A Design Thinking Approach to Enhance Educators’ Use of Data-Based Individualization to Improve Literacy Skills of Students with Intellectual Disability

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Goal

- Improve literacy outcomes of students with IDD in elementary and middle schools by
- (a) designing and delivering on-going PD and coaching to increase general and special education teachers’ knowledge and skill related to data-based individualization, and
- (b) disseminating high-quality products that provide guidance for replicating the DBI by Design model.
Figure 1: DBI by Design Conceptual Framework.

- Supported Professional Learning Community
- Data-Based Individualization
- Evidence-Based Literacy Practices
- Evidence-Based Supporting Instructional Practices
- Design Thinking Approach
- Enhanced Teacher Knowledge and Skill
- Enhanced Student Outcomes in Literacy
- Enhanced Alignment of Instruction with Grade-Level Standards
- Enhanced Access to General Education Curriculum
- Enhanced Alignment of IEPs to the Endrew F. Standard
Activities

• On-going PD and coaching delivered through a supported professional learning community model via Moodle (i.e., videos, chat features) and video-conferencing software to increase general and special teachers’ knowledge and skill related to DBI.

• Iterative development and refinement of the professional development and coaching model using Design Thinking in reoccurring Design Sessions.

• Integration of DBI into the instruction of general and special education teachers to improve literacy outcomes of elementary and middle schools students with ID.

• Replication and dissemination of the professional development and coaching model.
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<td>Implementation Round 2 with Cohorts 1 &amp; 2</td>
<td>Ongoing Design Session</td>
<td>Implementation Round 3 with Cohorts 1 &amp; 2</td>
<td>Final Design Session</td>
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<td>1 GE/SE pair at 1 Elem and 1 MS campus per district. 1 student per pair in Round 1; 3 students per pair in Rounds 2 &amp; 3.</td>
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1 new GE/SE Pair at 1 Elem and 1 MS Campus (Same schools as Cohort 1) per district PLUS 1 new GE/SE Pair at 1 NEW Elem and 1 NEW MS Campus per district. 1 student per pair in Round 2; 3 students per pair in Round 3.
Figure 1. Millie’s Progress Monitoring Data

**Note.** LSF=Letter sound fluency; FSF=First sound fluency; Aim=Aimline.

What are instructional priorities?

- Phonemic awareness
- Sight words
- Letter-sound correspondence
- Decoding
- Oral reading fluency
- Reading comprehension
- Listening comprehension
Short Term Outcomes

•(*a) Improvements in literacy outcomes for students with ID in elementary/middle schools,
•(*b) Increased alignment of instruction with grade-level standards and access to general education curriculum,
•(*c) Increased alignment of IEPs with the rigor outlined in *Endrew F.*
•(*d) Implementation in general and special education settings.

•Improvements in general and special education teachers’ knowledge and skill related to DBI.

•Increased feasibility, desirability, viability, and effectiveness of professional development and coaching model.

•Replication of improvements in teachers’ knowledge and skill and enhanced student outcomes for Cohort Two participants.
Longer Term Outcomes

• Improvements in literacy outcomes, alignment and access, IEPs, and general/special education instruction are maintained.
• Teachers implement DBI with additional students.
• Students with ID have more positive secondary and post-secondary experiences that will be associated with enhanced independence, employment, and life satisfaction.

• Improvements in general and special education teachers’ knowledge are maintained.

• Iterative design sessions lead to a high-quality, accessible product that allows additional teachers to replicate the professional development and coaching model.

• Teachers in classes and schools beyond our participants replicate the DBI by Design model and improve student outcomes for additional students with ID.
Formative Evaluation

• Assessment of Teachers’ Knowledge and Skill
  • Direct observations (fidelity)
  • Formal testing (Adapted Praxis)
  • Teacher Self-Evaluation of K&S
  • Interviews and Surveys

• Assessment of Literacy Outcomes for Students
  • Standardized test battery (TOWRE, WRMT)
  • Curriculum-based measurement (ongoing)

• Visual analysis of graphed data

• Collect and analyze IEPs
Summative Evaluation

• Individual growth modeling using HLM on progress monitoring data.
• Synthesis of SCD data.
• Dissemination/replication via fully-developed online learning environment and textbook (Guilford series). Provide tools for in-district PD expansion with school staff.
Questions? Comments?

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