Integration and Collaboration to Support Struggling Readers including Readers with Disabilities

Authors in order of presentation: Stephanie Al Otaiba, Stephen Ciullo, Miriam Ortiz, Ashely Moorhead, Jill Allor, and Kelly Whalon
(1) Describe current research regarding stages of reading attainment for students with high incidence disabilities and how these stages relate to the Common Core Standards

(2) Summarize seven steps related to integration and collaboration to support participation in CCSS for struggling readers including students with high incidence disabilities
Example Cases

• A majority of students with disabilities and struggling readers receive some reading instruction in general education, or Tier 1, settings.

• Jack is a first grader with Down Syndrome who reads at a kindergarten level. His IQ is 58. He knows a number of sight words but struggles to decode words, often guessing from the first sound in a word. His attention span, working memory, and receptive and expressive language are weak. He demonstrates problem behavior when tasks are too difficult.

• Minda is fifth grader with language impairment who has just been tested for dyslexia. She has a good store of sight words, has responded to Tier 3 intervention this year, and can decode most CVC and CVCe words, but she struggles with digraphs and other more advanced aspects of phonics. Her fluency is weak and she lacks prosody. She also struggles with comprehension.

• Tyree is a freshman who has a behavior disorder and reads at a fourth grade level. He has the rudiments of phonics, but his fluency is holding him back from comprehending grade level text. He has been suspended for disrupting the class when asked to read aloud. He has adequate listening comprehension but has limited background knowledge and struggles to draw inferences.
Example Cases Continued

• Jasmine is a 3\textsuperscript{rd} grader with an autism spectrum disorder (ASD). Jasmine decodes above grade level text and her fluency rate exceeds that of her typically developing peers; yet, she struggles with reading comprehension. Jasmine correctly responds to fact based questions, but is unable to accurately answer questions that require her to summarize information from multiple pages or make inferences.

• Jayden is a 1\textsuperscript{st} grader with an ASD who rarely uses speech to communicate. He knows his alphabet, and shows an interest in books. When Jayden’s teacher says a letter sound, Jayden often points to the correct corresponding letter (e.g., “What letter makes the /m/ sound?”). Jayden also has an emerging sight word vocabulary, but is not yet decoding text. During read alouds, Jayden frequently responds correctly to fact-based questions given a choice of 3 picture symbols.
Model of Reading development
Spear-Swerling and Sternberg (1996)

Typical path of development

Pre-alphabetic Phase
Visual cue word recognition
7-up
pre-K - Kindergarten

Partial Alphabetic
Learning PA and letter-sound correspondence
May read "can" for "cat"

Full Alphabetic- Controlled word recognition
Mastering PA
Increased orthographic knowledge

Consolidated Alphabetic- Automatic word recognition
Decodes sight words
Building fluent decoding
Around Grade 2

Automatic and Strategic reading
Advanced level of PA
Decodes with fluency
Learning some basic comprehension strategies

Highly proficient reading (like you and I)
Can decode and comprehend a variety of texts
Increased higher-order comprehension ability

Off-the-path

Delayed readers
Can decode, but struggle with comprehension

Non-automatic readers
Can decode, but laboriously
Lack fluency and automaticity

Compensatory Readers
Lack decoding ability
Over-use sight word and meaning cues

Non-alphabetic readers
No PA, poor letter-sound association
Over-use pictures and context cues

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- **Jacqueline**
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- **Minda**
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- **Jasmine**
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- **Jayden**
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Overview of Instructional Strands

(Allor & Chard, 2011)

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Which standards are not on this chart?
What does research tell us about reading growth and reading stages attained by students with disabilities?

- Research indicates students with all disability types read below grade level on word reading, fluency, or comprehension (e.g., Wei, Blackorby, and Schiller, 2011).

- Pattern shows deficit model, not delay model; decelerates so students do not catch up

- Good news: direct instruction and strategy instruction identified as effective for students with disabilities

  - National Reading Panel, 2000; Allor, Al Otaiba, Ortiz & Folsom, in press; Browder, Wakeman, Spooner, Ahlgrim-Delzell, & Algozzine, 2006; Rivera, Al Otaiba, & Koorland, 2006; Whalon, Al Otaiba, & Delano, 2009
What does research tell us about reading growth and reading stages attained by students with disabilities?

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- Caveat: slower progress, require intensive intervention, more opportunities to respond, cumulative review, and behavior support.
A w-score of 500 is the average score for a 10 year old.

Wei et al., 2011
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Wei et al., 2011
These meaningful differences emerge early: language impairments and learning disability
Patterns of ORF Growth, Wanzek, et al, in press
(n=185,367 students without disabilities; 22,146 students with disabilities)
Findings from a four year Randomized Control Trial for students with low IQs: Allor and colleagues (in press)

- treatment outperformed controls 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.

![Predicted ORF Growth Across Weeks of Instruction](image-url)
Challenges

• Most students with disabilities are not on grade level
  – CCSS supports higher expectations for all
  – Requires a balance basic skill instruction with increasing access to grade level content

• Many students with disabilities have weaker working memory, receptive, and expressive language

• Behavior and reading are likely a “chicken and egg” problem

• Early intervention and intensive multi-tier models are essential

• Formative curriculum-based assessment is needed to guide differentiation
Conceptual Framework:
A Not-So Simple View of Reading

Decoding X Language Comprehension X Self Regulation/Attention/Behavior = Reading

Decoding = Code-Focused Skills
• Phonological awareness, phonics, fluency
  – Required to fluently identify words in text

Comprehension = Meaning-Focused Skills
• Vocabulary, fluency, comprehension
  – Required for comprehending language in oral or written form

Multicomponent = Both Code- and Meaning- Focused Skills and Positive Behavior Supports
7 Step Plan for meeting these challenges

1. Prioritize critical content from CCSS
2. Identify student performance and whether there is a gap between student and peers
3. Use evidence-based instruction (reading and behavior) to teach students with disabilities
4. Monitor progress and adapt instruction as needed
5. Identify necessary accommodations and modifications
6. Stay current with research
7. Keep parents in the know
Minda is a 5th grader with LD. Assessments indicate that her reading fluency is beginning 3rd grade and she experiences difficulty with advanced aspects of phonics (e.g. consonant digraphs). In reading comprehension, she retells information, but struggles with using details to support main ideas/summary, and analyzing across texts.

Minda also struggles with organization and focus when not provided specific strategies. In sum, her teachers worry about middle school readiness.
Step 1: Prioritize Critical Content

CCSS Critical Content for Reading Germane to Minda

a. ) Grade-level independent reading proficiency with grade-level literary and narrative text (she is 2 years behind)

b.) Use text details to generate summaries (Anchor Standards 1-3) and analyze content and points of view across different texts (Anchor Standards 7-9)

c.) Apply strategies to narrative (ELA) and to content-area text which increase in rigor in middle school (Wanzek, Wexler, Vaughn, & Ciullo, 2010)
Step 2: Minda’s Learning Gaps

- ORF- Beginning 3rd Grade
- Requires phonics maintenance to maintain word ID
- Comprehension
  - Needs assistance identifying main ideas and summarizing
  - Inference and synthesis across texts (narrative & informational)
  - Independent learning strategies
  - Referencing text details to answer questions
Step 3: Evidence-Based Instruction

What the research says:

- Observation studies report **minimal time teaching generalizable comprehension strategies**; time spent previewing and discussing (Klingner et al., 2010; Swanson et al., 2012; Vaughn et al., 2002)

- Peer-mediated **sustained** reading with comprehension strategy use is associated with fact recall and comprehension (e.g. science content, main ideas; Ciullo, Lo, Wanzek, & Reed- under review; Wexler et al., 2014)

- Comprehension strategies (e.g. question generation) and content-enhancement tools (e.g. graphic organizers, visual displays) associated with high effect sizes for content learning and comprehension in Grades 4-12 (Dexter et al., 2012; Gajria et al., 2007; Solis et al., 2012)
Step 3: Evidence-Based Instruction

Utilizing EBPs with Minda (example):

**Target Skills:** (summarizing multiple texts & inference)

**EBP Selected:** Partner reading, identify main ideas (“What was the most important who or what, and what were the key details?”), and generate questions about text (student question writing for inference & using text details).

**Other Ideas:** Graphic organizers/concept maps and multi-component interventions that include **sustained reading practice** with complex text (2-5 minutes of reading is not enough).

(Lederer, 2000; Klingner et al., 2004; Gajria et al., 2007)
Step 3: Evidence-Based Instruction

**Question:** I am a busy teacher with limited time. Where can I locate research-based strategies aligned with the Common Core for students with LD?

**Answer:** Start here.....

FCRR New CCSS Aligned Lessons (K-5)-
http://www.fcrr.org/curriculum/SCAindex.shtml

Intervention Central-
http://www.interventioncentral.org/response-to-intervention

IRIS Center (e.g. peer-mediated reading in HS)
http://iris.peabody.vanderbilt.edu/iris-resource-locator/
Step 4: Monitor Progress & Adapt

- To monitor progress with the implementation of peer-mediated reading (15-20 min. instructional level reading daily) with main idea and question generation, 4 assessments are used:
  - Oral Reading Fluency (ORF)
  - Daily “ticket out”- Minda writes a main idea sentence or summary based on day’s reading
  - Evaluation of independently completed question generation assignments
  - Standardized or criterion tests (e.g. Gates MacGinitie, Woodcock Johnson, DIBELS- Daze comprehension)
Step 5: Accommodations & Modifications

Minda’s Progress:

• After 12 weeks, Minda’s ORF scores steadily improve (27 more words per minute)

• Observations suggest that main idea strategies (e.g. Get the Gist) and self questioning increased engagement during reading, and comprehension scores when assessing main idea (e.g. ticket out, class quiz)

• Needs- Standardized and criterion measures reveal minimal gains; more intervention needed for higher-level inference questioning and cross-text analysis
Step 5: Accommodations & Modifications

2 Step Plan

1. Laminated strategy cards in folder to use across subjects
   - (e.g. Main Idea- Identify who or what, 3 important details, write a sentence)
   - Student generated graphic organizer for expository reading and writing (e.g. TIDE; Topic sentence, 3 important details from text, ending sentence; Mason & Cramer, 2014)

2. Provide leveled text with same content to build independent proficiency and comprehension skills
Step 6: Stay Current With Research

**Online**
- FCRR
- Intervention Central
- Reading Rockets
- Adolescent Literacy- AdLit.org

**Peer-Reviewed Journals**
- Teaching Exceptional Children
- Intervention in School and Clinic (online)
- Learning Disabilities Research & Practice
- Beyond Behavior
Step 7: Parent Communication

1. Clarify strategies (invest the time) with parents for home practice

2. Share “parent friendly” information (e.g. A parent’s guide to LD; http://www.ldonline.org/parents) and clarify what prevailing policies mean (“What exactly IS the Common Core and what does it mean for my child”?)
Characteristics of Students with EBD (Tyree)

Tyree is a freshman who has very poor academic achievement and demonstrates pervasive behavioral problems. His assessed reading scores indicate he reads at a fourth grade level. He has the rudiments of phonics, but his multi-syllabic decoding and text level fluency is holding him back from comprehending grade level text. He has been suspended for disrupting the class when asked to read aloud. He has adequate listening comprehension but has limited background knowledge and struggles to draw inferences. His teacher and parents are worried because he has threatened to drop out of school.
Prioritizing critical content: Common sense

• Goals selected should move students closer to mastery of grade-level standards

• Instruction should follow developmental sequence and be integrated with other goals

• Focus should be on these outcomes, rather than specific activities

• Plan for scaffolds

• Gives teacher freedom to use curriculum wisely!

• Don’t hesitate to modify (or skip), when needed.
Moving toward college and career readiness
Consider what content crosses standards

A) Read, listen to, and comprehend literature in the 9th grade text band with scaffolding (RL.9-10.10)

B) Determine the meaning of words and phrases used in the text (RL.9.10.4)

C) Analyze how complex characters develop and interact with other characters (RL9.10.3)
Step 2: Tyree’s Level of Performance and Learning Gaps

• Consider characteristics related to his disability and how they affect how the student learns and demonstrates what he knows

• What are his goals in Individualized Education Plan or in a 504 or Response to Intervention plan?

• How will the goals be measured?
  – Grade level CCSS assessment?
  – Alternative assessment?
Step 3: Use Evidence-Based Practices

What the research says:
– Blend direct instruction, strategy instruction, and positive behavior supports
– Provide instructional scaffolding (peer tutoring, cooperative learning, small group instruction)
– Select video clips and real-life activities to contextualize a lesson (to increase engagement, maintenance, and generalization of target skills)
– Provide concrete, explicit lessons (Consider Collaborative Strategic Reading)
– Plan for generalization (lots of practice in real texts, even if not grade level)
– Use Assistive Technology (Apps, e-readers, games, etc.)
  • support practice, motivation, attention, engagement, and immediate feedback
Step 4: Monitor progress and adapt instruction as needed

- Use data to make instructional decisions (universal screening, mastery learning, progress monitoring, formative, summative)
  
  – Universal Design: How does the student demonstrate what he knows in the classroom, district, and State assessments?
  
  – Are a variety of assessments used to measure progress?
    
    • Create a spelling or decodable curriculum-based assessment to determine mastery of multi-syllabic words and vocabulary
    
    • Create cloze passages at his independent reading level with comprehension questions (focused on big ideas and relationships)
    
    • Design assessment of completion of graphic organizers.
  
  – Provide instructional accommodations (Thompson, Morse, Sharpe & Hall, 2005) —changes in materials or procedures— which do not change the standards but allow students to learn within the framework of the Common Core.
## Universal Design for Learning Guidelines

### I. Provide Multiple Means of Representation

1. **Provide options for perception**
   - Options that customize the display of information
   - Options that provide alternatives for auditory information
   - Options that provide alternatives for visual information

2. **Provide options for language and symbols**
   - Options that define vocabulary and symbols
   - Options that clarify syntax and structure
   - Options for decoding text or mathematical notation
   - Options that promote cross-linguistic understanding
   - Options that illustrate key concepts non-linguistically

3. **Provide options for comprehension**
   - Options that provide or activate background knowledge
   - Options that highlight critical features, big ideas, and relationships
   - Options that guide information processing
   - Options that support memory and transfer

### II. Provide Multiple Means of Action and Expression

4. **Provide options for physical action**
   - Options in the mode of physical response
   - Options in the means of navigation
   - Options for accessing tools and assistive technologies

5. **Provide options for expressive skills and fluency**
   - Options in the media for communication
   - Options in the tools for composition and problem solving
   - Options in the scaffolds for practice and performance

6. **Provide options for executive functions**
   - Options that guide effective goal-setting
   - Options that support planning and strategy development
   - Options that facilitate managing information and resources
   - Options that enhance capacity for monitoring progress

### III. Provide Multiple Means of Engagement

7. **Provide options for recruiting interest**
   - Options that increase individual choice and autonomy
   - Options that enhance relevance, value, and authenticity
   - Options that reduce threats and distractions

8. **Provide options for sustaining effort and persistence**
   - Options that heighten salience of goals and objectives
   - Options that vary levels of challenge and support
   - Options that foster collaboration and communication
   - Options that increase mastery-oriented feedback

9. **Provide options for self-regulation**
   - Options that guide personal goal-setting and expectations
   - Options that scaffold coping skills and strategies
   - Options that develop self-assessment and reflection

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Step 5: Identify specially designed instruction, including accommodations and/or modifications and behavior support

- Team planning for intensive instruction
  - Work with parents and colleagues in special education.
  - Is co-teaching an option?
  - How can you protect the time needed?
- What instructional accommodations are needed to enable access to the general curriculum?
  - Balance the complexity of the material with content.
  - Identify lower-than grade level text if needed to teach content
  - Consider using peer tutors or cooperative groups
  - Use assistive technology (research suggests this is underutilized, but effective)
    - E-readers, software that reads grade level text, apps
    - To increase engagement and motivate extra practice
Integrate behavior supports

- **Time delay prompting** includes the use of a prompt, or cue, after allowing the student a pre-determined amount of time to pronounce a word correctly.

- **Error correction** provides immediate feedback after the response.

- **Tangible reinforcers** are desired objects given to the learner following a desired response (i.e., sounding out a word quickly, recognizing a word by sight, improving their rate of reading).

- **Ensure prompt corrective feedback and praise through**
  - Teacher-led small groups
  - Paraprofessional
  - Peer-tutoring

- **Motivate** students to “beat their own time”, teachers can help them **graph** or chart their own performance.

- **Encourage students to set their own goals**, monitor their own progress, and select their own reinforcers.

http://www.pbis.org/
http://iris.peabody.vanderbilt.edu/resources.html
Step 6: Stay current with the research

• Numerous articles have been written to discuss the implications of the CCSS on students in other disability categories based on their unique academic needs
  – Review of evidence-based practices for younger children with EBD: Rivera, Al Otaiba & Koorland, 2006 reported positive effects of combining code-focused instruction with behavior supports in small group, peer tutoring, and one to one settings
  – Students with EBD: Ciullo, Ortiz, Al Otaiba, & Lane, in review

• Peer-reviewed journals

  Exceptional Children, Teaching Exceptional Children, Beyond Behavior, Journal of Emotional and Behavioral Disorders, Behavioral Disorders
Step 7: Keep parents in the know

- The CCSS were designed to prepare students to succeed in a competitive world economy
- Encourage high school graduates to be better prepared for postsecondary education and careers
- Children transferring to new schools will not have to adjust to new learning expectations
- Will facilitate conversation among parents, teachers, and children about high-level academic learning goals
  - Define exactly what students should know and be able to do at each grade level
- Source (WETA, 2013)
Tips for Parents

• Learn how the school or district will prepare for implementation.

• Ask your school administrators and teachers how they will measure student progress toward meeting the standards.

• Ask how parents and community members can provide regular feedback and support teaching and learning of the standards.

• Talk to your children about the importance of graduating from high school ready for college and career success.

• Source (Education Northwest, 2011)
Parent Resources

• **What do Parents Need to Know?** *(Education Northwest, 2011)*
  - [http://educationnorthwest.org/webfm_send/1106](http://educationnorthwest.org/webfm_send/1106) (English)
  - [http://educationnorthwest.org/webfm_send/1161](http://educationnorthwest.org/webfm_send/1161) (Spanish)

• **10 Things Parents Should Know** *(WETA, 2013)*
  - [http://www.readingrockets.org/article/53565/](http://www.readingrockets.org/article/53565/)

• **Parent’s Guide to Success** *(National PTA, 2013)*
  - [http://pta.org/parents/content.cfm?ItemNumber=2583](http://pta.org/parents/content.cfm?ItemNumber=2583)

• **Parental Involvement in Education and CCSS**
  - (Center for Strategic Research in Education, 2011)
Let’s go back to Jack

- Jack is a first grader with Down Syndrome who reads at a kindergarten level. His IQ is 58. He knows a number of sight words but struggles to decode words, often guessing from the first sound in a word. His attention span, working memory, and receptive and expressive language are weak. He demonstrates problem behavior when tasks are too difficult.
Characteristics of Students with ID (Jack)

- limited attention span
- weak expressive and receptive language
- limited working memory
- behavior problems especially with difficult tasks
- need multiple opportunities to respond and to practice
- need help to generalize skills to new situations (e.g., may read words on a flashcard, but not in a text)
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(Allor & Chard, 2011)

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Conceptual Framework: A Not-So Simple View of Reading

Decoding X Language Comprehension X Self Regulation/Attention/Behavior = Reading

**Decoding = Code-Focused Skills**
- Phonological awareness, phonics, fluency
  - Required to fluently identify words in text

**Comprehension = Meaning-Focused Skills**
- Vocabulary, fluency, comprehension
  - Required for comprehending language in oral or written form

**Multicomponent = Both Code- and Meaning- Focused Skills and Positive Behavior Supports**
Step 1: Prioritize critical content

• Prioritize the critical content for this standard for this student. Students can learn skills that align with grade level and still work on basics.
  – (in PA for Jack, blending and segmenting are more important than rhyme)

• Consider what content crosses standards
  – (PA + Phonics for Jack, letter sounds can be taught with initial sounds in phonological awareness)

• Continue to capitalize on relative strength of sight words

• Consider language development, including listening comprehension
Prioritizing critical content: Common sense

• Goals selected should move students closer to mastery of grade-level standards
• Instruction should follow developmental sequence and be integrated with other goals
• Focus should be on these outcomes, rather than specific activities
• Plan for scaffolds
• Gives teacher freedom to use curriculum wisely!
• Don’t hesitate to modify (or skip), when needed.
Step 2: Identify student performance and whether there is a gap

• Present level of academic achievement and functional performance?

• Consider characteristics related to the student’s disability and how they affect how the student learns and demonstrates what he knows

• Is there a the gap between the student and peers?

• What are the student’s goals in Individualized Education Plan or in a 504 or Response to Intervention plan?
  – Consider individual strengths and needs in relation to accessing and mastering the general curriculum
    • (e.g., Jack can learn sight words at a faster pace than he can learn to decode some phonics patterns)

• How will the goal be measured?
  – Grade level CCSS assessment?
  – Alternative assessment?
Step 3: Use evidence-based practices to teach target skills

Evidence-Based Practices for Teaching Phonemic Awareness

• Focus on Blending and Segmenting
  – Blending -- teacher says sounds one at a time and child says word
  – Segmenting – teacher says word and child says sounds one at a time
  – TIP: Stretch and Connect

• Link PA and Letter-sound knowledge to Decoding
  – When teaching letter-sounds, stretch continuous sounds
  – When teaching PA Blending, model stretch and connect
  – Model and teach explicit transfer of these skills when sounding out words
Evidence-Based Practices: Immediate Feedback and Modeling

Model: “My turn” or “I”
Lead: “Our turn” or “We”
Test: “Your turn” or “You”
Retest: “Backing up”
Step 4: Monitor progress and adapt instruction as needed

• Use data to make instructional decisions (universal screening, mastery learning, progress monitoring, formative, summative)

  – Universal Design: How does the student demonstrate what he knows in the classroom, district, and State assessments?

  – Are a variety of assessments used to measure progress?

    • Create a curriculum-based assessment to determine mastery

    • For Jack, may include Dolch word lists and/or teacher-made decodable sentences rather than passage fluency.
Figure X. Words read correct on proximal measure during baseline and intervention
Step 5: Identify specially designed instruction, including accommodations and/or modifications and behavior support

- Shortened lessons in the beginning to reduce frustration and accommodate short-term memory issues
- Provide student with extra practice on “tricky words” to increase ORF scores
- Teacher uses Velcro board, allowing student to manipulate words and form sentences
- Cumulative review style games and puzzles are sent home to involve parents and provide student with extra practice
- Daily positive reinforcements such as using a marble jar or praise jar to encourage appropriate behavior and participation
Modifications used:

• Work with homeroom teacher on a positive reinforcement system (tokens)
• Daily verbal and written communication with parents
• One-on-one, structured instruction to minimize distractions and foster success
• Use manipulatives to increase comprehension – “Build the Main Idea”
Step 6: Stay current with the research
Teaching Students with ID to Read

- Limited research on effective teaching of reading to students with ID; therefore, reliance on research with students with LD/RD (Polloway, et al., 2010)

- Some research on effective teaching of isolated skills to students with ID; emphasis on sight word instruction and limited phonics (reviews by Browder, et al., 2006; Browder & Xin, 1998; Joseph & Seery, 2004)

- More recently, programs more comprehensive in nature with goal of reading similar to students without ID (full processing of words with understanding at least commensurate with listening comprehension) found to be effective (Allor and colleagues; Browder and colleagues; Sevcik and colleagues; Burgoyne and colleagues in UK; Lemon and colleague)
References and Resources: Study Articles


Oral Reading Fluency: Predicted Scores by IQ and Condition

Words Per Minute

Week of Progress Monitoring

IQ 75 Treatment
IQ 75 Contrast
IQ 62 Treatment
IQ 62 Contrast
IQ 47 Treatment
IQ 47 Contrast


Step 7: Keep parents in the know

• Report frequently on student progress

• Send practice materials home
  – Flashcards
  – Word lists
  – Books on appropriate level

• Reward students for returning practice materials (with parent initials that they practiced)

• Don’t give up!
General Tips for Families: How to support reading at home

• Habit – develop routines and habits
  – Brief is fine; must be frequent

• Help – always provide help quickly; goal is to gradually increase child’s independence

• Happy – time spent with your child supporting reading should be pleasant
  – Very brief, if needed and gradually increase
  – Use external reinforcers (goal to help child understand positive natural consequences)
    • (e.g. I enjoy stories and learning about new information. My reading is getting better so I can read more on my own.)
Tips for Parents:
Keeping interaction “happy” is important!

• Encourage, don’t insist
• Give child choices
• Over time, most children respond well to encouragement
• One option is for you to do more of the reading and gradually increase their participation
• Remember that they WANT to learn to read and it is HARD to learn
• If your child isn’t receptive to encouragement, seek assistance (and assessment)
• Most important role is to ensure practice
Learning Characteristics of Students with ASD

**Strengths**
- Rote, rule, fact-based learning
- Concrete supports/material
- Routine/structure
- Mechanics of language

**Challenges**
- Using and understanding language/discourse
- Predicting events and order
- Organizing and integrating information
- Attending to multiple stimuli/cues
- Distinguishing relevant from extraneous information
- Shifting focus
- Generalization

See Handbook on Autism and Developmental Disabilities
Changing Prevalence Figures

• 1 in 88 children is identified with an ASD
  – 1 in 50 school children

• Past estimates suggested 70-80% of individuals with autism also had an intellectual disability, but figures are declining with recent rates ranging from 15-38%

• Number of individuals with ASD who do not develop functional language skills have decreased considerably from 50% to as low as 20%

Center for Disease Control 2012; 2013; Eaves & Ho, 1996; Harris & Handleman, 2000; Rogers, 2006; Volkmar et al., 2005
Reading Characteristics of Students with ASD

**Relative strengths:**

- phonics and decoding

**Greater difficulty:**

- verbal knowledge and language comprehension
  - Linked to oral language comprehension, vocabulary and social communication

Although variability noted in word identification ability, research consistently shows that learners with ASD will experience challenges comprehending text (Mundy et al., 2012)

Brown, Oram-Cardy, & Johnson, 2013; Calhoon, 2001; Davidson & Weismer, 2014; Frith, 2003; Griswold, Barnhill, Myles, Hagiwara & Simpson, 2002; Huemer & Mann, 2010; Inoue et al., 2013; Jones et al., 2009; Mayes & Calhoun, 2003a, 2003b; Lindgren et al., 2009; Moseley et al., 2014; Myles et al., 2002; Nation, Clarke, Wright, & Williams, 2006; Norbury et al., 2011; Rickets, Jones, Happe, & Charman, 2013; Wahlberg & Magliano, 2004; Wei, Blackorby, & Schiller, 2011
Jasmine

Jasmine is a 3rd grader with ASD. Jasmine decodes text above grade level expectations, but has trouble with comprehension. Jasmine is very interested in words and word meanings and often asks questions related to vocabulary. As a result, Jasmine has a precocious vocabulary, but she rarely uses language for social purposes. Jasmine also demonstrates some repetitive behaviors and interests. She is very interested in fiction texts especially with fairy tale themes, and often scripts her favorite movies. Jasmine’s teacher is very concerned because Jasmine is unable to pass high stakes tests in the area of reading. She also feels that Jasmine is a very capable student who could attend college, but recognizes she needs support with comprehension.
Jayden

Jayden is 6 years old and in the first grade. Jayden spends part of his day in a resource room setting and part of his day in an inclusive classroom. Jayden can say some words, but he is often difficult to understand. He gets frustrated when his communication attempts are misunderstood. During instructional times, when Jayden is misunderstood he will kick under the desk/table, attempt to slide under the desk/table, and occasionally run away from the task. Jayden is very interested in trains. Since incorporating trains into instruction and providing ways for Jayden to successfully respond to questions/tasks receptively (e.g., pointing to picture responses), and making expectations/instructions explicit, Jayden’s behavior has improved. Jayden’s teachers are looking for ways to continue to enhance Jayden’s emergent literacy skills and begin to teach him to decode text.
Step 1: Prioritize Critical Content

• Goals for Jasmine
  – Focus on reading and language comprehension
    • Informational and Fiction Text
    • Speaking and Listening
  – Emphasize Jasmine’s effective use of strategies to enhance her comprehension
  – Increase Jasmine’s ability to consistently share what she knows/understands
Step 1: Prioritize Critical Content

• Goals for Jayden
  – Establish foundational skills necessary for successful reading
    • Informational and Fiction Text; Speaking and Listening; Foundational Skills; Language
  – Build Jayden’s phonological awareness skills
  – Teach Jayden to decode text
  – Increase Jayden’s receptive and expressive vocabulary
  – Enhance Jayden’s listening comprehension when reading aloud
Step 2: Jasmine’s Learning Gaps

- **Reading and Language Comprehension**
  - Determining relevant from irrelevant information
  - Responding to questions that require summarization and inference
  - Sharing main idea and important details from a reading
  - Linking and integrating information from multiple pages of text as well as past readings
Step 2: Jayden’s Learning Gaps

• Expressive language
  – Ensure that Jayden has a reliable way to expressively communicate
  – Make some expressive tasks receptive to determine what Jayden knows

• Decoding ability
  – Teach Jayden to effectively apply phonics skills to decode text

• Comprehension
  – While building Jayden’s decoding skills, work on listening comprehension and creating an interest in reading
Step 3: Code-focused Evidence-Based Instruction

- 6 code-focused studies used computer-assisted instruction
  - 3 Delta Messages; 2 MimioSprout; 1 Nonverbal Reading Approach
- Children with ASD and varying skill levels developed code-focused skills
  - Gains reported
    - Phonological/Phonemic awareness
    - Word recognition
      - Basil & Reyes, 2003; Coleman-Martin, Heller, Chihak, & Irvine, 2005; Grindle et al., 2013; Heimann et al., 1995; Tjus et al., 1998; Whitcomb, Bass, & Luiselli, 2011
    - Spelling
      - Basil & Reyes, 2003
Step 3: Meaning Focused Evidence-Based Instruction

14 Meaning Focused Studies Emphasizing Comprehension

- **Corrective Reading** *(Flores & Ganz, 2009; Flores & Ganz, 2007; Flores et al., 2013)*

- **Comprehension strategy instruction** *(Asberg & Sandberg, 2010; O’Connor & Klein, 2004; Whalon & Hanline, 2008)*

- **Graphic organizer** *(Bethune & Wood, 2013; Carnahan & Williamson, 2013; Stringfield, Luscre, & Gast, 2011)*

- **Cooperative learning/peer tutoring** *(Dugan et al., 1995; Kamps, Barbetta, Leonard, & Delquadri, 1994; Kamps, Leonard, Potucek, & Garrison-Harrell, 1995; Kamps, Locke, Delquadri, & Hall, 1989; Whalon & Hanline, 2008)*
Step 3: Continued

- **Gains reported**
  - Vocabulary and/or comprehension quizzes
    - Carnahan & Williamson, 2013; Dugan et al., 1995; Flores et al., 2013; Kamps, Leonard, Potucek, & Garrison-Harrell, 1995; Stringfield et al., 2011
  - Question generation and/or responding
    - Bethune & Wood; Whalon & Hanline, 2008
  - Identifying inferences, recalling facts, making analogies
    - Flores & Ganz, 2007 & 2009
  - Retelling important events of a story
    - O’Connor & Klein, 2004
  - Standardized measures of discourse comprehension and receptive vocabulary
    - Asberg & Sandberg, 2010
Step 3: Evidence Suggests

- Literacy skills of children with ASD are under-addressed (El Zein, Solis, Vaughn, & McCulley, 2013; Lanter & Watson, 2011; Machalicek, 2012; Randi, Newman & Grigorenko, 2010; Whalon, Al Otaiba, & Delano, 2009)

- Available literature suggests that learners with ASD can benefit from instruction consistent with the NRP recommendations (Chiang & Lin, 2007; El Zein et al., 2013; Whalon et al., 2009)

- Preliminary evidence that children with ASD can learn to apply cognitive processes necessary to generate meaning (Randi et al., 2010)

- Computer-assisted instruction may be beneficial for learners with ASD, but not sufficient alone (Grindle et al., 2013; Whalon et al., 2009)
Becoming a Strategic Reader…

Reading comprehension instruction should

• Focus on the cognitive processes involved in reading
  – Inference making, comprehension monitoring, text structure

• Teach multiple comprehension strategies
  – e.g., two or more of the following: question generation, summarization, clarification, and prediction

• Teach children how to engage in discussion about text to include a focus on asking and responding to questions

Kamil, 2004; NICHD, 2000; Pressley, 2003
Help Jasmine become a Strategic Reader…

• Teach Jasmine the difference between fact- and inference-based questions
  – Question generation and responding
  – Question Answer Relationships

• Teach Jasmine to summarize and sequence information from text with the support of a graphic organizer

• Use comprehension strategies and graphic organizers in multiple contexts

• Provide a method for Jasmine to apply the strategy/graphic independently
  – Activity schedules

• Ensure that Jasmine is prepared for and able to participate in discussions about text
  – Graphic organizers
  – Scripts
  – Priming
Help Jayden Learn to Read…

• Provide systematic and intensive instruction using evidence-based practices
  – Multiple opportunities and full learning trials
    • Computer assisted
    • Direct instruction

• Ensure Jayden can respond
  – Expressive/receptive
  – Corrective feedback

• Build vocabulary and comprehension by reading aloud

• Build in strategies to support and enhance joint attention during instruction

• Motivating materials

• Make it concrete using evidence-based practices for learners with ASD

http://aacliteracy.psu.edu/index.php/page/show/id/1
Step 4: Monitor Progress & Adapt

**Jasmine**

- Reading inventories
- Comprehension tests
- Monitor responses to questions in discussions
- Provide specific questions for Jasmine and peers to ask in cooperative learning groups and record responses
- Summary frames
- Completed graphic organizers
- Sequence events in text by sorting visual representations of content prior to asking Jasmine to retell

**Jayden**

- Make sure Jayden has a way to consistently and accurately show what he knows
- Monitor growth in expressive language
  - Work with SLP
- Progress monitoring tools such as AimsWeb, DIBELS and curriculum assessments
- Until expressive language is reliable, include receptive tasks to monitor progress
- Monitor Jayden’s responses to comprehension questions in small group contexts
- Record levels of prompting
Step 5: Accommodations & Modifications

• Break the strategy down into components as needed
  – E.g., fact- before inference-based questions; create a task analysis of the comprehension strategy/graphic organizer or decoding a word; create a schedule of steps needed to use the strategy/graphic

• Teach graphic organizers with familiar text/content first

• Find motivators and use preferences

• Intersperse difficult with familiar/preferred tasks
  – Preference assessments
  – Restricted interests

• Provide multiple opportunities to apply the strategies with varying types of text (fiction and nonfiction) and formats (passages, picture books, chapter books, text books, magazines, etc.) Make comprehension instruction rule-based and routine

• Pair evidence-based reading strategies with strategies shown to support learners with ASD
  – Priming, schedules, social narratives, video modeling, visual supports, scripting
  – Prompting strategies, task analysis
Step 6: Stay Current With Research

- Research Reviews on Teaching Reading to Learners with ASD
  - Comprehensive Reading Instruction
    - Whalon, Al Otaiba, & Delano, 2009
  - Reading Comprehension
    - Chiang & Lin, 2007; El Zein, Solis, Vaughn, & McCulley, 2013; Randi, Newman & Grigorenko, 2010
## Step 6: Stay Current With Research

### Online Resources
- National Professional Center on Autism Spectrum Disorder
  - [autismpdc.fpg.unc.edu/](http://autismpdc.fpg.unc.edu/)
- National Autism Center
  - [www.nationalautismcenter.org](http://www.nationalautismcenter.org)
- Autism Internet Modules
  - [www.autisminternetmodules.org](http://www.autisminternetmodules.org)

### Peer-Reviewed Journals
- Journal of Autism and Developmental Disorders
- Focus on Autism and Other Developmental Disorders
- Education and Training in Autism and Developmental Disabilities
- Autism
- Research in Autism Spectrum Disorder
- Journal of Positive Behavior Interventions
- Journal of Applied Behavior Analysis
Step 7: Parent Communication

1. Share information about literacy/reading with families of children/youth with ASD

2. Share strategies you are using with families and provide materials for home practice

3. Provide supports/materials for families to read with their children at home
   - Visuals to increase participation
   - Graphic organizers, task analyses, activity schedules

3. Create errorless learning tasks for use at home
Summary

• The heterogeneity associated with ASD is also evident in reading development

• Learners with ASD are very likely to struggle with reading comprehension regardless of their verbal ability

• Pair effective reading strategies with evidence-based practices that support the learning of students with ASD

• Use what we know about the learning strengths of students with ASD
Thanks!
Questions?
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