Use of AI for Accessibility and Inclusion

The use of artificial intelligence in education improves academic outcomes, accessibility, and inclusion for all students (US Department of Education, 2024). This resource is for instructors and their students who might benefit from the use of artificial intelligence tools to support their learning.

UDL 3.0 (CAST, 2024)   AI Possibilities

Multiple Means of Engagement
Goal: Purposeful, motivated & effective

- Options for welcoming interests & identities
- Options for sustaining effort & persistence
- Options for emotional growth

Strategies

- Switch between modalities
- Use GenAI for simulations & role play
- Optimize challenge and support
- Foster collaboration: students compare & analyze AI outputs
- Use AI for emotional intelligence and dialogue: generate personae, scenarios

Possible AI Tools

- Text-to-voice
- Speech-to-text
- Alt text creation
- Image accessibility checker
- Poe AI for comparing GenAI outputs
- Pi emotionally intelligent AI

Multiple Means of Representation
Goal: Authentic, resourceful & knowledgeable

- Options for perception
- Options for languages & symbols
- Options for building knowledge

Strategies

- Optimize access to assistive tools
- Use multiple media for communication
- Transcribe videos and meetings
- Organize information and resources
- Maximize transfer and generalization; summarize content with AI

Possible AI Tools

- Breaking tasks down
- Tutor me
- AI Tutor Pro
- AI text summarizer
- DeepL translator
- AI sentence rewriter
- Be my eyes
- SlidesAI for Google Slides
- AI infographic generator
- Handwritten to text

Multiple Means of Action & Expression
Goal: Strategic, creative, & liberatory

- Options for interaction
- Options for expression & communication
- Options for strategy development

Strategies

- Use AI for visual assistance
- Display information in many ways: create slides, infographics
- Break down tasks for ease of comprehension
- Clarify language structures: translate text, explain in lay terms
- Cultivate multiple ways of knowing: personalized tutoring

Possible AI Tools

- Assistive technology examples
- Sign language translation
- Image generator
- Song generator
- Video generator
- Meeting transcription
- Content curation and organization

Reflective Questions

How can artificial intelligence improve accessibility to better support your students?

What steps can you take to ensure artificial intelligence tools promote inclusion?

How can artificial intelligence tools help create a more equitable learning environment?

Supplementary Resources

<u>Artificial Intelligence Resources</u> (Taylor Institute)

<u>Equity, Diversity Inclusion and Accessibility Resources</u> (Taylor Institute)

<u>Accessibility and Technology</u> (Taylor Institute)

<u>AI and Accessibility</u> (Cornell University)

<u>Exploring Forms of Feedback with AI</u> (Stanford University)

<u>Can AI help boost accessibility?</u> (U of Washington)

<u>20 Tips for Teaching an Accessible Online Course</u> (U of Washington)

<u>Create accessible documents</u> (U of Wisconsin-Madison)

<u>How Artificial General Intelligence Could Redefine Accessibility</u> (Forbes)

<u>The best AI productivity tools in 2024</u> (Zapier)

<u>How Artificial Intelligence (AI) Helps Improve Accessibility</u> (AT&T)

<u>AI Accessibility: What Are AI Assistive Technology Examples?</u> (Hand Talk)

<u>8 AI Tools for Stunning Infographics</u> (Skills.ai)

References

CAST. (2024). *Universal Design for Learning Guidelines (version 3.0)*. https://udlguidelines.cast.org/

US Department of Education, Office of Educational Technology. (2024). *Designing for Education with Artificial Intelligence: An Essential Guide for Developers*. Washington D.C. https://tech.ed.gov/designing-for-education-with-artificial-intelligence/

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A web version of this resource accessible to text-to-speech tools is available as well: https://taylorinstitute.ucalgary.ca/resource-library/use-ai-accessibility-and-inclusion