Improving Reading for Individuals with Intellectual Disability: Insight from Research to Practice

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Overview

• General progress in special education
• Recent research findings on reading instruction for students with intellectual disability (Project Maximize)
• Ongoing research (Project Intensity)
• Resources
• Q & A
Progress in
Special Education
Activity: Think, Pair, Share

• What do you remember about special education in your own school career?

• Briefly describe the services your child is receiving.

• What progress have you seen?
1954 to 2014: Not that long ago, right?

- Brown vs. Board of Education (1954) and African American civil rights movement set stage for disability rights advocacy
- 1958, PL85-926 - provided federal support for training teachers for children with mental retardation.
- Civil Rights Act (1964) prohibits discrimination based on race, color, national origin
Laws have improved! Accountability has increased!

- 1973 Section 504 of the Rehabilitation Act
- 1975 Education for All Handicapped Children Act
- 1986 Amendments to the Education for All Handicapped Children Act
- 1990 Individuals with Disabilities Education Act
- 1992 Americans with Disabilities Act
- 1997 Amendments to the Individuals with Disabilities Education Act
- 2001 Elementary and Secondary Education Act (No Child Left Behind Act)
- 2004 Reauthorization of Individuals with Disabilities Act (IDEA)
Continuum of Services

- Separate School
- Separate Class
- Resource Room
- General Education Class
More than ever, inclusion is the norm!
Overview of Research on Reading and Intellectual Disability

• **Limited research** on effective teaching of reading to students with ID (Polloway, et al., 2010)

• Some research on isolated phonics skills; emphasis on sight word instruction (reviews by Browder, et al., 2006; Browder & Xin, 1998; Joseph & Seery, 2004)

• More recently, success with more comprehensive programs
  - Resulting in reading with understanding at least commensurate with listening comprehension
  - Allor and colleagues; Browder and colleagues; Sevcik and colleagues; Burgoyne and colleagues in UK; Lemons and colleague
Overview of Project Maximize:

• Determine if a **comprehensive**, phonics-based, direct instruction **reading program** would be effective in teaching early reading and language skills to **students with IQs ranging from 40-79**

• Longitudinal – 4 years (05-06 through 08-09)

• Random assignment to intervention or contrast group
  – Within school
  – Within IQ range (40-54; 55-69; 70-79)

• Students in Grades 1-4 when they began the study
Intervention: Intensity

- Daily Instructional Sessions
- Implemented by research teachers
- 40-50 minutes
- Groups of 1-4 students
- Students participated 1-4 academic years
Intervention: Components

• Early Interventions in Reading (EIR)
  – Explicit, systematic and comprehensive
  – Foundation, Level 1*, Level 2*
  – *published by SRA/McGraw-Hill

• Supplemental language instruction

• Supplemental home-school connection materials to increase intensity
Curriculum: Critical Features

- Explicit and Systematic
  - Explicit strategies
  - Cumulative review
  - Careful sequencing
- Phonics-based
- Fast-paced
- Immediate Feedback
- Teaching to Mastery
- Increased Opportunities to Respond
## Data Analysis Summary (*posttest only)*

<table>
<thead>
<tr>
<th>Reading Skill</th>
<th>Measure</th>
<th>Statistical Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phonemic Awareness</td>
<td>CTOPP Blending Words</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>CTOPP Blending Nonwords</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>CTOPP Segmenting Words</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>DIBELS Phoneme Segmentation Fluency</td>
<td>Yes</td>
</tr>
<tr>
<td>Language</td>
<td>Expressive Vocabulary Test</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Peabody Picture Vocabulary Test</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>WIAT Listening Comprehension (n=95)</td>
<td>No*</td>
</tr>
<tr>
<td>Phonemic Decoding</td>
<td>DIBELS Nonsense Word Fluency</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>TOWRE Phonemic Decoding Efficiency</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Woodcock Word Attack</td>
<td>Yes</td>
</tr>
<tr>
<td>Word Identification</td>
<td>DIBELS Oral Reading Fluency</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>TOWRE Sight Word Efficiency</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Woodcock Letter-Word Identification</td>
<td>No</td>
</tr>
<tr>
<td>Comprehension</td>
<td>WIAT Reading Comprehension (n=95)</td>
<td>Yes*</td>
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</table>
Oral Reading Fluency: Predicted Scores by IQ and Condition

Words Per Minute

Week of Progress Monitoring
Summary

• Support for use of scientifically-based reading instruction for students with low IQs (ID range)

• IF Individualized and with high degrees of fidelity

• IF provided intensive, comprehensive instruction over an extended period of time
Findings from a four year Randomized Control Trial for students with low IQs:

- Students who received treatment outperformed students in contrast group on all language and literacy measures (except sight words).

- But, even with treatment, it can take up to 4 years for students with moderate intellectual disabilities to master first grade reading skills.

- Published in *Remedial and Special Education*
- A few students from longitudinal study still struggling with sounding out simple words even though they knew letter sounds
- Wrote new “multicriteria” text for students to practice
  - Increased repetition of high-frequency decodable and irregular words
  - Familiar topics with natural language
- Created lessons specifically to teach the words in new text
Crack! The bat hits the ball.

"I did it! I did it!" said Sam. "I hit the ball."

"Look at the ball!" said Tom. "Look at the ball go up, up, up!"

Where will the ball go?
Will Sam hit the ball?

Bam! Sam hits the ball.
Figure 1. Words read correct on proximal measure during baseline and intervention
Your child’s reading experiences...

• How is reading instruction provided to your child?
  – What type of curriculum?
  – How often?
  – Who is your child’s primary reading teacher?
  – What kind of practice is encouraged at home?
Project Intensity: The Development of a Supplemental Literacy Program Designed to Provide Extensive Practice with Multiple-Criteria Text for Students with Intellectual Disabilities

- Institute of Education Science (IES) development grant
- Partnership with schools and teachers
- Includes testing to determine the promise of the intervention, but it is not a randomized-control trial (RCT)
Project Intensity: Who is it?

**Principal Investigators**
- Jill Allor, PI
- Stephanie Al Otaiba, Co-PI
- Paul Yovanoff, Co-PI

**Research Staff**
- Jennifer Cheatham
- Diane Gifford
- Francesca Jones
- Dawn Levy
- Melinda McGrath
- Ashley Moorshead
- Miriam Ortiz
# Developing Intensity Curriculum to Target Needs of Students with ID

<table>
<thead>
<tr>
<th>Needs and Characteristics</th>
<th>Limitations of Current Core and Supplemental Curricula</th>
<th>Solutions the Proposed Supplemental Curriculum will Provide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intensive Repetition</td>
<td>*Limited texts and practice materials to develop skills;</td>
<td></td>
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<tr>
<td></td>
<td>*Materials need to be used by a highly skilled teacher</td>
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<td></td>
<td>*Texts do not include enough repetition of high utility words</td>
<td>*Multiple texts and materials;</td>
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<td></td>
<td></td>
<td>*Some materials designed for use by paraprofessionals and tutors</td>
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<tr>
<td></td>
<td></td>
<td>*Texts with extensive repetition (within and across books) of high utility words (sight words and high frequency decodable words)</td>
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<tr>
<td>Limited Vocabulary (i.e. oral lexicon)</td>
<td>*Texts with contrived or unfamiliar or unnatural vocabulary (ex. <em>suds</em> vs. <em>bubbles</em>; <em>tam</em> vs. <em>hat</em>)</td>
<td>*Texts with <strong>familiar</strong>, high utility vocabulary (ex. <em>hat</em>, <em>run</em>)</td>
</tr>
<tr>
<td>Limited Background Knowledge</td>
<td><em>Texts with topics unfamiliar to students</em></td>
<td>*Texts include meaningful non-decodable words with <strong>picture support</strong> (ex. <em>ball</em>)</td>
</tr>
<tr>
<td>Limited Syntax; Limited Working Memory</td>
<td>*Some long sentences, with complex sentence structures; <em>Written language forms that are awkward and/or dissimilar from spoken language</em></td>
<td><em>Texts include short sentences similar to oral language</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Texts include more sight words; sentences more similar to <strong>spoken language</strong> (i.e. more <strong>natural</strong>)</em></td>
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</tr>
<tr>
<td>Relative strength of sight word reading</td>
<td>*Limited number of sight words early in lessons/text</td>
<td>*Texts include a faster introduction of sight words</td>
</tr>
<tr>
<td>Relative strength of letter-sound knowledge</td>
<td>*Limited consonants early in lessons/text</td>
<td>*Somewhat increased number of consonants during early bands (i.e. clusters of skills)</td>
</tr>
</tbody>
</table>
Intensity Books: How are they different?

• Some books focus on high-frequency, or common, words

Come down, Dick.
Come and see.
See the big, big mother.
See the funny little baby.
Puff is my baby.
Puff is my funny little baby.

I see the big mother.
I see the little baby.
Look, Jane.
See the big father.
Some books focus on **decodable** words or on alphabetic skills.
Some books focus on **predictability and meaning**
Intensity Books...based on **multiple criteria**

When you bring an ant farm home, you need to fill it with sand. Then you can put the ants inside the farm. You can watch the ants dig in the sand. They will dig paths in the sand so they can move around in the ant farm.

My ant farm is here on the table.

I have sand in my ant farm. I have little black ants. Do you see the path in the sand? The ants dug a big path in the sand. Look at the big path.

I see the ants. Your ants are little and black. I can see the path that the ants dug. Look at that ant go up the path. He is not very big, but he can go up the path.
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Dialogic Reading: Evidence-Based Read Alouds

- **Purpose**: develop oral language and listening comprehension

- **Implementers**: parents, volunteers, paraprofessionals, teachers

- **Students**: range of disabilities, preschoolers, ELLs
Dialogic Reading: CROWD-HS

• **Completion prompts**
  – She tasted Baby Bear’s porridge. It was just **right**.
  – Without asking, Goldilocks went **inside the Three Bears’ House**.

• **Recall prompts**
  – Can you remember whose porridge was too hot?
  – What happened first in the story? What happened next?

• **Open-ended prompts**
  – Tell me about times that Goldilocks took or used something that didn’t belong to her at the Three Bears’ House.
  – What do you think will happen next? (prediction)

• **Wh-prompts**
  – What broke?
  – Who came to visit?
• **Distancing prompts**
  – Would you be scared to be caught by the Three Bears?
  – Would you feel bad that you used their things without asking?

• **Home prompt**
  – Can you think of a time someone broke or took one of your toys without asking?
  – How do you respect other people’s things at home?

• **School prompt**
  – How do you take care of things at school? For example, what’s the classroom rule about putting things away?
  – If a friend at school needs to borrow something, what can you do to help them?
Dialogic Reading Levels

• Level I:
  – Ask “wh” type questions to increase vocabulary
  – Questions focused on the pictures; need specific response

• Level II:
  – Expand child’s answer with 1 or 2 more words
  – Ask open-ended questions

• Level III:
  – Questions about story plot & personal experiences
  – Questions not focused as much on the pictures
Stephanie Al Otaiba:  
Modeling Dialogic Reading

• [https://vimeo.com/user16310535/review/97464284/660a11b00a](https://vimeo.com/user16310535/review/97464284/660a11b00a)
Ways to encourage longer descriptions

• Model a good answer. Make comments about the picture using sentences at about the same level as the children then pause.

  “He’s pulling the dog in the wagon.”

• Say part of a sentence and have them fill in the last word.

  “He’s pulling the dog in the _____.”

• Say something incorrect about the picture then pause to see if they will correct you.

  “He’s pulling the cow in the wagon.”
Expansions

- The adult expansions should be short and simple.
- Add only a little more information so the child can repeat your response.
- Be sure to have the child (children) repeat your longer response.
Examples of Expansions

Child: “a mouse”
Adult: “a mouse hiding”

Child: “it on that”
Adult: “Right, it is on the couch.”

Child: “it eating”
Adult: “Good, the ladybug is eating.”

Child: “boat”
Adult: “A big boat.”

Child: “I sawed it.”
Adult: “You saw the cat.”

Child: “Bird up there.”
Adult: “The bird is hiding.”
SUMMARY: What does this mean to you?

- High expectations
- Explicit and systematic instruction is critical
  - Many different programs and curricular materials are improving
  - Early Interventions in Reading (SRA/McGraw-Hill)
  - Early Literacy Skills Builder (Attainment)
- While learning basic word reading skills (phonics/sight words), focus on comprehension through oral language
- Practice needs to be intensive
- Patience and consistency
- Ask questions! Be an advocate!
Resources

• Project Intensity (current project)
  http://www.projectintensity.com/

• Dialogic Reading

• Early Interventions in Reading
  https://www.mheonline.com/programMHID/view/SRAEIRLV11

• Early Literacy Skills Builder
  http://www.attainmentcompany.com/elsb
References


References


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