

Inclusive and Accessible Assessments and Educational Technologies

**Research
Agenda**

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Introduction

CAST is advising multiple K-12 education partners on how to embed Universal Design for Learning (UDL) principles and accessibility features into innovative assessments and assessment platforms. Through a community of practice and targeted supports—including needs assessments, coaching, and guidance on inclusive design— CAST is working with teams of designers and developers to ensure that UDL and accessibility are embedded into each partner's tools, including digital assessments.

CAST has also conducted focus groups with district leaders and individuals who use assistive technologies to explore their experiences and reflections about procurement, technology design, accessibility,

and UDL. Across this work, CAST is exploring how emerging technologies, including Generative AI, can be leveraged responsibly to expand access, reduce bias, and improve the usefulness of assessments for every learner.

Our collaborations with education technology developers and the findings from focus groups have generated numerous areas for future study to deepen and extend our work. In this research agenda, we identify key questions and areas of investigation to advance inclusive design in assessments and curricula. Specifically, we articulate lines of inquiry in four areas: **Building Capacity, Strengthening Systems, Designing for Learner Variability, and Expanding Inclusive & Accessible Research Design.**

Building Capacity Around Accessible & Inclusive Assessments & Educational Technologies

This project highlights the importance of building educators' and education technology developers' capacity around accessible and inclusive assessments and educational technologies.

Creating sustained professional learning opportunities around the intersections of UDL, accessibility, and educational assessments and technologies can support educators and education technology developers to develop meaningful understandings around reducing barriers and increasing access—as well as to develop new orientations and beliefs around designing for learner variability.

Further, this type of capacity building can also support education technology developers to gain a deeper understanding of accessibility requirements and the processes that can support those requirements.

However, research reveals that these types of capacity building opportunities for educators and education technology developers are often limited (Amemasor, et al., 2025; Murillo-Jimenez, et al., 2025; Osorio Vanegas, et al., 2025).

The following future research questions will generate a deeper understanding of ways to build capacity — as well as a deeper understanding of the impact this strengthened capacity has on teaching and learning.

Professional learning to build educator capacity around accessible and inclusive assessments and educational technologies

1. What forms of professional learning most effectively build educators' foundational understandings of inclusive and accessible assessments and educational technologies?

2. How do educators' beliefs about learner variability shift through targeted capacity-building initiatives around inclusive and accessible assessments and educational technologies?

3. How does sustained professional learning in UDL and accessibility influence educators' assessment practices over time?

4. How does increased educator capacity in inclusive and accessible assessments and educational technologies affect student engagement and student performance across students with and without disabilities?

Professional learning to build educational technology developers' capacity around accessible and inclusive assessments and educational technologies

1. What forms of professional learning most effectively build education technology developers' capacity to design inclusive and accessible assessments and educational technologies?
2. How does sustained professional learning in UDL and accessibility shape education technology developers' understanding of accessibility and the integration of assistive technologies into product design?
3. How does sustained professional learning in UDL and accessibility support education technology developers to translate their understandings into specific product features, interaction models, or user interfaces?
4. How do education technology developers' beliefs about learner variability shift through sustained professional learning around inclusive and accessible assessments and educational technologies?

Strengthening Systems Around Inclusive Assessments & Educational Technologies

Findings from this project reveal the importance of developing systems and processes to support both the design and the procurement of accessible and inclusive assessment and educational technologies.

From a design perspective, education technology developers can strengthen systems for accessibility processes and technical compliance. For example, processes such as accessibility requirements, Quality Assurance (QA) review before deployment, and familiarity with the Web Content Accessibility Guidelines (WCAG) can serve to develop more coordinated overall systems.

From a procurement perspective, institutions can embed accessibility requirements upfront, moving from reactive accommodations to proactive design that ensures tools are usable by a diversity of learners from the start.

Structured accessibility and procurement processes create consistency and accountability, helping educators make informed choices while holding vendors to clear standards.

Finally, findings from this project underscore the imperative of including educators, parents, and students themselves in procurement processes. Yet, research reveals challenges in developing efficient and inclusive procurement systems (Morrison, et al., 2014; Morrison, et al., 2019; Ruiz, et al., 2025).

The following research questions generate more in-depth exploration of the ways procurement systems can act as levers for equity, driving broader adoption of inclusive design and improving learning outcomes.

Understanding decision making around assessment and educational technologies

1. How do school leaders make procurement decisions around assessment and educational technologies? What structures and processes, if any, are in place?

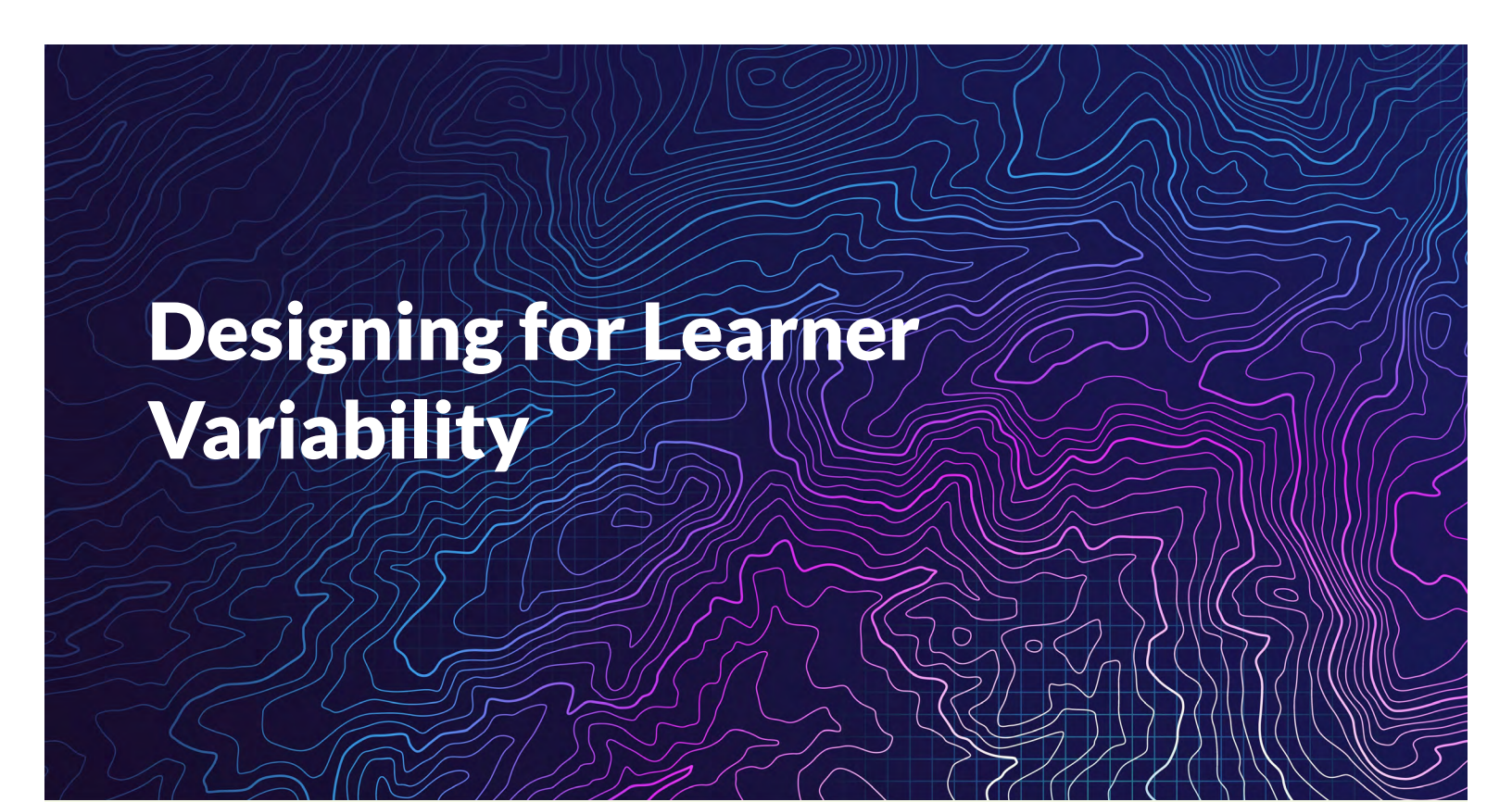
2. Whose voices and perspectives are included in school and district procurement decisions around assessment and educational technologies? Whose voices are missing?

Supporting decision making around assessment and educational technologies

1. How do school leaders experience the procurement process? What challenges or barriers do they encounter?

2. What kinds of resources and support do school leaders need to make more effective procurement decisions around assessment and educational technologies?

3. What specific supports are needed for educators—and students themselves—to critically evaluate the accessibility of digital tools?



Designing for Learner Variability

This project's focus on designing more accessible and inclusive assessments and educational technologies emphasizes the critical importance of creating tools and environments that are responsive to learner variability.

Specifically, the project has begun to uncover how educators and education technology developers can responsibly leverage emerging technologies, including Generative AI, to expand access, reduce bias, and improve the usefulness of assessments for every learner.

This work resonates with other researchers who are exploring the intersections of AI, accessibility, and assessment (Arslan, et al., 2024; Casabianca, et al., 2025; CAST, 2026; Evmenova, et al., 2024; Johnson & Zhang, 2024; Lee, et al., 2024; McGee, et al., 2025; Mislevy, et al., 2013; Pack, et al., 2024; Pérez Perez, 2024; Rao, et al., 2026) and points to new lines of inquiry that can be explored to more fully understand the promise of this intersection.

Leveraging AI to design more inclusive and accessible assessment and educational technologies

1. How do accessibility features (e.g., flexible timing, multimodal input/output, linguistic scaffolds) affect construct validity across a diversity of learner groups?

2. How do inclusive and accessible assessments and educational technologies support educators, families, and students themselves to better understand what students know and can do?

Exploring learners' experiences with assessments and educational technologies

1. In what contexts do students with and without disabilities choose to utilize accessibility features in educational assessments and educational technologies? What factors influence their decisions regarding these features? How can these decisions influence future designs?

2. What barriers do learners encounter with assessments and educational technologies? How do these barriers impact their engagement and their motivation to share what they know? How can these decisions influence future designs?

Expanding Inclusive & Accessible Research Design

The disability community's motto "Nothing About Us Without Us" is a powerful reminder of the critical importance of engaging members of the disability community as partners in research and design processes. This project emphasizes the necessity of education technology developers embracing co-design as an approach for exploring the design of accessible assessments and educational technologies.

In order to design learning environments and tools that are authentic, relevant, and supportive, it is essential to learn **from and with** individuals who bring a diversity of identities, perspectives, and lived experiences to the research and/or design process.

These findings resonate across several areas of literature including co-design and Design-based Implementation Research (DBIR) (Fishman, et al., 2013; Penuel, et al., 2011) and participatory design and design justice (Bang & Vossoughi, 2016; Costanza-Chock, 2020).

Further, as part of this work, CAST intentionally designed the data collection, analysis, and dissemination methods through a UDL lens in order to expand participation, reduce barriers, and increase access to the research design process.

Drawing from research in the areas of inclusive methodologies and crip methodologies (Castrodale, 2018; Kerschbaum & Price, 2017; Lester & Nusbaum, 2018; Price & Kerschbaum, 2016; Sarchet & Daley, 2026; Teachman, et al., 2018), this approach has surfaced the following future research questions.

Exploring the value of a co-design approach for developing educational technologies

1. What design innovations emerge when individuals from historically marginalized communities are actively engaged as partners in the co-design process of educational technologies?
2. How do co-design processes alter power dynamics between technology developers and end-users, particularly in terms of authority, knowledge sharing, and decision-making?
3. In what ways are participants, especially student participants, successfully recruited to engage in the co-design process?

Accessible and inclusive research design

1. Which UDL and accessibility features most effectively foster meaningful participation of individuals with and without disabilities in data collection processes?
2. How do participants from historically marginalized communities experience UDL-aligned research designs compared to more traditional structures? How might this intentional design influence participants' sense of belonging in research spaces traditionally dominated by certain professional or demographic groups?
3. How might UDL-aligned research design move beyond access and inclusivity to actively destabilize ableist practices and beliefs embedded in data collection, analysis, and dissemination?

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