

# Rethinking Accessibility: Applications in Educational Data Mining (Virtual only)

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## ABSTRACT

In standardized testing, the assumption is that assessing all students on the same content under standardized conditions would provide evidence of what students learned and were able to do. However, some facets of standardized testing pose major challenges for students with disabilities (SWDs). We would not expect students with vision impairment, for example, to complete a paper-and-pencil test or a student with learning disabilities to complete a test within the same time limit as students without such disabilities. Thus, to truly include all students, assessment barriers that prevent SWDs, English language learners (ELLs), or other non-traditional students from achieving their best must be removed.

In recent years, technological advances have made computer-based and digitally based assessments (DBAs) more mainstream, especially for large-scale evaluations like the National Assessment of Educational Progress (NAEP). These new DBAs implement technologies to improve accessibility for all participants with different learning backgrounds, especially those with disabilities, using the universal design (UD) framework. UD rests on the idea that in designing tests the full range of students who will participate must be kept in mind from the beginning. By using UD, assessments are expected to become more accessible to and equitable for all students.

Inclusion, diversity, equity, and accessibility (IDEA) is a broad topic and can tap into various areas. Potential topics we would like to cover in our workshop include:

1. Use of different data sources (e.g., large-scale assessments, massive open online courses (MOOCs), games, collaborative chats) to address specific IDEA questions
2. Use of different features and variables, with a special focus on process data (e.g., performance indicators, tool use, accommodation assignments) common and uncommon within IDEA research
3. Special focus on populations, general students with disabilities (SWDs), students with specific disabilities (e.g., autism), English language learners (ELLs)
4. Identification of students who may benefit from IDEA assistance but did not receive it (e.g., students who may need extra time but were not provided extra time)
5. Dissemination and reporting of IDEA results to public audiences for better transparency and inclusion
6. Application of EDM techniques and methods to explore IDEA data (e.g., propensity score matching, machine learning, process mining).

What we hope to accomplish in this workshop is a better understanding of the ways in which research on inclusion, diversity, equity, and accessibility benefit from recent advances and improvements in education and policy (e.g., consistent accommodation procedures), education technology (e.g., digital tests), and emerging research methodologies. Through this workshop we plan to highlight and discover the various approaches and methods through which IDEA research is conducted. Specifically, we aim to explore ways to support this wide research area through data-driven findings.

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