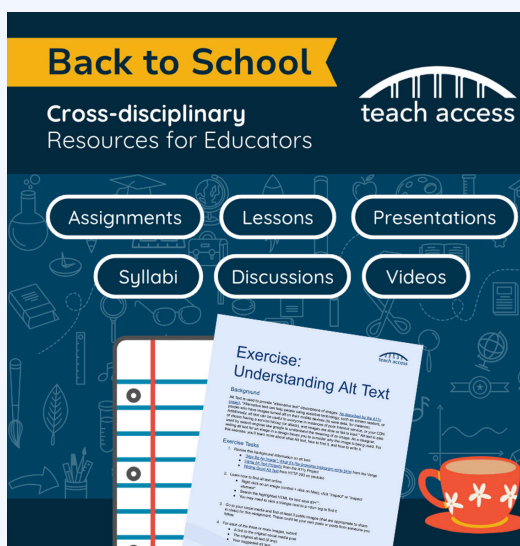
Artificial intelligence can assist in generating alt text for images, charts, and graphs, supporting students who are blind or have low vision in understanding visual content. However, it's crucial for educators to review and refine these descriptions to ensure accuracy and relevance. Context plays a key role, and educators should follow best practices, such as those outlined by [WebAIM](#), to craft concise and meaningful descriptions that align with the learning objectives. Also, AI can help educators brainstorm alt text for unique scenarios, like images used in quizzes, ensuring that the descriptions convey necessary information without revealing answers. Some helpful AI tools for generating image descriptions and alt text include [ASU's Image Accessibility Creator](#) and [Seeing AI](#).

### Further Reading:

- [WebAIM: Alternative Text](#)
- [Accessibility: Image Alt Text Best Practices](#)
- [Write Helpful Alt Text to Describe Images](#)
- ["Malicious" Pictorials: How Alt Text Matters to Screen Reader Users' Experience of Image-Dense Media](#)

## Using AI to Describe Images and Graphs

### 1. Image:



### 2. Prompt Used to Generate an Alt Text Description for an Image:

“Please generate a detailed and accurate alt text description for this image: [insert image URL or upload image file]. Be sure to include key details such as the main subject, objects, people, their positions, colors, and any other visual elements that are significant to understanding the image. Provide context that would be helpful for a person who is blind or has low vision, ensuring that the description conveys the overall meaning or purpose of the image.”

### 3. Result:

The image is a vibrant graphic promoting “Back to School: Cross-disciplinary Resources for Educators” by Teach Access. At the top, a yellow banner with black text reads “Back to School,” accompanied by the Teach Access logo, which features a bridge design above the text “teach access” in white. Below this, the subtitle “Cross-disciplinary Resources for Educators” appears in white text on a dark blue background.

The center of the image features a grid of six circular buttons labeled with white text on dark blue backgrounds, highlighting resource types: “Assignments,” “Lessons,” “Presentations,” “Syllabi,” “Discussions,” and “Videos.” Behind the buttons, the dark blue background includes faint, chalk-like illustrations of various educational symbols, such as light bulbs, books, globes, and geometric shapes.

In the bottom left, there is a partial image of a document titled “Exercise: Understanding Alt Text,” displayed against a white paper background with a red-bordered clipboard. The bottom right corner features a stylized orange teacup with steam rising, sitting on a wooden saucer.

**Note:** Observe how the tool offered additional interpretations of the images. To ensure that your descriptions align with accessibility standards, always refer to established best practices for writing alt text.

## Captions, Transcriptions, and Translations

Artificial intelligence can provide real-time transcription of lectures and discussions, offering live captions that benefit deaf and hard-of-hearing students, students with auditory processing disabilities, and those needing language or communication support. Automatic speech recognition tools can generate initial captions, but educators should review and refine them to ensure accuracy, particularly for technical terms and subject-specific language that could affect comprehension. Further, AI tools like PowerPoint's live captions and subtitles, Otter.ai, and Dragon Professional are effective options for creating captions and transcripts. These transcripts can then be translated into other languages using AI tools such as Google Translate or Microsoft Translator. However, the accuracy of translations depends significantly on the complexity of the content and the language pair involved. Specialized or technical terminology may require additional adjustments to ensure clarity and precision.

## Simplifying Complex Content

Artificial intelligence can assist educators and administrators in simplifying complex texts by converting them into plain language, benefiting neurodivergent individuals and language learners. These tools can also break down intricate concepts and processes into smaller, more manageable steps, making learning more accessible for all. For example, an AI tool might take a detailed scientific article and generate a summary with clear, simplified explanations, helping students grasp key points without being overwhelmed by technical jargon.



## Using AI to Simplify Complex Content

For people with cognitive or learning disabilities, AI can simplify complex texts. This makes dense material more accessible and easier to grasp. Also, AI tools can highlight key points and define important terms, helping the audience focus on what matters most. Let's take a look at how we can use AI to simplify a text about Accessible Rich Internet Applications (ARIA):

### ARIA Introduction

Websites were simple, accessible documents in the early days of the Internet. But accessibility was lost when websites became applications. So, [ARIA](#) extends HTML to create accessible web applications.

ARIA is a set of HTML attributes for developers to control the information surfaced by AT. ARIA can define an element's label, state, properties, and role.

ARIA is a powerful tool and must be used with care. The [first rule of ARIA](#) is to not use ARIA. Use semantic HTML and augment with ARIA. However, we often need to use ARIA to extend HTML or fix inaccessible code.

Understanding ARIA is critical for today's web developers. ARIA does not make your application accessible. It makes it understandable. You can't put `role="button"` on a div and expect it to work with a keyboard and screen reader. Adding `role="button"` simply tells AT to expect the div is actually a button. You would still need to make the div focusable and listen for onkeypress of enter and spacebar. Which is why it's always better to start with a semantic button.

### Commonly used ARIA attributes:

[Roles](#): button, img, link

[Properties](#): aria-label, aria-live, aria-haspopup

[States](#): aria-required, aria-selected, aria-expanded

[Landmarks](#): main, banner, search, region

[Complex roles](#): alert, tablist, table, toolbar

**Source:** [Teach Access Tutorial](#)

### Prompt Used:

"I am a first-year student trying to understand the basics of Accessible Internet Rich Applications. I have no prior knowledge about accessibility or programming. Please explain this text in plain language: [insert the text]"

**Using AI to Simplify Complex Content:** *Continued on Next Page*

## Result:

### Understanding ARIA in Simple Terms

When the internet first started, websites were like basic documents that were easy for everyone to use, including PWD. But as websites became more like apps with interactive features, accessibility became harder to maintain. ARIA was created to help make these complex websites accessible again.

### What Does ARIA Do?

ARIA is a set of tools that developers add to websites to help assistive technologies (like screen readers) understand and describe what's on the page.

It gives extra information about elements on the page, such as:

- **Label:** What is this element?
- **State:** Is it open or closed? Selected or not?
- **Role:** Is it a button, a menu, or something else?

### Why Is ARIA Important?

ARIA is powerful but needs to be used carefully:

**Start with Good HTML:** HTML is the basic building block of web pages. Using correct HTML tags (like `<button>` for buttons) often makes things accessible without needing ARIA.

**Use ARIA When Needed:** ARIA is helpful when HTML doesn't have a built-in way to make something accessible or to fix code that isn't accessible.

### A Key Limitation of ARIA

ARIA doesn't automatically make a website accessible. Instead, it helps assistive tools understand the page. For example, if you use ARIA to label something as a button, you still need to make sure it can be used with a keyboard or screen reader. That's why starting with proper HTML elements is often the best approach.

### Common ARIA Tools

Here are some common ARIA attributes developers use:

**Roles** (what something is): `button`, `link`, `img`

**Properties** (extra details): `aria-label`, `aria-live`, `aria-haspopup`

**States** (current condition): `aria-selected`, `aria-expanded`

**Landmarks** (sections of the page): `main`, `banner`, `search`

**Complex Roles** (advanced features): `alert`, `tablist`, `toolbar`

**Note:** Always remember to verify the accuracy of the content provided by AI.

## Identify Accessibility Issues

Educators and administrators can use AI tools to identify potential accessibility issues in code, documents, and situations, enabling proactive solutions to be found before these issues impact users. For example, AI can flag missing alt text in HTML or suggest improvements for readability in a document.

A useful prompt to see some of the accessibility issues on a webpage might be: *“Review this webpage’s HTML code [insert URL] and identify any potential accessibility issues, including missing alt attributes or improper heading structure. Suggest improvements based on WCAG 2.2 guidelines.”* Similarly, asking AI to *“List the most common accessibility issues students with dyslexia face in an online course”* can highlight challenges and inform inclusive design. While AI can provide valuable insights, it is essential to always follow up with thorough testing and collaboration with PWD to ensure that solutions meet real-world needs and comply with accessibility standards.

## Create Accessible Documents

Artificial intelligence can provide a great starting point for creating accessible documents and offering alternative formats for existing content. Generative AI tools like ChatGPT and Microsoft Copilot can help design accessible templates, ensuring proper use of headings and other structural elements that enhance navigation for assistive technologies. This can be particularly useful when working with structured documents like reports or guides. A helpful prompt you might consider using is: *“Generate a document template for the annual report of an academic department. Use heading styles that meet accessibility standards for web content.”* Additionally, accessible documents can be transformed into alternative formats. It’s always important to review and test these outputs to ensure that they align with accessibility standards like the WCAG and meet the specific needs of all PWD.

### Further Reading:

- [AI & Accessibility](#)
- [Can AI Help Boost Accessibility? These Researchers Tested It for Themselves](#)
- [The Impact of AI in Advancing Accessibility for Learners with Disabilities](#)

### Learning More About Accessible Design

Are you interested in learning about accessible design practices across different disciplines? Explore Teach Access’ [free online courses](#)! These self-paced courses provide an introduction to disability and the principles of accessible design in various fields. While originally designed to help educators teach accessibility topics to students and colleagues, these courses also offer valuable content and resources for professionals and practitioners in these disciplines.

# Shaping the Future of Accessible AI

CONTRIBUTORS: ARIELLE SILVERMAN, MEI-LIAN VADER, SARAH MALAIER, AND SARAHELIZABETH BAGUHN

As AI continues to evolve, it holds significant potential for supporting accessibility and inclusion for PWD. For this to become a reality, developers, educators, and policymakers must prioritize inclusive design practices. This involves addressing issues such as bias in AI systems, improving accessibility features in tools, and ensuring that AI-generated content is usable for PWD. The future of accessible AI depends on proactive efforts to create equitable technologies for all.



## THE FUTURE OF AI IS ACCESSIBLE

**“We are hopeful that AI will improve the capacity available to make digital interfaces more accessible. It promises to make it easier to identify and suggest fixes for accessibility barriers in software code, as well as to produce code that is accessible from the beginning. It will also increasingly be used in assistive technology products to provide access to inaccessible digital information, such as undescribed images and video. Nevertheless, it is important to note that such uses are still likely going to need to be subject to human oversight. For example, AI captions have improved dramatically in the last 5 years, but they still do not provide perfect captions, missing many homophones, proper names, grammatical constructs, and punctuation. Particularly for non-live content, humans may do a better job of editing and formatting subtitles for readability and accuracy. This suggests that when humans work together with AI tools, there is a possibility of creating a greater quantity of highly accessible information at much faster speeds and lower costs.”**

— Sarah Malaier, Senior Advisor for Policy and Research at the AFB

## Making AI Inclusive

There are various types of AI models, each with its own benefits and potential risks. The steps needed to make generative AI inclusive of PWD are going to be quite different from those needed to make safety- or life-impacting AI inclusive. For example, developing an inclusive AI chatbot might involve ensuring that it does not repeat—or parrot—users’ harmful language about PWD. An inclusive image generator, on the other hand, must recognize that people who are blind are not the same as those wearing a blindfold. However, in the case of AI used in automated vehicles, it must not only be able to identify PWD accurately but also be capable of predicting or responding to a broad range of human behaviors, including those that fall outside typical traffic norms.

An issue with AI is the datasets used to train it. To address this, creating larger datasets that include more diverse and inclusive information about PWD could help mitigate bias.<sup>24</sup> However, simply increasing the size of datasets may not be enough to ensure that models handle all disability characteristics fairly. In some cases, it might be beneficial to develop AI models that give preference to disability in ways that reduce bias. Furthermore, it's important to develop evaluation and testing tools that can help developers and deployers of AI to identify whether there is bias in AI tools. While tools are being developed to assess algorithmic bias related to gender and race, there has been less focus on creating similar tools to evaluate bias related to disability.<sup>25</sup>

It is essential to ensure that both the platforms where AI is deployed and the tools used to train AI are fully accessible. Beyond accessibility, transparency about AI's limitations is critical. It is increasingly important for users and organizations adopting AI to understand how a tool considers disability, the known limitations of its models, and how to evaluate its performance over time. Encouraging such practices supports not only informed decision-making but also equitable adoption of AI technologies across diverse user groups.

People with disabilities must be meaningfully and consistently included at every stage of AI development and implementation, from research and design to testing and deployment.<sup>26</sup> When organizations adopt AI technologies, employees with disabilities can offer valuable insights regarding how they may use AI to get greater access to information, how AI negatively impacts them, and which tools are most accessible.

Additionally, external groups affected by institutional AI use, such as job applicants and prospective students, should be informed about how AI tools are used in recruitment and admission processes. This includes communicating which parts of the process involve AI, such as evaluating applications, conducting virtual interviews, or ranking candidates. Providing this information empowers individuals to understand how decisions are made, what data is analyzed, and what accommodations are available to ensure fair participation. By disclosing this information, institutions build trust and demonstrate their commitment to ethical and AI practices.

## Future Research

Researchers at the American Foundation for the Blind (AFB) have identified key priority areas for research, including identifying barriers that prevent PWD from effectively using mainstream AI solutions, exploring the impact of accessibility regulations on the development of accessible user interfaces, and examining methods to detect biases in the outputs of AI systems, particularly those used for critical functions such as candidate screening in hiring processes or informing medical and insurance decisions. To minimize harm to PWD, further research should also address critical questions such as how to effectively test different types of AI and machine learning models for disability bias—particularly given the diversity of functional, behavioral, medical, and environmental contexts that disability encompasses—and what information individuals and organizations need to identify and implement inclusive applications of AI.

### Further Reading:

- [Toward Fairness in AI for People with Disabilities](#)

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# Recommendations for Higher Education

**CONTRIBUTORS: ALEJANDRA DASHE, ARIELLE SILVERMAN, BERNABÉ SOTO BELTRÁN, ERICA BRAVERMAN, JAMIE NIMAN, JORDAN COLBERT, MEI-LIAN VADER, ROLANDO J. MÉNDEZ FERNÁNDEZ, RUA MAE WILLIAMS, SARAH MALAIER, SARAH ELIZABETH BAGUHN, STEPHEN THOMAS, SUZANNE DAVID, TESSA WOLF, AND VAISHNAV KAMESWARAN**

Inclusion plays a crucial role in supporting people of all abilities and identities, and it has become a central focus for many higher education institutions. Accessibility should be recognized as a fundamental part of inclusion, as PWD contribute significantly to the diversity of campus communities. While AI has the potential to improve accessibility in learning environments, it can also unintentionally create barriers. Educators and administrators in higher education are crucial in ensuring that AI development and implementation is accessible. They should prioritize including PWD in decision-making, plan for flexible accommodations, and embed accessibility as a core element in all AI-related policies and practices. This section includes various recommendations for integrating AI inclusively across different areas of higher education.

## Policies

To ensure that inclusion remains central in the development of AI policies, accessibility must remain a top priority in ongoing discussions and decision-making. This approach aligns with ethical standards, emphasizing that ethics should guide decisions as new technologies and challenges emerge.<sup>27</sup> Achieving this requires active participation from disability professionals and students with disabilities. Faculty teaching disability-related courses, staff from disability support services, and student leaders with disabilities can contribute valuable perspectives by serving on review boards, committees, or other decision-making groups. These groups can continuously audit and assess the accessibility of AI tools and policies.<sup>28</sup>

Including PWD in the policy development process ensures that decisions reflect the needs and experiences of the entire community. This approach aligns with the disability community's core principle, *"Nothing about us, without us,"* and ensures that the practices developed reflect diverse and inclusive perspectives.<sup>29</sup> Additionally, prioritizing and monitoring accessibility will help reduce barriers and minimize delays in addressing challenges when they arise. It's important to avoid making blanket rules about technology or AI use in the classroom, as they can also force students to disclose their disabilities in order to access tools like note-taking apps or live captioning, potentially compromising their privacy. Normalizing access to technology helps all students thrive without unnecessary barriers.



## POTENTIAL BARRIERS

**"Although you cannot prepare for every barrier that affects every disability, you can ensure that the policies in place are not rigidly applied without expectation of some unforeseen issue requiring accommodations. It's important to have a plan that directly identifies that a person with a disability was included in the community of users of the AI."**

— Jordan Colbert, Assistive Technology Professional at Assistive Technology and Educational Access Management (A-TEAM) Professional Consulting

Policies addressing the use of AI should not infringe on reasonable disability accommodations. Specifically, policies must allow for the use of assistive technologies that incorporate AI, as PWD often have limited options for AT. When AI is the solution available to bridge the gap that a disability creates, students with disabilities should have the freedom to use these tools fully in academic settings without undue restrictions. Institutions can strengthen these policies by providing comprehensive training for staff and faculty on how AI-enabled tools can assist PWD. Addressing stigma and misconceptions is particularly important, since a lack of disability awareness among decentralized teaching staff is a common reason for the denial of reasonable accommodations.

Moreover, AI introduces additional complexities for educators striving to create inclusive classroom environments. As mentioned, AI often relies on generalized data and assumptions that may not account for the diverse perspectives and needs of PWD. While AI has the potential to enhance educational access and success for students with disabilities, it can inadvertently reinforce biases or fail to adapt to the various ways students may need to engage with content. For example, AI tools may not be compatible with assistive technologies or may lack the flexibility needed to provide reasonable accommodations.

## Procurement

Educators and administrators should prioritize AI tools intentionally designed for accessibility. They should also influence the procurement process to ensure that any AI tools or platforms being considered for adoption meet rigorous accessibility standards, such as the current version of the WCAG. This proactive approach will prevent the adoption of technologies for educational, administrative, or other campus-based purposes that could create barriers for students and staff with disabilities. When such barriers arise, PWD bear the consequences, often encountering skepticism and disbelief, particularly when faced with software that is marketed as accessible. The recent US DOJ guidance on Title II of the ADA reinforces the need for accessible technologies. It clarifies that public entities, including higher education institutions, must ensure that the technologies they purchase or develop are accessible to PWD.

To ensure compliance, institutions should establish working groups to assess and develop procurement processes. These groups should hold technology providers accountable not only for accessibility but also for data security and minimizing biases that could impact users, including those with disabilities. Working groups should also evaluate AI-powered accessibility tools, such as screen readers, speech recognition software, and adaptive learning platforms. Reviewing policies from institutions with established procurement processes, like the California State University system's [Accessible Technology Initiative](#), can provide valuable guidance. Ideally, institutions should refuse to work with vendors who do not fully comply with the WCAG and the ADA.

Successful implementation of AI requires a deep understanding of both the technology and its impact on accessibility. Those involved in procurement decisions should have the expertise to assess accessibility and work with staff who are experienced in evaluating compliance. This includes interpreting [Accessibility Compliance Reports](#) and conducting both automated and manual checks for potential barriers. They should also offer guidance on experimenting with new technologies while setting reasonable boundaries for their use in untested or inappropriate contexts.

#### Further Reading:

- [Ed-Tech Vendors Face Increased Accessibility Obligations with New DOJ Rule](#)
- [Asking the Right Questions for Procuring Inclusive, Accessible Technology](#)

## Adoption

Many administrations are eager to adopt AI in academic and administrative processes but often fail to define what AI means or which activities it is intended to improve. Universities often encourage faculty and staff to submit proposals to integrate AI into their work, but the goals and terminology are frequently unclear. This highlights the importance of establishing clear definitions from the outset—identifying the specific type of AI being considered and, most importantly, articulating its intended role in enhancing learning and administrative outcomes.

When integrating AI into classwork or assignments, educators should carefully consider how these tools can support students' learning. Using AI can be incredibly helpful, such as for summarizing content or generating study questions. However, it's important to ensure that any AI tools used are fully accessible. Students who rely on assistive technologies, like screen readers or eye-tracking devices, may struggle to complete the expected tasks if the tools are not designed with accessibility in mind. For example, in July 2023, Luke McKnight from Langara College evaluated [the accessibility of 9 widely used AI tools](#), finding hundreds of issues ranging from minor code errors to major problems that made the platforms completely unusable for AT users. Note that the accessibility of the tools tested in this study may have improved since, so it is recommended to conduct your own accessibility tests to ensure current compatibility with assistive technologies.

Educators should be ready to provide alternative ways of engaging with the material or offer equally effective options if an AI tool is not accessible.



## ROLE OF EDUCATORS AND ADMINISTRATORS

"As the first point of contact with many students, educators and administrators serve a critical role in creating an inclusive environment and accessible processes. With the eventual adoption and integration of AI into multiple aspects of the classroom and administrative requirements for students, understanding that the integration of AI may have an effect on accessibility and inclusion is key. Educators can bolster their efforts to create an inclusive learning environment through the AI creation of accessible classroom materials, supporting office hours, or creating an AI tutoring option. Administrators have similar opportunities, with the added responsibilities of considering the implications of accessibility from AI usage within student interaction with the university in both residential and bureaucratic resources."

— Jordan Colbert, Assistive Technology Professional at Assistive Technology and Educational Access Management (A-TEAM) Professional Consulting



Administrators also play a key role in fostering an inclusive environment for students with disabilities. The way AI is used in administrative processes—such as simplifying scheduling, managing communication, and creating community spaces—can significantly impact students’ engagement and sense of belonging. Thoughtful integration of AI in these areas can reduce repetitive tasks and enhance access, ensuring a more welcoming and supportive institutional experience. Using AI-powered tools can help achieve this by streamlining administrative tasks, such as sending automated reminders or guiding students to forms and information they need. Additionally, AI-driven scheduling assistants can offer students with disabilities a more accessible way to book and coordinate support meetings, improving their ability to access services and resources.



### INCLUSIVE APPLICATION OF AI

**"Here are some practical steps to integrate AI inclusively:**

- **Rethink classroom policies that ban technology, such as smartphones or laptops, which can unintentionally exclude students who rely on AI-powered accessibility tools such as speech recognition for note-taking or transcription.**
- **Train educators on AI tools to enhance accessibility, such as AI-generated transcriptions, captioning, and image descriptions, as well as how to review and refine AI outputs using accessibility guidelines.**
- **Teach AI literacy through sharing knowledge about risks and bias, especially regarding depictions of PWD or generation of inaccurate and inaccessible information. Educators can model effective AI use in their disciplines, teach prompts, and verify information.**
- **Offer digital assistants for personalized learning by limiting resources for a chatbot (GPT, NotebookLM, Perplexity Spaces) so that students do not rely on external AI tutors and tutoring prompts that may provide misinformation. These custom chatbots can also be used to create case studies and scenarios to recruit interest and build relevancy."**

— Jamie Niman, CELT Instructional Designer at Iowa State University

## Teaching and Learning

Instructors prohibit the use of generative AI tools out of concern for academic dishonesty or cheating. Some may even consider reverting to practices like having students take quizzes and exams in class or write assignments by hand during class, to prevent AI use. Others might opt to impose strict penalties for suspected AI use in student assignments, despite the unreliability of AI detection tools. However, it's important to consider that these approaches might disproportionately affect students with disabilities. For example, in-class assessments can create challenges for students who rely on AT, and the classroom environment might be more distracting than a controlled home setting. Additionally, providing assessment instructions verbally could disadvantage students with attentional or hearing disabilities.



### **POLICIES FOR AI IN THE CLASSROOM**

**"Administrative policies toward AI in the classroom are extremely confusing. On the one hand, we have seen strict consequences for students who are accused of using AI in their assignments, even when use is suspected and not proven, and even when it is shown that the detectors that exist are unreliable. These detectors, and the suspicions that people have without detectors, have been shown to discriminate against neurodivergent writers and writers for whom English is a second language. These false positives tend to be because the word choices made by neurodivergent and second language learners are flagged as unusual. One striking example is the use of the word 'delve,' very common in formerly colonized nations which speak English, such as Nigeria and India. This one word has been associated, unfairly, as a marker of AI use."**

— Rua Mae Williams, Assistant Professor of User Experience Design at Purdue University

Students may be afraid to use generative AI tools due to unclear or overly strict course or institutional policies. This is particularly the case when policies aren't clearly stated and come across as prohibiting all types of AI, regardless of how they are used. To address this, both administrators and instructors need to be aware of how AI can enhance accessibility and support access and opportunity. Clear, well-articulated policies that allow the use of AI tools for these purposes—without associating them with cheating—are essential.

#### **Further Reading:**

- [Leveraging Generative AI for Inclusive Excellence in Higher Education](#)
- [Working with Students with lived Experience of Disability to Enhance Inclusive and Accessible Learning](#)
- [Evolving Intersections: AI, Disability, and Academic Integrity in Higher Education](#)

## Promoting AI Literacy

To effectively and ethically use AI tools, both educators and students need a solid understanding of AI, including its capabilities, limitations, and accessibility considerations. Higher education institutions can foster this knowledge by offering workshops and webinars designed for their communities. Barnard College's [Framework for AI Literacy](#)<sup>30</sup> provides a useful guide for introducing these concepts. The framework begins with a foundational level focused on understanding the basics of AI, including key terminology and the scope of what AI can and cannot do. Once learners grasp these fundamentals, they can move on to applying AI tools to achieve specific goals. This stage involves practicing skills such as crafting prompts and refining them through an iterative process. As their knowledge deepens, learners progress to critically analyzing and evaluating AI, taking into account ethical issues like accessibility, privacy, bias, misinformation, and sustainability. The framework concludes with a level focused on building their own AI systems. By using this framework, institutions can ensure that AI use remains thoughtful, inclusive, and aligned with ethical principles.

Current discussions around AI tend to focus on its potential to improve lives, with less attention given to the harms it can cause, particularly for marginalized groups like PWD. Educators and administrators are well-positioned to critically assess AI's development, use, and impact, and to prepare future professionals to do the same. They should increase their knowledge about disability and its relationship to technology, including AI. Students across disciplines should learn how AI works, how models are trained, how outputs are generated, and how user interactions influence AI over time. Encouraging students to think critically about their relationship with these technologies is essential. Additionally, curricula should include discussions on the social, economic, and political implications of AI. Educators must carefully consider how they integrate AI into classrooms and encourage thoughtful engagement with these tools. This requires deliberate attention to ethical use and the potential impacts on other user groups. Centers for Teaching and Learning in higher education are already promoting responsible AI use among faculty and staff. Providing them with additional resources will enable them to continue and expand this vital work.



### CRITICAL CONVERSATIONS ON AI ETHICS

**"Given the harms perpetuated by AI, especially against people with disabilities, it would be irresponsible for educators and their wards to directly contribute to the development of models and technologies that employ AI without reflecting on the costs and harms of doing so. The need for critical conversations is so necessary in the current moment. I do think one critical way in which educators can contribute is to advocate against the use of AI in specific contexts and tell more stories against the discrimination resulting from the use of the same."**

— Vaishnav Kameswaran, Postdoctoral Researcher at University of Maryland, College Park

As AI becomes more integrated into the workforce, future professionals will need to develop critical judgment about when and how to use it effectively. While AI holds tremendous potential, it is not yet capable of addressing all the challenges we hope it will solve. Skills like curiosity, empathy, and critical thinking will remain vital for evaluating AI-generated decisions and identifying appropriate use cases. Additionally, fostering disability awareness is essential, as understanding the needs of PWD, assistive technologies, and existing barriers can help educators and administrators better address biases in AI systems. For fields like software development, accessibility skills will remain crucial, though the focus may shift from writing accessible code to refining and testing code generated by AI.

#### Further Reading:

- [AI Competency Framework for Teachers](#)
- [Teaching Accessibility Fundamental Concepts & Skills](#)
- [Digital Accessibility Education in Context: Expert Perspectives on Building Capacity in Academia and the Workplace](#)

## Advocacy

It's important that educators and administrators in higher education actively engage in institutional and governmental policy processes that prioritize accessibility. Educators and administrators could form or join committees and working groups within their institutions, and also engage with education advocacy groups like [WCET](#) and [EDUCAUSE](#), which have interest groups or efforts focusing on digital accessibility and AI ethics. These groups should ensure the inclusion of people with a wide range of disabilities. They should also seek to collaborate with organizations such as the [AFB](#), the [National Center for Learning Disabilities](#), the [American Association of People with Disabilities](#), and more, along with on-campus disability services and student groups, to ensure that all voices are represented.

Further, AI policy discussions must always include accessibility and ethical considerations. Faculty and administrators who specialize in these areas should share their insights with policymakers to help them understand the critical importance of inclusion in AI. Frameworks like the WCAG should be referenced when discussing policies for AI technologies, ensuring that all tools meet the necessary accessibility standards. Additionally, ethical considerations, such as those outlined in the [UNESCO Recommendation on the Ethics of Artificial Intelligence](#), should be part of these discussions.



## ADVOCATING FOR RESEARCH ON AI AND ACCESSIBILITY

**"Administrators and educators should advocate for and engage in research on AI and accessibility. Research will be needed to answer questions regarding not only accessibility of these tools but also how the tools can help to promote access and inclusion. It is important that research findings be published in academic journals and presented at professional conferences, to disseminate this information widely. Faculty who are at the forefront of integration of AI in their courses should share what they have found to be best practices at department meetings, conferences, and through organizations like EDUCAUSE, WCET, and UPCEA."**

— Suzanne David, Associate Director of Distance Learning at California State University, Northridge

Higher education institutions should collaborate with AI product developers to enhance the accessibility of these tools, ensuring that they are inclusive and beneficial for all users. Additionally, faculty in technology-related disciplines should actively encourage student research and innovation aimed at improving accessibility. This includes both making existing AI tools more accessible and developing new tools to address accessibility barriers. Through these initiatives, institutions can contribute to creating more inclusive technologies while empowering students to prioritize accessibility in their future work.

## Continuous Improvement

Even with well-designed, inclusive AI procurement and usage policies in place, some users may still face barriers when accessing AI-powered tools and services. To address this, institutions should establish procedures for continuous evaluation, focusing on how these tools impact accessibility. One effective approach is to regularly gather feedback through focus groups and surveys involving students, faculty, and staff with disabilities. This input can help identify any obstacles or unmet needs that might arise. Additionally, collaboration across institutions can be invaluable. By sharing best practices and tackling common challenges together, they can create more effective and inclusive solutions.

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