

 **Generate**



*What would you like to generate?*



Ask AI to write anything...

**Unlocking Potential:  
Harnessing AI for  
Inclusive Learning**



**NCEO**

National Center on  
Educational Outcome:

# Unlocking Potential: Harnessing AI for Inclusive Learning



# Unlocking Potential: Harnessing AI for Inclusive Learning

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## Background

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Over 60 participants representing state education agencies (SEAs), assessment vendors, and other organizations participated in a forum on June 26, 2024 in Seattle, Washington to discuss issues surrounding artificial intelligence (AI) and accessibility in education. The forum was a post-session to the Council of Chief State School Officers' (CCSSO) National Conference on Student Assessment (NCSA) and was a collaboration of the *Assessment, Standards, and Education for Students with Disabilities* (ASES) Collaborative and the National Center on Educational Outcomes (NCEO).

A specific goal of the forum was to bring together representatives from SEAs, assessment vendors, AI experts, and others to discuss the implications of AI for accessibility in instruction and assessment. Participants explored current challenges, potential benefits, and key considerations for implementing AI in ways that enhance rather than hinder accessibility for all students.

## Purpose

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The purpose of the forum was for participants to come together to better understand how AI and accessibility interact in educational contexts, the challenges and opportunities that AI presents for students and educators, and how stakeholders can work together to harness AI's potential while ensuring equitable access. This topic emerged from numerous conversations in which states indicated that they were grappling with understanding AI's role in making instruction and assessment more accessible. While AI tools have become ubiquitous in daily life, their integration into classrooms and assessments raises complex questions about fairness, validity, and meaningful accessibility for diverse learners.

The forum addressed issues related to how SEAs, assessment vendors, and others could work together to leverage AI to improve educational experiences for students with disabilities while maintaining assessment integrity and security. Key questions included: (a) How do SEAs provide guidance on AI and accessibility? (b) What are the successes and challenges with emerging AI tools for accessibility? (c) How can the field move forward responsibly with AI implementation? and (d) What does meaningful accessibility look like in an AI-enhanced educational landscape?

The forum began with a welcome followed by five presentations from six presenters. The agenda was as follows:

- Welcome (Andrew Hinkle, NCEO & CCSSO ASES Advisor)
- Presentations
  - Toni Wheeler (Washington)

- Bruce Alter (Independent Consultant)
- Gayl Bowser (State Leaders in Assistive Technology in Education [SLATE])
- Susan Lottridge (Cambium Assessment)
- Vitaliy Shyyan and Laurene Christensen (WIDA)
- Breakout Discussions
  - Learners with high incidence disabilities (Facilitator: Sandra Warren, Independent Consultant)
  - Learners with sensory disabilities (Facilitator: Virginia Ressa, NCEO)
  - Learners with the most significant cognitive disabilities (Facilitator: Andrew Hinkle, NCEO & CCSSO ASES Advisor)
  - English learners, including English learners with disabilities (Facilitator: Martha Thurlow, NCEO)
- Reporting Out (Andrew Hinkle, NCEO & CCSSO ASES Advisor)
- Evaluation and Next Steps (Andrew Hinkle, NCEO & CCSSO ASES Advisor)

## Forum Introduction

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Andrew Hinkle, who is both the technical assistance lead at NCEO and the ASES advisor for CCSSO, welcomed participants, provided an overview of the forum agenda, and recognized the hosts—CCSSO and NCEO. He noted that this forum was an opportunity to bring together diverse stakeholders to explore the rapidly evolving intersection of AI and accessibility in education. He explained that ASES members helped choose the forum topic, as states are grappling with how to responsibly implement AI to improve accessibility for all students, including students with disabilities, English learners, and English learners with disabilities.

## Presentations

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Presenters representing diverse perspectives shared their perspectives on the implications of AI on accessibility in education.

**Toni Wheeler, Washington State Office of Superintendent of Public Instruction.** Toni Wheeler outlined Washington state’s approach to integrating AI in inclusive education, focusing on three main areas: human-centered AI guidance, learning standards revision, and involvement in activities of the Smarter Balanced assessment consortium.

The state developed a “Human Centered AI for WA Public Schools” framework, which emphasizes a process that begins and ends with human input. This guidance was created collaboratively with various stakeholders and includes a leadership checklist for districts to implement

AI policies. The approach stresses that AI products should not be considered the end result, but rather part of a human-centered process.

In revising learning standards, particularly for English language arts (ELA), the state is incorporating AI concepts without explicitly naming them, using terms like “emerging technologies” or “digital tools.” New standards address copyright, attribution, media literacy, and digital forums. The state is also creating a crosswalk between ELA and education technology standards to identify appropriate contexts for these new concepts.

Washington is involved in Smarter Balanced’s AI Think Tank, focusing on student-centric values in the use of AI for educational assessments. The presentation highlighted potential benefits of AI integration, including culturally relevant content, increased student choice, enhanced accessibility, and cost savings in assessment development and scoring.

Key considerations raised included ensuring the identification of skills needed for the future, maintaining educational rigor, preserving the teaching profession’s importance, and expanding AI integration beyond ELA to other subject areas. Ms. Wheeler noted that these different areas of work (human-centered approach, standards, and assessment) coordinate well together, creating a comprehensive strategy for AI integration in inclusive education.

**Bruce Alter, AI and Students with Disabilities Consultant.** Bruce Alter explored the transformative potential of generative AI for students with disabilities in special education. Mr. Alter, who had been following AI developments for years, shared a case study of a middle school student named Jill to illustrate its impact.

Jill, who primarily relies on eye gaze and head movements for control due to her physical limitations, had always struggled with academic writing. However, the introduction of generative AI dramatically changed her capabilities. Using a prompt framework with generative AI, followed by her own editing, Jill was able to compose paragraphs and express complex emotions in written form for the very first time. This newfound ability extended beyond just writing; it also enabled her to create artwork, opening up new avenues for self-expression.

Mr. Alter emphasized that the key to successfully using AI lies in iteration. Rather than accepting AI-generated content as a final product, it should serve as a starting point for further refinement and personalization. This approach challenges the notion of AI use as “cheating” and instead positions it as an essential tool for students with disabilities to overcome barriers in academic tasks.

The presentation underscored the need for schools to develop comprehensive policies around AI use, and for educators to be equipped with the necessary tools and knowledge to effectively



integrate AI in special education. A crucial point raised was the consideration of how to enable students to use AI in testing situations, recognizing its potential as a vital assistive technology.

**Gayl Bowser, State Leaders in Assistive Technology in Education (SLATE).** Gayl Bowser, a former assistive technology specialist for the Oregon Department of Education, focused on the challenges and opportunities of integrating AI into special education and inclusive settings, particularly from a professional development perspective. Ms. Bowser introduced the Technological Pedagogical and Content Knowledge (TPACK) model as a framework for understanding the complexities of integrating technology into education. This model highlights the need for educators to have a balanced combination of technological skills, pedagogical knowledge, and content expertise. The presentation traced the evolution of this model, noting how initially, content knowledge alone was thought to be sufficient for teaching, but experience showed that pedagogical skills were equally crucial.

The presentation highlighted historical parallels between the current AI integration challenges and past experiences with technology adoption in schools. When computers were first introduced, there was an assumption that merely providing the technology would be enough. However, many devices went unused due to a lack of understanding of how to integrate them into teaching practices.

A key concern raised by Ms. Bowser was the potential for AI to be treated as separate rather than an integrated tool in education, much like assistive technology was initially viewed. The introduction of tablets in 2010 began to blur the lines between assistive technology and instructional technology, leading to a significant overlap that expanded further during the pandemic when students had increased access to personal technology. The presentation emphasized the critical need to equip teachers with knowledge about AI that is directly applicable to their daily work. Ms. Bowser stressed the importance of helping educators understand four key aspects of technology skills: operation, function, strategic use, and social.

**Sue Lottridge, Cambium Assessment.** Sue Lottridge discussed the technology underlying AI systems, particularly the use of transformer models in automated scoring systems. Dr. Lottridge emphasized the efficiency and potential fairness these models bring to assessing various student groups, including students with disabilities and English learners. She explained that transformer models, which are at the core of large language models (LLMs), represent a significant advancement in how language is processed and understood by AI systems. Unlike earlier models that struggled with variations in spelling, grammar, and word order, transformer models can better handle these complexities, making them more effective for assessing diverse student populations.

A key point was that these AI systems are ultimately driven by human input; they are trained on human language, validated by humans, and designed to align with human assessment standards.

However, the complexity of these engines can sometimes complicate evaluations, especially for some student subgroups (e.g., students with disabilities, English learners).

The presentation highlighted how transformer models have improved upon previous techniques like latent semantic analysis, which often failed to accurately represent the writing of students with frequent misspellings or unconventional language use. Transformers, by contrast, can model word order and meaning simultaneously, leading to more nuanced understanding of student responses.

While Dr. Lottridge noted that these models show promise in providing more accurate and fair assessments across student subgroups, she emphasized the ongoing need for validation and improvement. She noted that analysis has shown that while human raters often struggle with assessing English learners, AI models show less disparity in their scoring. However, continued work is needed to ensure agreement between human and AI scoring across all student subgroups.

**Vitaliy Shyyan and Laurene Christensen, WIDA.** Vitaliy Shyyan and Laurene Christensen focused on the use of AI in relation to fairness and accessibility. They began by emphasizing that AI is not a new concept, tracing its origins back to 1955 with the development of The Logic Theorist. They highlighted how AI is already ubiquitous in everyday life, from personal assistants to streaming services and healthcare applications.

Drs. Shyyan and Christensen clarified that generative AI, while prominent in current discussions, is just one component of the broader AI field. They stressed the importance of ensuring that AI-generated content is accessible and fair, advocating for a design approach that prioritizes accessibility and inclusion from the outset. This includes using diverse data sources for training, incorporating cultural contexts, implementing bias detection mechanisms, and involving diverse users in all phases of development.

The presentation explored the potential of AI in assessments, particularly for linguistically diverse populations. They discussed how AI could be leveraged to address linguistic diversity, manage linguistic complexity, aid in language preservation, enhance cultural responsiveness, and monitor bias. Drs. Shyyan and Christensen emphasized the importance of considering related dialects and language varieties, as well as creating culturally relevant prompts. Regarding accessibility and fairness, they outlined how AI could improve the provision and quality of resources, serve as an accessibility support, aid in making inclusion decisions, and ensure fair resource distribution. They noted that even with changes to address construct-irrelevant content, assessments can still maintain comparability.

Looking to the future, the presentation highlighted several areas for consideration, including teacher training on AI use and evolving concepts of plagiarism, the development of collaborative platforms (with attention to security implications), and the need for iterative approaches in AI

implementation. They also emphasized the importance of continued research and innovation, particularly focusing on underrepresented student populations.

### **Key Themes from Presentations**

Several important themes emerged from the presentations:

- 1. AI as an accessibility enabler:** The presenters emphasized AI's potential to dramatically enhance accessibility, particularly for students with the most significant cognitive disabilities. They argued for reframing AI as an essential support rather than an unfair advantage.
- 2. Need for thoughtful integration:** The presenters stressed the importance of integrating AI into existing educational frameworks and practices, rather than treating it as a separate domain. This requires supporting educators in understanding how AI applies to their specific content areas and teaching approaches.
- 3. Implications for assessment:** The presenters highlighted the potential of AI to improve automated scoring and to generate more authentic, culturally relevant assessment content. However, they also noted the need to carefully evaluate AI systems for fairness and validity across diverse student populations.
- 4. Importance of universal design:** The presenters emphasized the critical need to design AI systems with accessibility and inclusion as core principles from the outset, rather than retrofitting accessibility features later.
- 5. Ethical considerations:** The presenters discussed the need for transparent AI processes, diverse stakeholder involvement, and ongoing evaluation of AI's impacts on equity and learning outcomes.

### **Breakout Discussions**

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Following the panel discussions, meeting participants were divided into four discussion groups. Groups were formed around areas of interest (i.e., learners with high incidence disabilities; learners with sensory disabilities; learners with the most significant cognitive disabilities; English learners, including English learners with disabilities). Meeting participants could select the discussion group of their choice. Discussions focused on four sets of questions, with each discussion group starting with a different set of questions:

#### **1. Policy on Student Use of Generative AI:**

- a. How can SEAs assist districts with developing policies regarding students' use of generative AI?

- b. What do SEAs need to do now to address the use of generative AI during assessment?
- 2. Generative AI as Assistive Technology in Special Education:**
  - a. What does your SEA need to consider about students using generative AI as an assistive technology during instruction?
  - b. What does your SEA need to consider about students using generative AI as an accessibility feature during assessment?
- 3. Professional Learning on Generative AI:**
  - a. How can your SEA support professional learning opportunities for local education agencies (LEAs) on using generative AI to support teaching and student performance?
  - b. How can your SEA support professional learning opportunities for LEAs on using generative AI during assessment?
- 4. Other:**
  - a. What information do educators need to know in order to adapt to the use of this disruptive technology?
  - b. What does your SEA need to know about the use of generative AI in the assessment system?

## Learners with High Incidence Disabilities

The discussion group that focused on learners with high incidence disabilities started their discussion with the first set of questions, which focused on policy for student use of generative AI. Primarily, the focus of this discussion was on developing policies for AI use, addressing its impact on assessments, and considering its potential as assistive technology. SEAs are tasked with defining AI in educational settings, distinguishing between appropriate uses for teachers and students, and potentially updating existing policies or creating new ones to accommodate AI integration. There was an emphasis on gathering stakeholder input and developing use cases to guide policy formation.

Regarding assessments, the group noted that SEAs need to address data security, ethics, and equity issues related to AI use. The discussion highlighted concerns about cheating and item exposure, as well as the need to reevaluate assessment constructs to align with current practices. The potential of AI as assistive technology in special education was also explored, considering its fit with existing accommodations and the need to teach appropriate use. Professional learning opportunities for LEAs on AI use in both teaching and assessment were discussed, with a focus on breaking departmental silos and leveraging existing LEA experiences.

Throughout the discussion, there was recognition that AI is already being used in many classrooms and that SEAs need to catch up with practices in the field. The importance of interdepartmental collaboration, viewing AI as a Universal Design for Learning (UDL) tool, and addressing security concerns, particularly for assessments, were emphasized. The discussion also stressed the need for SEAs to learn from LEAs that have already implemented AI policies and professional learning initiatives.

### Learners with Sensory Disabilities

The discussion group that focused on learners with sensory disabilities started their discussion with the second set of questions, which focused on the use of generative AI as assistive technology in special education. The discussion on generative AI in special education highlighted several key points and challenges. Accessibility was a primary concern, emphasizing the need for Web Content Accessibility Guidelines (WCAG) compliance and ensuring students can effectively access and utilize the introduced technology. There was a focus on the timely conversion of materials into different formats and the importance of LEAs selecting products based on accessibility. The conversation also stressed the need for professional development to help educators use and teach AI effectively, as well as the importance of protecting student data and vetting AI products for acceptable use.

Parent communication and cultural relevancy were highlighted as crucial aspects of implementing AI in special education. The discussion emphasized the need for a balanced approach, building from the ground up while supporting from the top down. There was a call to shift from viewing assistive technology as an “add-on” to integrating it as essential educational tools for all students. The conversation also touched on the challenges of teacher buy-in, the need for a systems approach, and the importance of student autonomy in using AI tools.

The discussion concluded with reflections on broader educational paradigms. The group questioned whether students are being educated for the present or the future world and emphasized the role of SEAs in creating a vision for AI implementation while allowing LEAs to apply it. The conversation also addressed public perception and the need to balance innovation with traditional educational values.

### Learners with the Most Significant Cognitive Disabilities

The discussion group that focused on learners with the most significant cognitive disabilities started their discussion with the third set of questions, which focused on professional learning and AI. The discussion on generative AI in special education centered around professional learning, implementation challenges, and potential benefits for students with the most significant cognitive disabilities. There was emphasis on the importance of peer-led professional develop-

ment, with educators teaching other educators about AI's practical classroom applications. It was noted that some states have developed policy guidance and resources, while others were still in the early stages of addressing AI use. The conversation highlighted the need for clear guidelines on appropriate AI use, particularly in areas like Individualized Education Program (IEP) goal writing and assessment.

A key theme was the potential of AI to enhance accessibility and showcase student abilities, particularly for those with the most significant cognitive disabilities. The technology was seen as a tool to remove limitations and allow students to demonstrate skills they could not demonstrate before. However, this raised questions about assessment validity and the need for educators to understand and accept new forms of student expression. The discussion also touched on the importance of maintaining student voice and ensuring that AI-assisted work truly represented the student's thoughts.

The conversation concluded by exploring the broader implications of AI in education. It was viewed as a disruptive technology that prompted educators to reevaluate their roles and teaching methods. There was a call to embrace AI's potential to improve both teaching and learning experiences while being mindful of ethical considerations. The group also discussed the need for policies that balance AI integration with maintaining educational integrity, particularly in areas like plagiarism prevention and assessment.

### English Learners, Including English Learners with Disabilities

The discussion group that focused on English learners, including English learners with disabilities, started their discussion with the last set of questions. This conversation highlighted the need for educators to adapt to AI and emphasized that teachers should use AI themselves to improve their pedagogy and understand its applications in various assignments. Teachers need to learn AI basics and may need assistance in explaining AI to parents; their time needs to be protected so they can do these things. The group noted that AI is already being used in many classrooms, particularly for English learners, and that educators need to be articulate about which AI tools can be used for specific tasks.

SEAs face challenges in incorporating generative AI into assessment systems. Concerns were raised about students potentially using AI during test pauses, leading to discussion about monitoring AI use during assessments. While current guidance often prohibits AI use in assessments, there was recognition of its potential benefits, including improving inter-rater reliability. The discussion touched on policy development, and participants shared examples, such as Ohio's AI toolkit, and stressed the need for iterative policies to keep pace with rapid technological changes. Participants also highlighted the importance of addressing AI use for different student groups and aligning AI use in instruction with its use in assessments.

The conversation also explored the use of AI as assistive technology during instruction and as an accessibility feature during assessments. Participants emphasized the need for better alignment between instruction and assessment practices regarding AI use. There were discussions about documenting AI use in IEPs and creating secure environments for assessments. The group also addressed professional learning opportunities and suggested that AI should be integrated into teacher education programs and that AI conferences should be organized for teachers. While some expressed reluctance to support AI use, there was acknowledgment that students are using it regardless, highlighting the need for comprehensive educator training and careful consideration of AI's role in both instruction and assessment.

## Reporting Out

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Andrew Hinkle facilitated a brief sharing of group discussions. A reporter from each group provided the whole group with a high-level summary of key points from their discussion. Common themes that emerged across groups included:

1. The need for clear policies regarding the use of AI in both instruction and assessment.
2. The potential of AI as an assistive technology tool.
3. The impact of AI on assessments, including both the challenges and the benefits AI may pose.
4. The importance of professional learning and educator training on AI use.
5. The need for balancing AI integration with educational integrity and traditional values.
6. The importance of collaboration and knowledge sharing between and within SEAs and LEAs around AI implementation.

## Evaluation and Next Steps

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Andrew Hinkle provided participants with information on how to access a forum evaluation survey and asked participants to take a few minutes to complete the survey. He shared that the next steps would include publication of an NCEO report summarizing the key highlights and discussion points from the forum.

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