Handout packet for

Data-Based Individualization: When Standard Academic Approaches Don't Work

Session #28- Monday, November 4, 1:00-2:30
Session #65- Tuesday, November 4, 8:30-10:00

Laura Kuchle and Amy Peterson
National Center on Intensive Intervention
American Institutes for Research

Handouts Included:

- Intensive Intervention Practice Categories Checklist
  - Handout 1 from DBI Training Series Module 7 http://www.intensiveintervention.org/resource/designing-and-delivering-intervention-students-severe-and-persistent-academic-needs-dbi
- Steps of DBI in Reading
  - CEC 2014 Strand I, Session 2 Handout http://www.intensiveintervention.org/resource/cec-2014-strand-i-presentations-using-intensive-intervention-meet-academic-and-behavior
- Find Out What the National Center on Intensive Intervention has to Offer
- DBI Training Series

Handout 1. Intensive Intervention Practice Categories Checklist

The following checklist is intended to help teachers and intervention teams think about practices for intensifying interventions across various dimensions. This list is not exhaustive, and teams may add to it over time.

Intensification Practice Category 1: Change Intervention Dosage or Time

Possible Approaches	Notes
___ Increase daily intervention time. ___ Increase duration/number of sessions. ___ Increase frequency of sessions (e.g., twice per day). ___ Provide extended instruction (e.g., after school). ___ Other:_____ ___ Other:_____	

Intensification Practice Category 2: Change the Learning Environment to Promote Attention and Engagement

Possible Approaches	Notes
___ Reduce group size. ___ Create homogeneous groups. ___ Change the instructional setting. ___ Other: _____ ___ Other:_____ ___ Other:_____	

Intensification Practice Category 3: Combine Cognitive Processing Strategies with Academic Learning

Possible Approaches	Notes
Memory ___ Teach note-taking skills. ___ Review prior learning before presenting new information. ___ Speak and write/draw/project information as you present it. ___ Repeat important instructions, key words, and so on. ___ Model procedures to provide students with a visual image of the steps. ___ Teach students to visualize information in a text, including stories, word problems, and so on. ___ Teach routines for important procedures. ___ Use visual or verbal cues as reminders. ___ Model out-loud verbal rehearsal. ___ Develop a mnemonic device to help students remember information or routines. ___ Check for understanding frequently. ___ Teach students to self-check for understanding and ask for clarification when needed. ___ Other:_____ ___ Other:_____ **Self-Regulation and Self-Monitoring** ___ Model thinking aloud when you introduce new concepts. ___ Include students in goal setting and monitoring their progress. ___ Explicitly teach and model use of strategies and routines. ___ Offer specific feedback that highlights behaviors leading to improved achievement. ___ Ask students to read the text aloud and think about what the author is saying. ___ When solving word problems, teach students to ask themselves whether they understand the question. ___ Teach students to ask, “Does my answer make sense?”	

Possible Approaches	Notes
___ Teach students to be metacognitive and to identify "breakdowns" in their understanding. ___ Keep track of how long it takes a student to achieve mastery of a new skill. ___ Teach students to ask for help when they need it. ___ Teach students to set goals. ___ Teach students to graph and monitor their progress toward their goals. ___ Other:_____ ___ Other:_____ **Attribution** ___ Help students to develop strategies or scripts when they engage in negative self-talk, and reinforce them for using those strategies or scripts. ___ Include students in goal setting and monitoring to help them connect their hard work with increased academic success. ___ Celebrate progress, and provide explicit feedback that connects it with their use of new/appropriate learning strategies, skills, or behaviors. ___ Other:_____ ___ Other:_____	

Intensification Practice Category 4: Modify Delivery of Instruction

Possible Approaches	Notes
Content ___ Prioritize and engage students in what you want them to know. ___ Ensure instructional content aligns with students' demonstrated needs. ___ Use precise, frequent progress monitoring to determine if learning is occurring. ___ Other: _____ ___ Other:_____ **Systematic and Explicit Instruction** ___ Sequence learning chunks from easier to more difficult. ___ Break steps into small, simple chunks. ___ Provide temporary supports to control the level of difficulty. ___ Tell students what you want them to know. ___ Provide an advance organizer. ___ Assess background knowledge. ___ Model ("I do"). ___ Provide extensive guided practice ("We do"). ___ Provide independent practice ("You do"). ___ Check for maintenance of skills. ___ Provide concrete learning opportunities with manipulatives or visual aids. ___ Scaffold instruction, and fade levels of support as students demonstrate independence. ___ Other: _____ ___ Other:_____ **Precise, Simple, Replicable Language** ___ Plan precise, specific language for parts of your lessons that involve the explanation of an important idea. ___ Use correct vocabulary for the discipline that is appropriate for students.	

Possible Approaches	Notes
___ Use the same language every time. ___ Other: _____ ___ Other:_____ **Feedback and Error Correction** ___ Tie your feedback directly to the student's actions and the learning goals. ___ If a student makes an error, explain why it is incorrect, model the correct response, and have the student provide a correct response before moving on. **Independent Practice** ___ Incorporate independent practice after students begin to demonstrate mastery of the new skills or content. ___ All reading material should be at the student's independent reading level to avoid frustration and practice of errors. ___ Incorporate daily practice routines at the beginning and end of the intervention period. ___ Give homework to facilitate practice. ___ Reinforce on-task behavior. **Other** ___ Other: _____ ___ Other:_____ ___ Other:_____	

Steps of DBI in Reading

Danielson & Rosenquist (2014); Lemons, Kearns, & Davidson (2014)

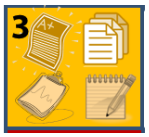
1. Secondary prevention with greater intensity

a) Secondary prevention program
   - Use the explicit instruction (I do, we do, you do) approach (Archer & Hughes, 2011)
   - Research-validated program executed with fidelity of implementation

b) Greater intensity (*quantitative* changes): More time, smaller groups

2. Progress monitoring

a) Reliable and valid measure
b) Easy-to-administer measure (can be given weekly)
c) Collect initial data and create an aimline



3. Diagnostic assessment

a) Collect data from (1) error analysis of PM data, (2) classroom assessments and work samples, and (3) standard assessments (if possible)
b) Identify a pattern that would suggest a skill to be targeted
   - Come up with a theory about what might be causing the student's academic difficulty
   - Start considering adaptations

4. Adaptation of the intervention

a) Quantitative changes
b) Qualitative changes
   - Do the changes include use of <u>small steps</u>?
   - Do the strategies involve 3Cs (<u>clear, concise, consistent</u>) language?
   - Do the strategies align with real reading behavior?

5. Iterations

a) Progress monitoring
   - Weekly monitoring is necessary to show small changes
   - DBI meetings as a collaborative effort among staff and service providers

b) Analysis
c) Adaptation
   - Diagnose, Adapt, Repeat

Important Considerations for Making DBI Work

- Make sure you have a reliable and valid progress monitoring system
    - Running records and related products that give you a reading level (e.g., TRC, MCLASS) are not reliable progress monitoring systems
    - “Progress monitoring” tools provided with your program may tell you whether students are improving in the program, but these are not general outcome measures and therefore do not show reliable progress
- Make sure the instructional platform is a program
    - “Approaches” to instruction are not sufficient, as they do not provide the explicit language and sequence of instruction that help assure a high level of rigor
    - Lesson plans from websites are also not sufficient, as these also do not provide enough detail or sufficient materials to start and maintain instruction; they aren’t designed for long term use
- Choose sensible adaptations
    - Do not use cognitive approaches (i.e., those that claim to improve reading by fixing an underlying cognitive problem, like working memory weakness), like those advocated by Lumosity and other such vendors. Despite their claims, most of these lack strong scientific evidence
    - Stick to academic adaptations, changes that adjust the focus or delivery of instruction
- Monitor progress *weekly*
- Make sure all the key players (special educators, general educators, speech pathologists, other service providers) are informed in advance about DBI meetings and are prepared for them

References

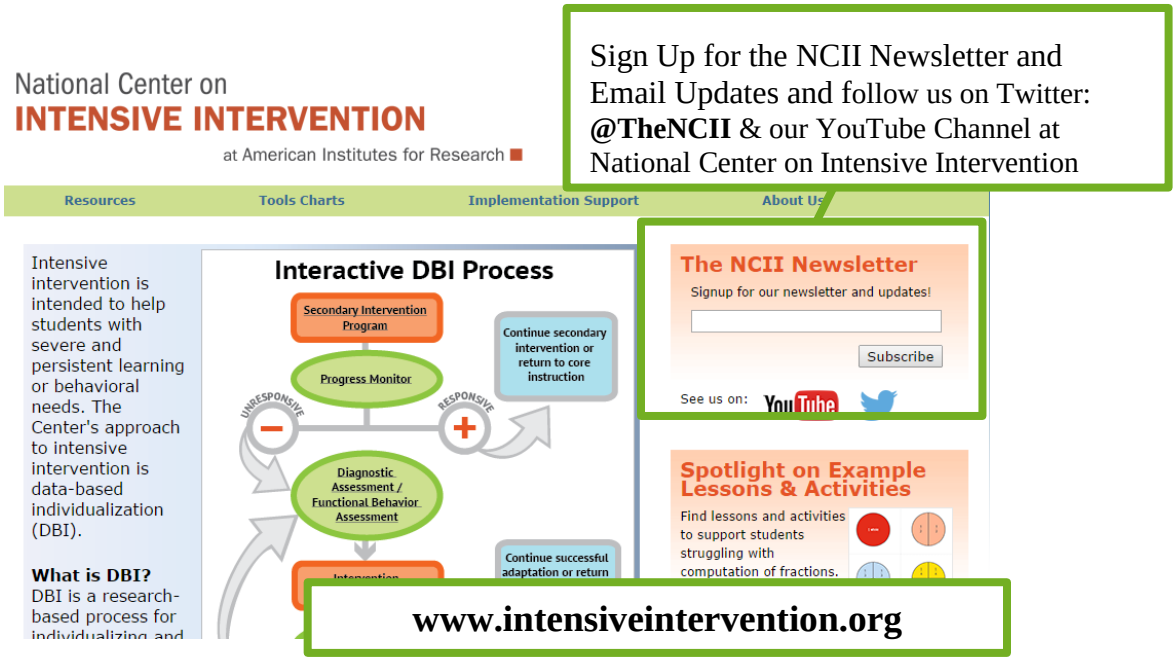
Archer, A. L., & Hughes, C. A. (2011). Explicit instruction: Effective and efficient teaching. New York: Guilford.

Danielson, L., & Rosenquist, C. (2014). Introduction to the TEC special issue on data-based individualization. *TEACHING Exceptional Children, 46*(4)*,* 6-12.

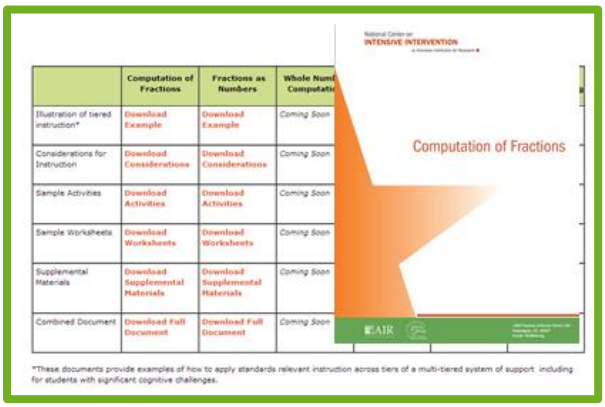
Lemons, C. J., Kearns, D. M., & Davidson, K. A. (2014). Data-based individualization in reading: intensifying interventions for students with significant reading disabilities. *TEACHING Exceptional Children, 46*(4)*,* 20-29.

Find Out What the National Center on Intensive Intervention (NCII) Has to Offer

NCII's mission is to build district and school capacity to support implementation of data-based individualization in reading, mathematics, and behavior for students with severe and persistent learning and behavioral needs. NCII has a growing number of resources to help support the field.



- Find *Sample Lessons & Activities* intended to assist special education teachers, interventionists, and others working with students with intensive needs at http://www.intensiveintervention.org/sample-lessons-activities.



- Find training materials to support district or school teams involved in initial planning or implementation of data-based individualization (DBI) as a framework for providing intensive intervention in academics and behavior including PowerPoint slides with speaker notes, activities, handouts, and coaching guides by viewing the *Data-Based Individualization (DBI) Training Series*, at http://www.intensiveintervention.org/content/dbi-training-series

- Support planning of standards aligned instruction and see examples of how to apply standards relevant instruction across the multi-tiered system of support. http://www.intensiveintervention.org/illustration-standards-relevant-instruction-across-levels-tiered-system

- Register for upcoming webinars and find archived webinars at http://www.intensiveintervention.org/resources/webinars.

- Analyze and select evidence-based tools from the NCII Tools Charts and learn about the Technical Review Committee

- Academic Progress Monitoring http://www.intensiveintervention.org/chart/progress-monitoring
- Academic Intervention http://www.intensiveintervention.org/chart/instructional-intervention-tools
- Behavioral Progress Monitoring http://www.intensiveintervention.org/chart/behavioral-progress-monitoring-tools
- Behavioral Intervention http://www.intensiveintervention.org/chart/behavioral-intervention-chart

- Find products and resources that will help you learn about data-based individualization and intensive intervention including:
  - *Data-Based Individualization: A Framework for Intensive Intervention* at http://www.intensiveintervention.org/resource/data-based-individualization-framework-intensive-intervention.
  - *Synthesis Reports on Intensive Academic and Behavioral Intervention: Annotated Bibliography* http://www.intensiveintervention.org/resource/synthesis-reports-intensive-academic-and-behavioral-intervention-annotated-bibliography
  - *Implementing Intensive Intervention: Lessons Learned from the Field* at http://www.intensiveintervention.org/resource/implementing-intensive-intervention-lessons-learned-field.
  - *Ask the Expert* videos at http://www.intensiveintervention.org/resources/ask-the-expert.
  - *NCII Glossary of Terms* http://www.intensiveintervention.org/ncii-glossary-terms
- Contact NCII online at http://www.intensiveintervention.org/about-us/contact by email NCII@air.org with questions, comments, or suggestions.

Data-Based Individualization Training Series

This series of training modules developed by the National Center on Intensive Intervention (NCII) is aimed at district or school teams involved in initial planning or implementation of data-based individualization (DBI) as a framework for providing intensive intervention in academics and behavior. The following modules provide an overview of the DBI process and more in-depth exploration of the various components of DBI. Each module is intended as a component of comprehensive professional development that includes supplemental coaching and ongoing support. Presentation slides, handouts, and a coaching guide with suggested coaching activities are provided.

1. **Introduction to Data-Based Individualization (DBI): Considerations for Implementation in Academics and Behavior**
   This module provides a rationale for intensive intervention and an overview of DBI, NCII's approach to intensive intervention. DBI is a research-based process for individualizing validated interventions through the systematic use of assessment data to determine when and how to intensify intervention. Two case studies, one academic and one behavioral, are used to illustrate the process, highlighting considerations for implementation.
   http://www.intensiveintervention.org/resource/introduction-data-based-individualization

2. **Using Academic Progress Monitoring for Individualized Instructional Planning**
   This module focuses on academic progress monitoring within the context of the DBI process and addresses (a) approaches and tools for academic progress monitoring, and (b) using progress monitoring data to make instructional decisions for individual students.
   http://www.intensiveintervention.org/resource/using-academic-progress-monitoring-individualized-instructional-planning

3. **Monitoring Student Progress for Behavioral Interventions**
   This module focuses on behavioral progress monitoring within the context of the DBI process and addresses (a) methods available for behavioral progress monitoring, including but not limited to Direct Behavior Rating (DBR); and (b) using progress monitoring data to make decisions about behavioral interventions.
   http://www.intensiveintervention.org/resource/monitoring-student-progress-behavioral-interventions-dbi-training-series-module-3

4. **Secondary Interventions: Setting the Foundation for Intensive Support**
   This module explains (a) the purpose and rationale for secondary interventions as part of a larger multi-tiered system of support, (b) how secondary interventions fit into the DBI process, (c) key components that should be in place for effective secondary interventions, and (d) guidance for prioritizing next steps related to improving secondary interventions.
   http://www.intensiveintervention.org/resource/secondary-interventions-setting-foundation-intensive-support

5. **Informal Academic Diagnostic Assessment: Using Data to Guide Intensive Instruction**
   This module is intended to help teams understand how to use progress monitoring and other accessible assessment data to guide instructional decision making. Trainers can select among several presentation sections to best address teams' needs. Sections include (a) administering progress monitoring measures, (b) graphing data and reviewing graphed data, (c) conducting miscue and skills analysis in reading and math, and (d) identifying skills to target in reading and math interventions. **http://www.intensiveintervention.org/resource/informal-academic-diagnostic-assessment-using-data-guide-intensive-instruction-dbi-training**

6. **Using Functional Behavior Assessment (FBA) for Diagnostic Assessment in Behavior**
   This module serves as an introduction to important concepts and processes for implementing FBA. Key topics include (a) defining FBAs in the context of DBI, (b) basic concepts in behavior, including antecedents, behaviors, and consequences, (c) levels of FBAs, and (d) considerations and procedures for conducting FBAs.
   http://www.intensiveintervention.org/resource/using-fba-diagnostic-assessment-behavior-dbi-training-series-module-6

7. **Designing and Delivering Intervention for Students with Severe and Persistent Academic Needs**
   This module discusses approaches to intensifying academic intervention for students with severe and persistent learning needs. The module describes how intensification fits into DBI process and introduces four categories of intensification practices. It uses examples to illustrate concepts and provides activities to support development of teams' understanding of these practices, and how they might be used to design effective individualized programs for students with intensive academic needs.
   http://www.intensiveintervention.org/resource/designing-and-delivering-intervention-students-severe-and-persistent-academic-needs-dbi

8. **Designing and Delivering Intervention for Students with Severe and Persistent Behavior Needs**
   This module focuses primarily on selecting evidence-based interventions that align with the functions of behavior for students with severe and persistent learning needs. The emphasis of this training will include four main content areas: (a) relating assessment to function, (b) selecting evidence-based interventions that align with functions of behavior, (c) linking assessment and monitoring, and (d) connecting data with the evidence-based interventions selected.
   http://www.intensiveintervention.org/resource/designing-and-delivering-intensive-intervention-behavior-dbi-training-series-module-8

64TH CONFERENCE ON EXCEPTIONAL CHILDREN

WORKING TOGETHER
TO ACHIEVE STUDENT SUCCESS

Data-Based Individualization: When Standard Academic Approaches Don't Work

Laura Kuchle and Amy Peterson

National Center on Intensive Intervention

American Institutes for Research

Today's Presentation

- Rationale for intensive intervention
- Overview of the data-based individualization (DBI) process
- Categories of practice for organizing & planning intensive intervention
- Case example: Kelsey
- NCII Resources

What is Intensive Intervention?

Intensive intervention addresses *severe and persistent* learning or behavior difficulties. Intensive intervention should be:

- Driven by data
- Characterized by increased intensity (e.g., smaller group, expanded time) and individualization of academic instruction and/or behavioral supports

What Intensive Intervention…

Is…

- Individualized based on student needs
- More intense, often with substantively different content AND pedagogy
- Comprised of more frequent and precise progress monitoring

Is Not…

- A single approach
- A manual
- A preset program
- More of the same Tier 1 instruction
- More of the same Tier 2 instruction

Why Do We Need Intensive Intervention?

Low academic achievement

Above average dropout rates

Higher than average arrest rates

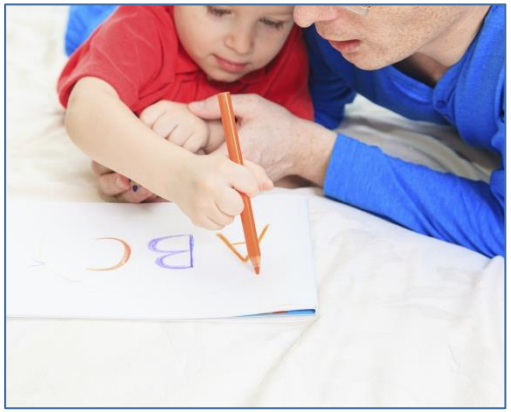
For more information: Sanford et al., 2011; NAEP, 2013; Planty et al., 2008, Aud et al., 2012

Why Do We Need Intensive Intervention?

More Help

Validated programs are not universally effective programs; 3 to 5 percent of students need more help (Fuchs et al., 2008; NCII, 2013).

More Practice



Students with intensive needs often require 10–30 times more practice than peers to learn new information (Gersten et al., 2008).

Who Needs DBI?

- Students with disabilities who are not making adequate progress in their current instructional program
- Students who present with very low academic achievement and/or high-intensity or high-frequency behavior problems (typically those with disabilities)
- Students in a tiered intervention system who have not responded to secondary intervention programs delivered with fidelity

What is NCII's Approach to Intensive Intervention?

Data-Based Individualization (DBI): A systematic method for using data to determine *when and how* to provide more intensive intervention:

- Origins in data-based program modification/experimental teaching were first developed at the University of Minnesota (Deno & Mirkin, 1977).
- It is a process, not a single intervention program or strategy.
- It is not a one-time fix, but an ongoing process comprising intervention and assessment adjusted over time.

DBI Assumptions

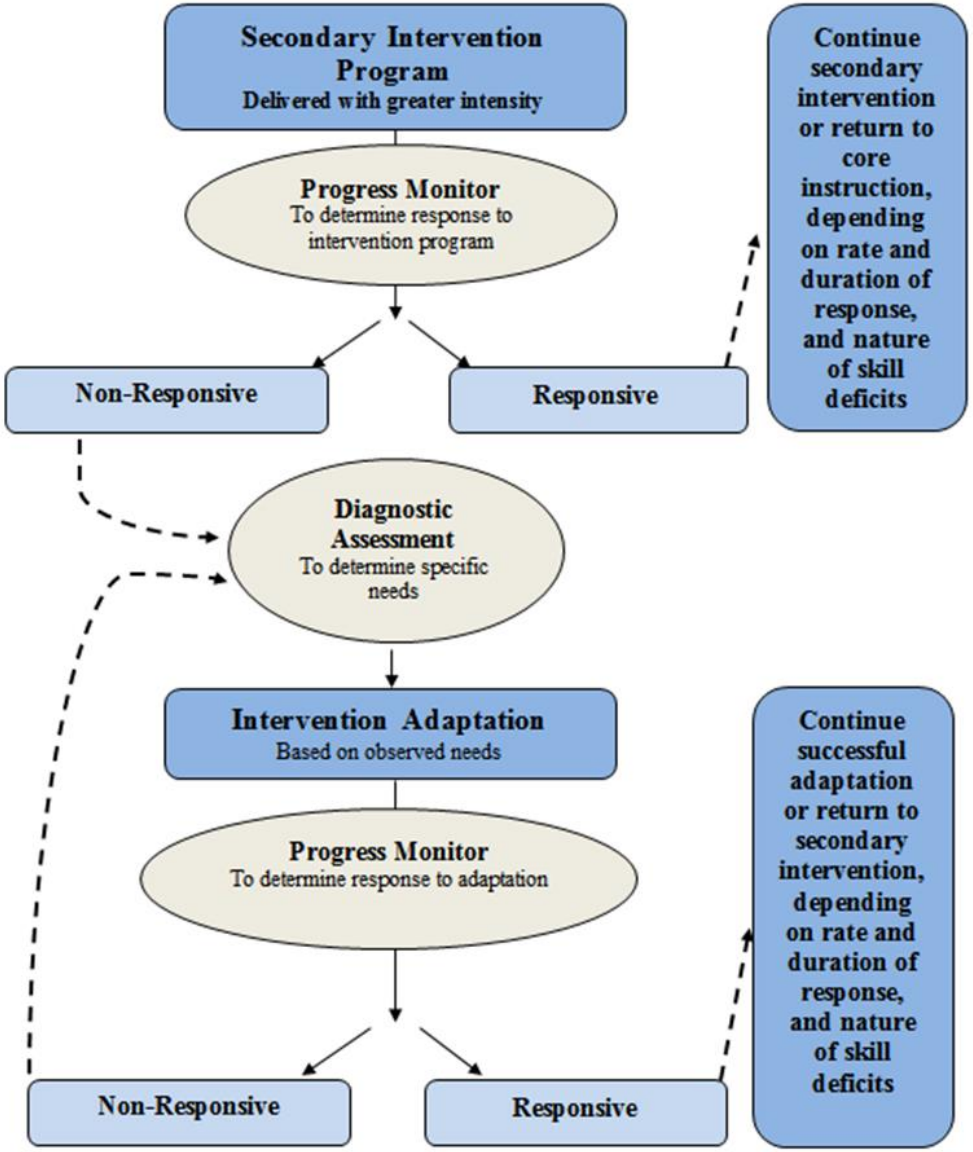
- Students with disabilities who require special education need specially designed instruction to progress toward standards.
- A data-driven, systematized approach can help educators develop programs likely to yield success for students with intensive needs.

DBI Assumptions

- DBI is a distinctively different and more intensive approach to intervention, compared to primary prevention's (Tier 1's) core program and secondary prevention's (Tier 2's) validated, supplementary programs (NCII, 2013).

- In a longstanding program of field-based randomized controlled trials, DBI has demonstrated improved reading, math, and spelling outcomes, compared with business-as-usual special education practice (e.g., Fuchs, Fuchs, & Hamlett, 1989).

A Bird's Eye View of DBI



Is DBI the Same as RTI? Special Education?

Many components of DBI are consistent with elements of special education and tiered service delivery systems.

Tiered Interventions (RTI, MTSS, PBIS)

- Universal, secondary, and tertiary interventions
- Progress monitoring
- Team-based decisions based on data

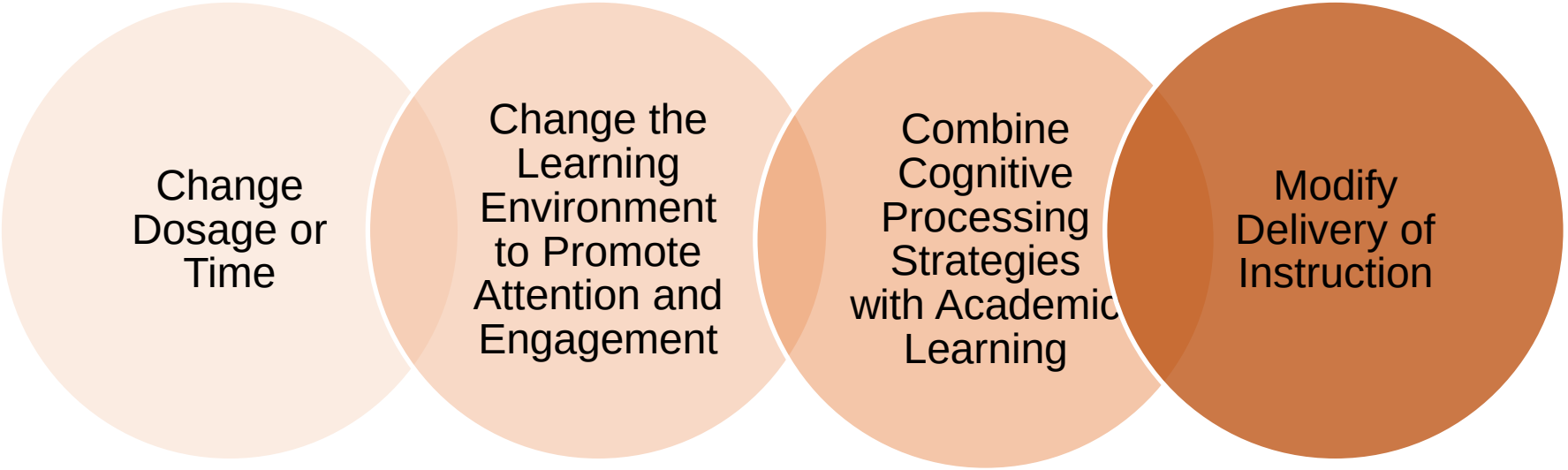
Special Education

- Individualized program
- Progress monitoring
- Team-based decisions based on data

How do you intensify interventions?

Organizing and Planning Intensive Intervention

Categories of Practice for Organizing & Planning Intensive Intervention



(Vaughn et al., 2013)

Handout: Intensive Intervention Practice Categories Checklist

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Intensive Intervention Practice Categories Checklist

The following checklist is intended to help teachers and intervention teams think about practices for intensifying interventions across various dimensions. This list is not exhaustive, and teams may add to it over time.

Intensification Practice Category #1: Change Intervention Dosage or Time

Possible Approaches	Notes
___ Increase daily intervention time.	
___ Increase duration/number of sessions.	
___ Increase frequency of sessions (e.g. twice per day).	
___ Provide extended instruction (e.g. after school).	

Practice #1: Change Dosage or Time

What is the suggested duration, length, frequency?

Consider:

- Quality and length of previous interventions
- Age of student
- How far the student is below grade-level
- The complexity of the learning tasks
- Student stamina and attention span

What is the suggested duration, length, frequency?

While there is no perfect formula….

- Students with intensive needs often require **10-30 times** the number of practice opportunities as their peers to learn new information—This takes time!
- Research on the number of sessions varies, but a**t least 8-16 weeks**, often longer.
- Evidence suggests that students with intensive needs may benefit from **60-120 min** of intervention per day.

How should I use the additional time in intervention?

Use the additional time to accelerate learning by:

- Maximizing engaged learning time
- Minimizing waiting and transitions
- Teaching additional skills and strategies
- Providing additional practice opportunities with feedback
- Delivering more explicit, systematic (step-by-step) instruction
- Monitoring student progress to ensure that the additional learning time increases student mastery of skills.

Strategies for Adding Intervention Time

- **Double dip:** Rather than a single intervention block, students might receive intervention at different times during the day (e.g., 20 min in the morning and 20 min the afternoon rather than a single 40 min session) (Gersten et al., 2008; Vaughn et al., 2012).

- **Use entry or exit routines:** Provide independent or peer-mediated practice opportunities for students to minimize wait time and allow multiple small groups to run at once.

- **Reinforce** groups for following routines independently.

Strategies for Adding Intervention Time (cont).

- **Sample entry routine:**
  - Student comes into the classroom, gets a timer and does practice with math facts, writing down the scores on a recording sheet.

- **Sample exit routine:**
  - Student finished with the lesson does an oral reading fluency practice either alone or with a partner.

Practice #2: Change the Learning Environment to Promote Attention and Engagement

What is the ideal group size for providing intervention?

- Small groups, up to 4 students, may provide the most intensive intervention at the elementary level.
- Research has not identified one ideal intervention group size that increases outcomes for all or most students, particularly in older students in grades 6-12.

Reducing Group Size with Limited Resources

- Develop entry or exit routines that provide independent or peer-mediated practice opportunities for students.
- Reinforce groups for following routines independently.
- Use peers, parent volunteers, paraeducators, or computer programs for practice activities.
- Use teacher time for instruction and assessment of new skills.

Why small homogeneous groups?

- Increases engaged interaction opportunities between student(s) and teacher
- Provides more opportunities for practice with feedback
- Allows teachers to match instruction to specific student needs
- Better able to monitor on-task behavior and engagement

Practice #3: Combine Cognitive Processing Strategies with Academic Learning

Considerations when Designing Intensive Intervention

Academic interventions should also support cognitive processes such as:

- Memory
- Self-regulation and self-monitoring
- Attribution

Memory

How does poor memory impede academic success?

Students may have difficulty recalling:

- Steps in a sequence (e.g., math operations, independent work, organizational routines, multi-step directions)
- Previous learning that relates to new information
- Information presented in one modality (e.g., auditory only)

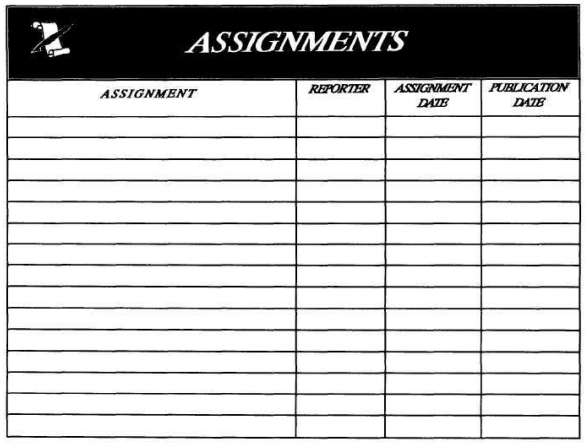
(Swanson, Zheng, & Jerman, 2009).

As a result they may:

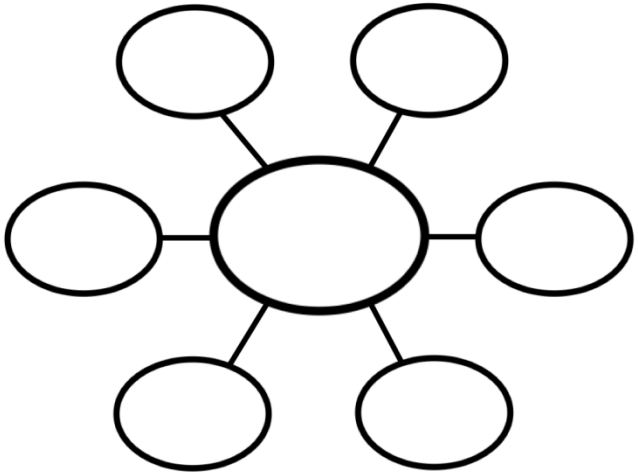
- Score low for digit span or other measures of working memory on cognitive assessments.
- Frequently forget steps in a process or routine, or require more prompting than peers.
- Need repeated presentation of new material
- Not recall information taught during the previous lesson/day/week (depending on context).
- Get lost easily.

Memory

Teach strategies for taking notes and organizing information



Teach students to write down assignments, and include in daily routines



Use graphic organizers and key words and phrases for notes

Teach students to ask for help if they need information repeated

Memory

Present information using more than one modality

- Speak and write/draw/project information as you present it
- Repeat important instructions, key words, etc.
- Model procedures to provide students with a visual image of the steps
- Teach students to visualize information in text, including stories, word problems, etc.

Memory

Teach routines for important procedures

1. Get your coat and backpack	
2. Pick up your sack lunch in the hall bin.	
3. Check your mailbox	
4. Put papers in your accordion folder.	

- Use consistent routines
- Provide a cue sheet/poster for multi-step processes
- Review steps regularly; reteach as needed.

Memory

Review prior learning before presenting new information

Have students:

- retell information from the previous lesson
- summarize key points using just a few words or phrases
- predict/explain how the new information may relate to prior learning.

Memory

Other Strategies

- Teacher models out-loud verbal rehearsal of what students need to remember
- Develop a mnemonic device
- Use visual or verbal cues as reminders
- Check for understanding frequently

Self-Regulation

What is self-regulation?

Self-regulation comprises:

- Planning and setting goals for learning
- Monitoring learning and progress toward goals
- Regulation of language and memory to support learning (e.g., self-talk, use of strategies)
- Attention

Self-Regulation

Poor self-regulation and executive function impede academic learning.

Students with deficits in these areas:

- demonstrate minimal use of self-directed strategies
- often exhibit behavior problems due to inattention and poor impulse control.
- have difficulty taking in new information
- lack the ability to monitor their learning

Self-Regulation

How can I teach students to use self-regulation strategies in their academic work?

- Many of the memory practices we have discussed will help students with poor self-regulation.
- Other strategies include—
  - Model thinking-aloud when you introduce new concepts
  - Provide specific feedback
  - Include students in goal setting and monitoring
  - Explicitly teach and model use of strategies and routines

Self-Regulation

Modeling Think Aloud Strategies

Model how you approach tasks and solve problems by talking out loud as you:

- Reflect on text
- Implement strategies for answering text-based questions
- Solve word problems
- Give yourself feedback
- Check work

Let’s Practice

Clare has 6 red water balloons, 5 blue water balloons, and 4 green water balloons. How many blue and green water balloons does she have in all?

Answer: 9 blue and green water balloons

Clare has 6 red water balloons, 5 blue water balloons, and 4 green water balloons. How many blue and green water balloons does she have in all?

Sample Script: (Read math problem.) The question is asking me how many blue and green water balloons in all. I'm going to underline the question and circle "blue and green balloons" in the question to remind me of the question and the label for my answer.

Clare has ~~6 red water balloons~~, 5 blue water balloons, and 4 green water balloons. How many blue and green water balloons does she have in all?

Sample Script: Next, I look back at the problem and I see there are 5 blue (circle) and 4 green (circle) balloons. I don't need the information about red balloons because the question doesn't ask me about them. I'll cross that out so it doesn't confuse me. (Cross out, "6 red water balloons.")

Clare has ~~6 red water balloons~~, 5 blue water balloons, and 4 green water balloons. How many blue and green water balloons does she have in all?

Sample Script: The question asks how many blue and green balloons in all, so I know I need to add 5 + 4. If I start with 5 and count 4 more (5—6, 7, 8, 9) on my fingers, I get 9. So, my answer is 9 (write 9).

$$5 + 4 = 9$$

Clare has 6 red water balloons, 5 blue water balloons, and 4 green water balloons. How many blue and green water balloons does she have in all?

Sample Script: Now it's time to label my answer. I'm looking back at the question and I see that I circled blue and green water balloons because that's what the question asks about, so I know that's my label (write the label).

5 + 4 = 9 blue and green water balloons

Clare has 6 red water balloons, 5 blue water balloons, and 4 green water balloons. How many blue and green water balloons does she have in all?

Sample Script: I'm going to check my answer to make sure it makes sense. The question asked me, "How many blue and green water balloons?" Does it make sense that 5 blue plus 4 green equals 9? (Pause to check adding) Yes, it does. My answer is 9 blue and green water balloons. I'm confident in my answer because I worked and checked carefully.

5 + 4 = 9 blue and green water balloons

Self-Regulation

How can I provide feedback as students use self-regulation strategies?

- Offer feedback specific to the task or the process.
- Highlight the behaviors that lead to improved work.
- Help students link their behavior to outcomes.

Self-Regulation Example

Say this…

"I see you're using the problem-solving steps we practiced yesterday, and all of your answers so far are correct. I can tell you're working carefully and getting better at math."

Rather than…

"Good job."

Self-Regulation

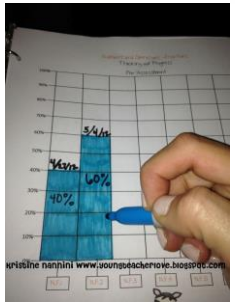
What are some examples of strategies that help students monitor their own learning?

- Ask students to read the text aloud and think about what the author is saying.
- When solving word problems, students should ask themselves whether they understand the question
- When checking work, teach students to ask, “Does my answer make sense?”

Self-Regulation

What are some examples of strategies that help students monitor their own learning?

- Involve students in **setting goals and monitoring their own academic gains** with progress monitoring data.
- Teach students to be metacognitive and to **identify "breakdowns"** in their understanding.
- Keep **track (with the student) of how many trials** it takes for a student to achieve mastery of a new skill
- Teach students to **ask themselves questions** to determine if they are working well and making progress.
- Teach students to **ask for help** when they need it.



Attribution

How does maladaptive attribution impede academic success?

Attribution: A person's beliefs about the causes of his or her academic failures and successes.

- **Internal Attribution Error: "**I did poorly on the spelling test because I'm stupid."
- **External Attribution Error:** "I was really lucky to get an 'A' on my spelling test because the teacher gave easy words."

Attribution

How can I support students to develop more functional attribution?

Consider integrating attribution and motivation training and supports

Examples of Self-Talk

I did well on the spelling test because I studied hard and learned the words.

If I work hard, I can learn to do new things even if they're hard.

Sometimes things don't go my way even when I work hard, but it's not necessarily my fault. This happens to everybody sometimes. I should keep trying my best.

Practice #4: Modify Delivery of Instruction

Modifying Delivery of Instruction

1. Consider the instructional match & prioritize skills to teach
2. Systematic Instruction
3. Explicit Instruction
4. Precise, simple language
5. Frequent opportunities for student response
6. Specific feedback and error correction procedures
7. Opportunities for practice, development of fluency, and review

1. Instructional Match and Prioritizing Skills

- Prioritize what you want them to know.
- Maximize learning time by ensuring that instructional content aligns with students' demonstrated needs.
- Use precise, frequent progress monitoring to determine if learning is occurring.

2. Systematic Instruction

- Use a task analysis to break problems into **smaller steps**

Look at the first fraction. Multiply the numerator and denominator by the denominator of the second fraction. Rewrite.

Look at the second fraction. Multiply the numerator and denominator by the denominator of the first fraction. Rewrite.

Write addition and equal signs.

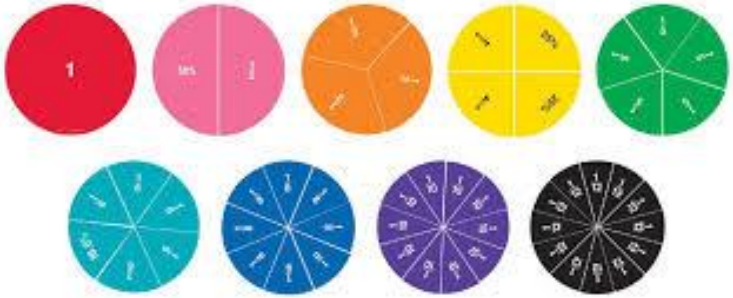
Add numerators and rewrite denominator.

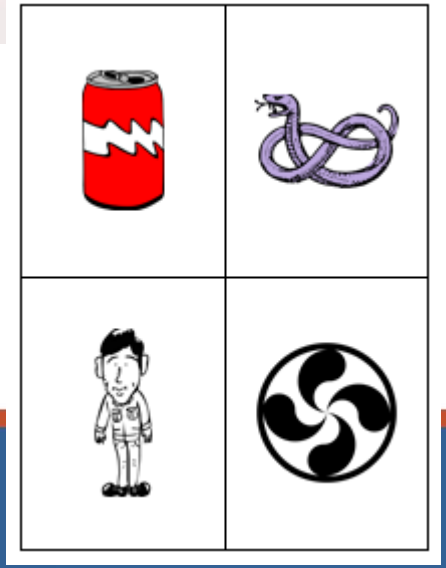
Reduce fraction to lowest terms (when necessary).

Initial Blend	Ending	Word
sn	ap	snap

Supporting Systematic Instruction

- Use **manipulatives** to demonstrate concepts and procedures





3. Explicit Instruction

- Overtly teach the steps or processes needed to understand a construct, apply a strategy, and/or complete a task.
- It's often used for:
  - Teacher-led instruction of new skills
  - Teaching students to apply generalized knowledge or skills to novel settings
  - Addressing learning needs, including strategies to support cognitive processing

Example: Explicit Instruction

Provide a **worked example** to promote discussion of *how* the work was completed

$$\frac{3}{8} + \frac{1}{3} =$$

$$\frac{9}{24} + \frac{8}{24} = \frac{17}{24}$$

Initial Blend	Ending	Word
sn	ap	snap

br	ead
sm	ug
sk	unk
bl	end

Components of Explicit Instruction

1. Tell students what you want them to know
2. Provide an advance organizer
3. Assess background knowledge
4. Model (“I do”)
5. Provide guided practice (“We do”)
6. Provide independent practice (“You do”)
7. Check for maintenance

Note: *Although there are no specific guidelines for this, the bulk of the instruction should fall within the guided practice phase.*

4. Precise, Simple, Replicable Language

- Generate a list of important vocabulary with student-friendly definitions
- Provide directions and instruction with **precise language**

Too long

The letter *c* can make two different sounds. Sometimes it will say /k/. This happens when it is followed by *a, o, u,* or any consonant except *h*. In other cases, *c* makes the /s/ sound, when it comes before *e, i,* or *y*.

- Same idea repeated multiple ways
- Too much detail

Shorter

C makes the/k/ sound before *a, o, u*. It makes the/s/ sound before *e, i,* and *y*.

- Language repeats
- Appropriate level of detail
- Still slightly confusing
- Could still be shorter

4. Precise, Simple, Replicable Language

C says/k/ in front of *a, o, u*. It says /*s*/ in front of *e, i,* and *y*.

- Short
- Pretty clear (will need further instruction, which is the whole reason we teach!)
- Same language used

5. Opportunities for Student Response

Students explain their thinking in their own words.

Helps the teacher check for understanding of concepts, correct use of vocabulary, and understanding of procedures.

Teacher may need to model talk-alouds and give the student opportunities for practice with feedback.

Teacher: How did you know that?

Student: You told us to look through the book and I saw a picture.

Teacher: So you used images to help you predict what the story was about

6. Feedback and Error Correction

- Feedback should be clear, specific, tied to student response

- Feedback should occur
  - Immediately for discrete tasks (e.g., solving a math fact, spelling a word)
  - After a short delay for more complex tasks (e.g., writing a paragraph) to allow students to think through the process

Let's look at this part again. You need to multiply both the numerator and denominator by 4.

The numerator is 2. What's 2 times 4? (8) *Yes. 2 times 4 is 8. Write 8 here.*

7. Repeated Practice

- Provide multiple opportunities for **repeated practice** of skills
- Provide opportunities for **guided practice** after you have modeled a new skill or strategy and
- Begin **fading support** as the student becomes more confident with a skill and allow them to practice independently.
- Provide opportunities to build **fluency** with a skill

Case Example: Kelsey

Handout: Steps of DBI in Reading

1. Secondary prevention with greater intensity
2. Progress monitoring
3. Diagnostic assessment
4. Adaptation of the intervention
5. Iterations
   - 5A. Progress monitoring
   - 5B. Analysis
   - 5C. Adaptation

Danielson & Rosenquist, 2014; Lemons, Kearns, & Davidson, 2014

Meet Kelsey

She is in fourth grade

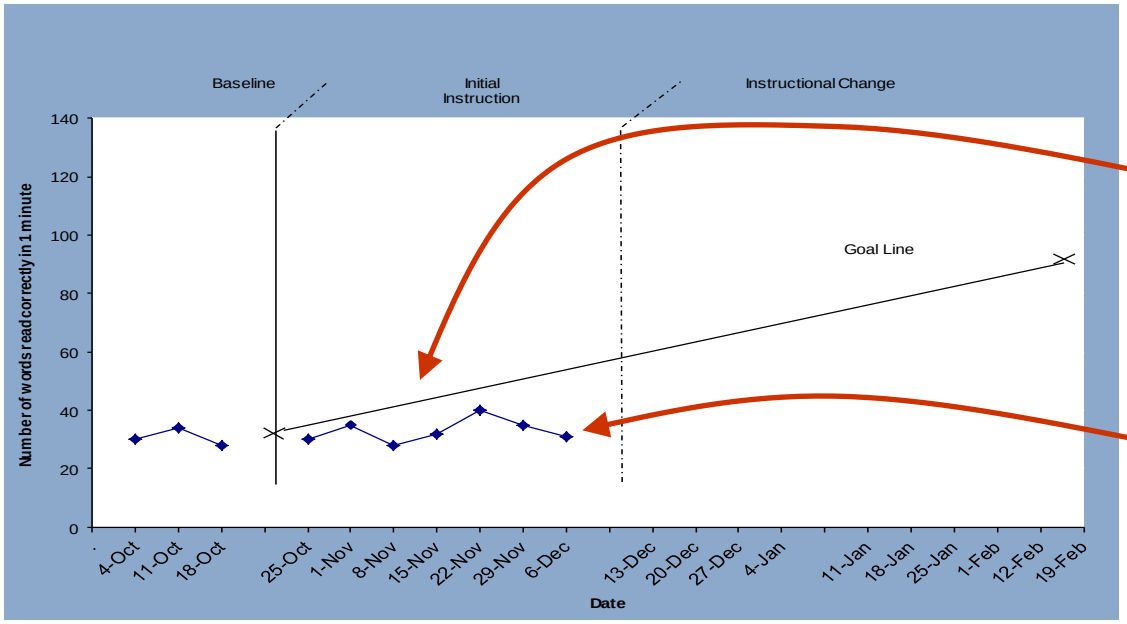
Reads at a second-grade level

Participated in a secondary intervention using a research-validated program

Group of six	30 minutes, 4 times a week, for 7 weeks
Explicit instruction	Led by knowledgeable paraprofessional

Kelsey's Secondary Intervention Progress

Progress monitored on a measure of passage reading fluency



Her aim/goal line (where we want her weekly scores to be)

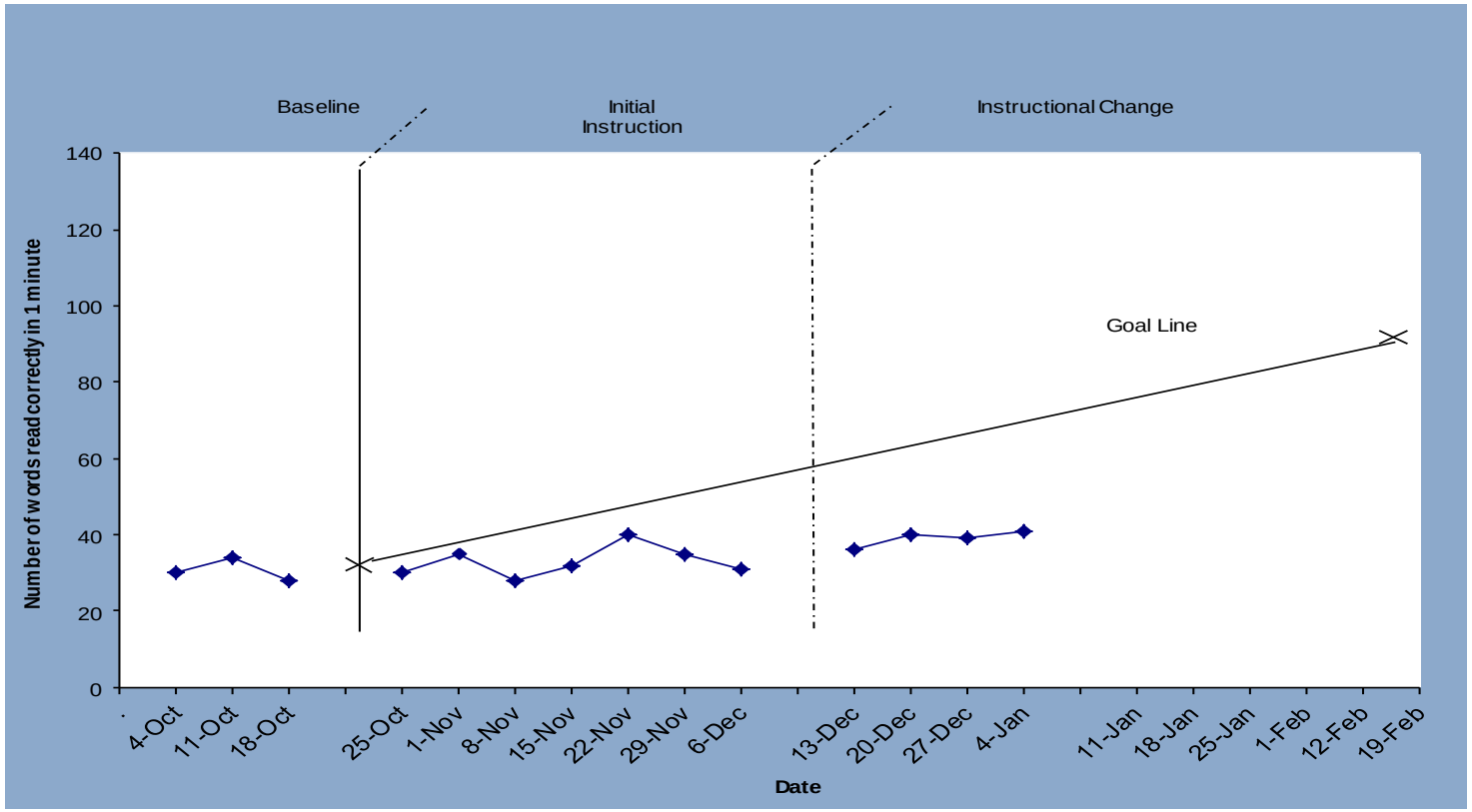
Her progress (her actual scores)

Intensifying Using Practice 1 & 2

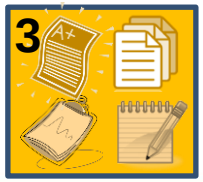
Time 4 days → 5 days

Group 6 students → 3 students

Kelsey's Progress After Intensified Intervention Using Practice 1 & 2

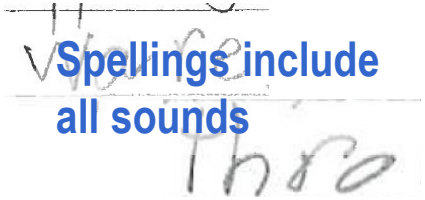


Conduct Informal Diagnostic Assessment and Use Results

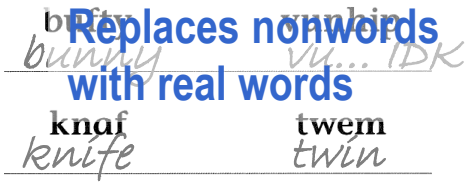


1. Review the diagnostic assessments
2. Come up with a theory about what might be causing the student's academic difficulty
3. Start considering adaptations

Kelsey tends to guess and needs strategies to decode polysyllabic words.

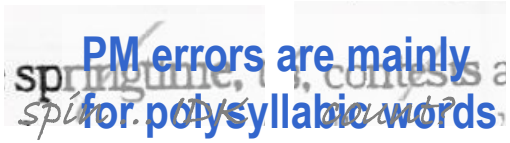


Spellings include all sounds



Replaces nonwords with real words

Good sight word knowledge



PM errors are mainly for polysyllabic words

Adaptation for Kelsey: Qualitative Changes

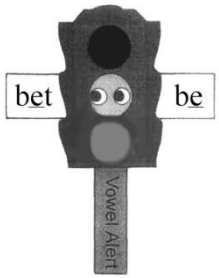
Skip ahead in the scope and sequence to the polysyllabic lessons

Supplement with polysyllabic strategies …

Lovett, Lacarenza, & Borden, 2000

Peeling off

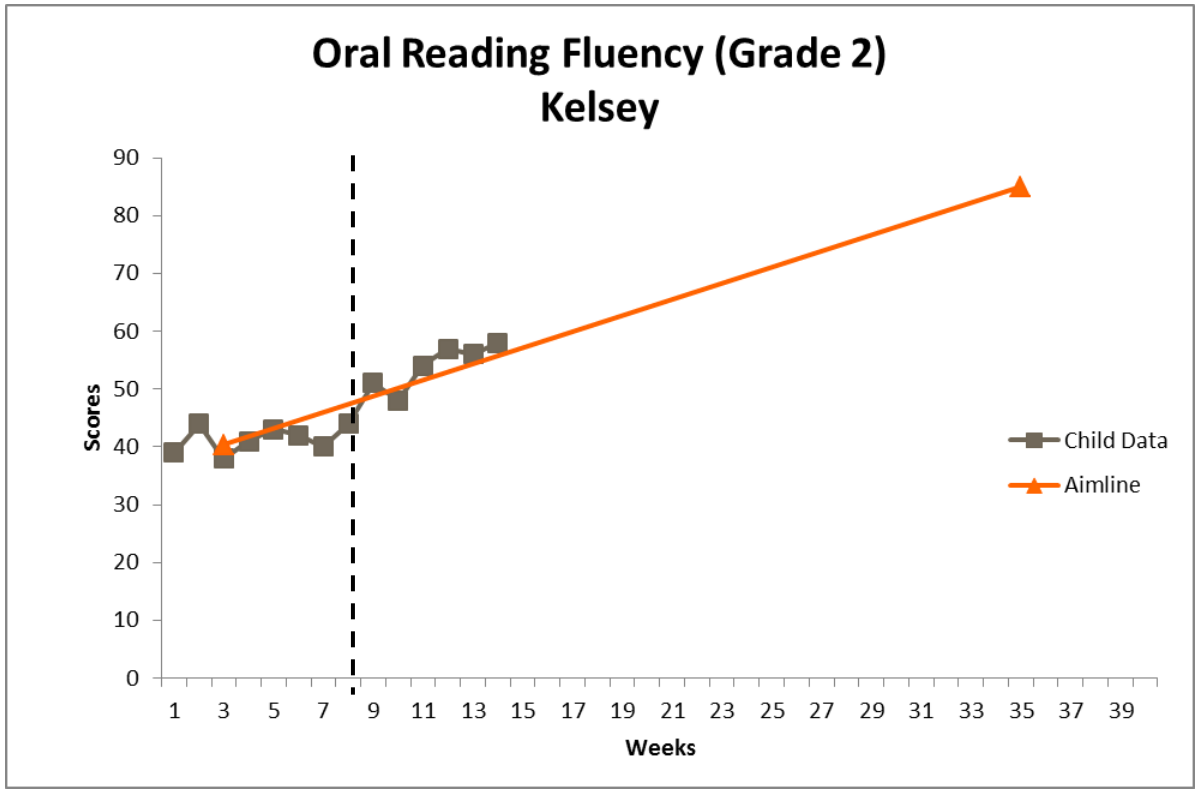
"I peel off (affix) at the beginning (or end) of the word. The root is ____. The word is ____." (p. 468)



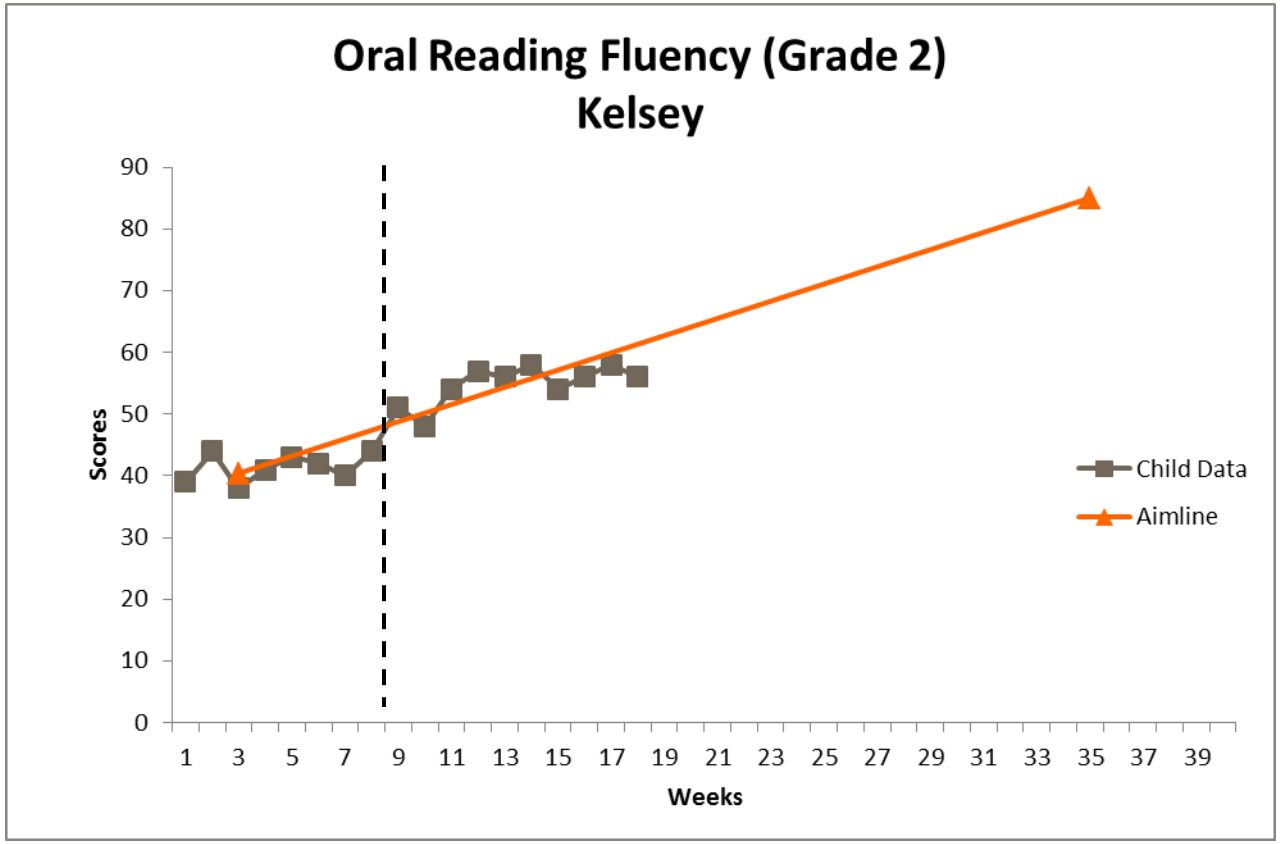
Vowel alert

"First, I will try /*first pronunciation*/, then I will try /*second pronunciation*/, and see which gives me a real word." (p. 469)

Results of Adaptation



Check Progress Weekly: Are the Adaptations Still Working?



Summary

- Generally effective programs are not universally effective programs—some students require more intensive support.
- DBI comprises assessment and intervention practices tailored to meet students' individual learning needs.
- Specific mathematics and reading instructional strategies, combined with regular progress monitoring, can enhance learning for students with intensive needs.

Summary

- Organizing these decisions into four categories of instructional practice may help you plan intervention and guide the changes you make:
  1. Time/dosage
  2. Learning environment
  3. Combine cognitive strategy instruction with academic learning
  4. Modify instructional delivery
- Make a small number of intervention changes at a time.
- Use data to determine whether your intervention is working for the student.

“It all works out in the end…. If it hasn’t worked out, it’s not the end yet.”

NCII Resources

Handout: Find Out What the National Center on Intensive Intervention (NCII) Has to Offer

National Center on
INTENSIVE INTERVENTION
at American Institutes for Research

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Learn the Language of Intensive Intervention

How can schools help students with severe and persistent learning or behavioral needs? Intensive intervention (both academic interventions and behavior interventions) is intended to help these students. The Center's approach to intensive interventions is data-based individualization (DBI). DBI use data to individualize instruction, increase engagement, and provide opportunities to practice new skills. Within multi-tiered systems of supports such as RTI or PBIS, this is often considered Tier III. Learn more about the **DBI Framework**, meet **Center Staff**, visit the **Tools Charts** to find evidence-based progress monitoring tools or interventions, and view the **DBI Training Series** to find professional development materials to support the **Implementation of DBI** in schools and districts.

- Data-Based Individualization
- Intensive Intervention
- Intervention Adaptation
- Intervention Platform
- Multi-Tiered System of Support
- Positive Behavioral Interventions and Supports
- Progress Monitoring
- Response to Intervention
- Tier 3

Data-Based Individualization (DBI)

Data-based individualization (DBI) is a systematic approach to intensive intervention. It is an iterative, multi-step process that involves (1) collecting frequent (usually weekly) progress monitoring data; (2) analyzing those data according to standard decision rules to determine when an increase to the student's goal is needed (in the case of strong progress) or a revision to the intervention program is needed (in the case of inadequate progress; (3) introducing a change to the intervention program when progress is inadequate, which is designed to improve the rate of learning; and (4) continuing to use Steps 1–3 on an ongoing basis to develop an individualized program that meets the student's needs. For additional information, view NCII's**DBI Framework** and**DBI Training Series**.

Ask the Expert

How can we support students

Recent Resources

Informal Academic Diagnostic

Call for Behavioral Tools

www.intensiveintervention.org

Tools Charts

Academic Intervention

This tools chart presents information about studies that have been conducted about academic intervention programs. The first tab, *Study Quality*, includes ratings from our TRC members on the technical rigor of the study design. The second tab, *Effect Size*, includes information about the results of the studies. The third tab, *Intensity*, provides information related to the implementation of the program as an intensive intervention. The fourth tab, *Additional Research*, provides information about other studies and reviews that have been conducted on the intervention. **Additional information** is provided below the chart.

Grade Level - Any - **Subject** - Any - Apply

Study Quality | Effect Size | Intensity | Additional Research

Title	Study	Participants	Design	Fidelity of Implementation	Measures Targeted	Measures Broader
	Torlaković (2011)	●	●	○	◒	◒
	Fiedorowicz & Trites (1987)	●	◒	○	◒	●
	Torlaković (2011)	●	◒	○	●	◒
	Dubal, Hamly, Pavlov, Richards, Yambo, et al. (2012)	○	○	○	◒	—
	Nelson, Vadasy, & Sanders (2011)	●	●	◒	●	●
	Smith, Nelson-Walker, Fien, Smolkowski & Baker (2013)	●	●	●	●	●
	Torgesen, Myers, Schirm, Stuart, Vartivarian, et al. (2006)	●	◒	●	●	●
	Slattery (2003)	○	◒	●	●	●
	Miller, Merzenich, Tallal, DeVivo, Linn, et al. (1999)	●	●	○	●	◒

Academic Progress Monitoring
http://www.intensiveintervention.org/chart/progress-monitoring

Academic Intervention
http://www.intensiveintervention.org/chart/instructional-intervention-tools

Behavioral Progress Monitoring
http://www.intensiveintervention.org/chart/behavioral-progress-monitoring-tools

Behavioral Intervention
http://www.intensiveintervention.org/chart/behavioral-intervention-chart

Handout: DBI Training Series

- Eight training modules focusing on components of DBI for academics and behavior
- Include:
  - Slides and speaker notes
  - Activities
  - Coaching guides

DBI Training Series

This series of training modules developed by the National Center on Intensive Intervention (NCII) is aimed at district or school teams involved in initial planning or implementation of data-based individualization (DBI) as a framework for providing intensive intervention in academics and behavior. The modules listed below provide an overview of the DBI process and more in-depth exploration of the various components of DBI. Each module is intended as a component of comprehensive professional development that includes supplemental coaching and ongoing support. The modules should be delivered by a trained, knowledgeable professional. Presentation slides or videos, handouts, and a coaching guide with suggested coaching activities are provided.

1) Introduction to Data-Based Individualization (DBI): Considerations for Implementation in Academics and Behavior

This module provides a rationale for intensive intervention and an overview of DBI, NCII's approach to intensive intervention. DBI is a research-based process for individualizing validated interventions through the systematic use of assessment data to determine when and how to intensify intervention. Two case studies, one academic and one behavioral, are used to illustrate the process, highlighting considerations for implementation.

http://www.intensiveintervention.org/content/dbi-training-series

Webinars

View archived webinars and look for announcements about the next live webinar: www.intensiveintervention.org

Webinars

A webinar (Web + Seminar) is a short presentation that you can view from our site and watch at a time that works best for you. Our webinars are presented by experts in the field of special education and data-based individualization in academics and behavior. To search through all of our resources by keyword, use the **Advanced Search**.

Data Rich, Information Poor? Making Sense of Progress Monitoring Data to Guide Intervention Decisions — February 2014 (1:11:34)
Developed By: National Center on Intensive Intervention
This webinar, led by Drs. Lynn Fuchs and Lee Kern of Lehigh University addresses a challenge faced by many teachers: feeling inundated by data while struggling to find useful information to guide intervention decision-making

Bringing Families to the Table: Family Engagement for Struggling Students — October 2013 (59:26)
Developed By: National Center on Intensive Intervention
This webinar, presented by Kate Augustyn, Debra Jennings, and Kelly Orginski, discusses the importance of family engagement and provides examples of ways to engage families to support students.

Using Secondary Interventions to Set the Foundation for Effective Intensive Intervention — June 2013 (30:38)
Developed By: National Center on Intensive Intervention
This webinar, presented by **Laura Magnuson**, a technical assistance provider for NCII, provides an overview of the rationale and purpose for secondary or Tier II interventions.

Selecting Evidence-Based Tools for Implementing Intensive Intervention — May 2013 (37:11)
Developed By: National Center on Intensive Intervention
This webinar presented by **Dr. Allison Gruner Gandhi**, reviews the NCII tools chart on academic interventions, and how practitioners can use these charts to gather information about, and ultimately select, interventions that meet their needs.

Monitoring Student Progress for Behavioral Interventions — April 2013 (1:10:53)
Developed By: National Center on Intensive Intervention
This webinar presented by Dr. Daniel Maggin, shares methods for collecting behavioral data, procedures for examining behavioral data, and discusses using behavioral progress monitoring to make programming decisions.

Sample Activities and Materials

National Center on
INTENSIVE INTERVENTION
at American Institutes for Research

Adaptation Guide: Fractions as Numbers

Purpose and Overview of Guide

The purpose of this guide and companion materials is to support developing and implementing lessons for students who need intensive instruction in the area of understanding fractions as numbers. Special education teachers, mathematics interventionists, and others working with students struggling in the area of fractions may find this guide helpful. Additional sample activities, worksheets, and supplemental materials are also available for download on the NCII website.

Within the Common Core State Standards, fractions are taught in Grades 3–5. This guide may be used as these concepts are introduced or with students in higher grade levels who continue to struggle with the concepts.

Sequence of Skills—Common Core State Standards

Develop an understanding of fractions as numbers:

- Part/whole relationship
- Number on the number line
- Equivalent fractions
- Whole numbers as fractions
- Comparing fractions

http://www.intensiveintervention.org/resources/sample-lessons-activities/mathematics

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Questions?

National Center on Intensive Intervention
1000 Thomas Jefferson Street NW
Washington, DC 20007-3835

www.intensiveintervention.org

Email: ncii@air.org