

# EVIDENCED BASED BEST PRACTICES IN INTERVENTION, CURRICULUM AND PROGRAMMING FOR STUDENTS WITH LEARNING DISABILITIES

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# Humor!



# Agenda

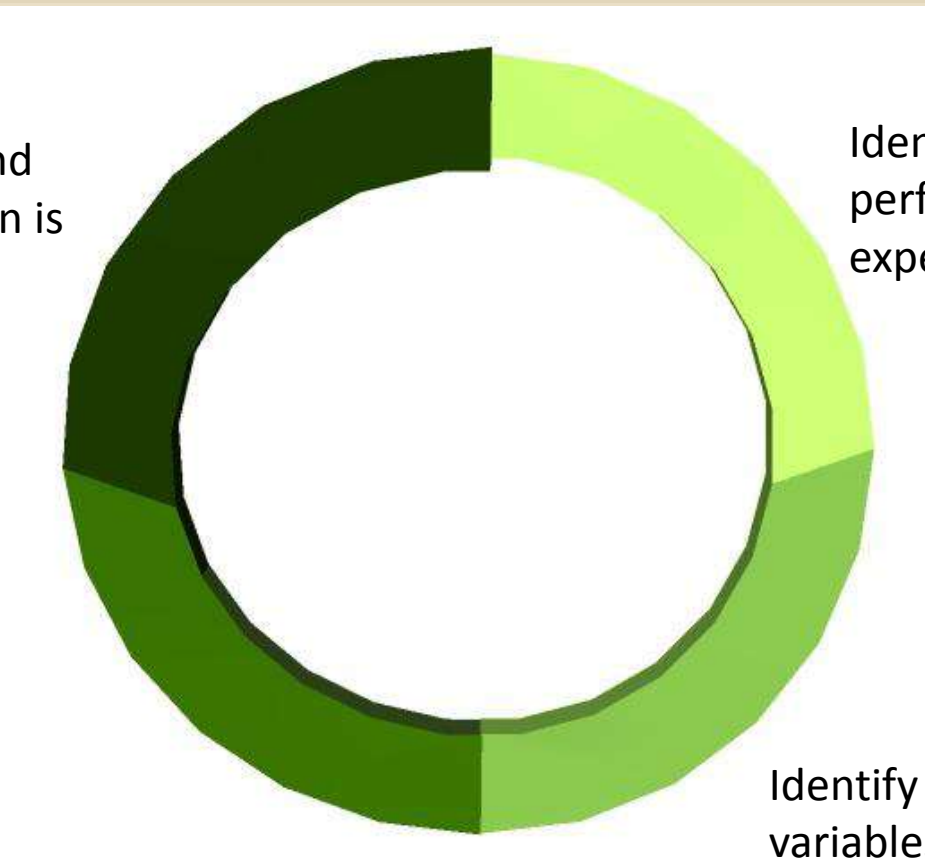


- The Problem Solving Cycle
- Evidence Based Best Practices

# We Improve Achievement with Problem Solving

Evaluate the data and determine if the plan is working.

Carry out the intervention as intended.

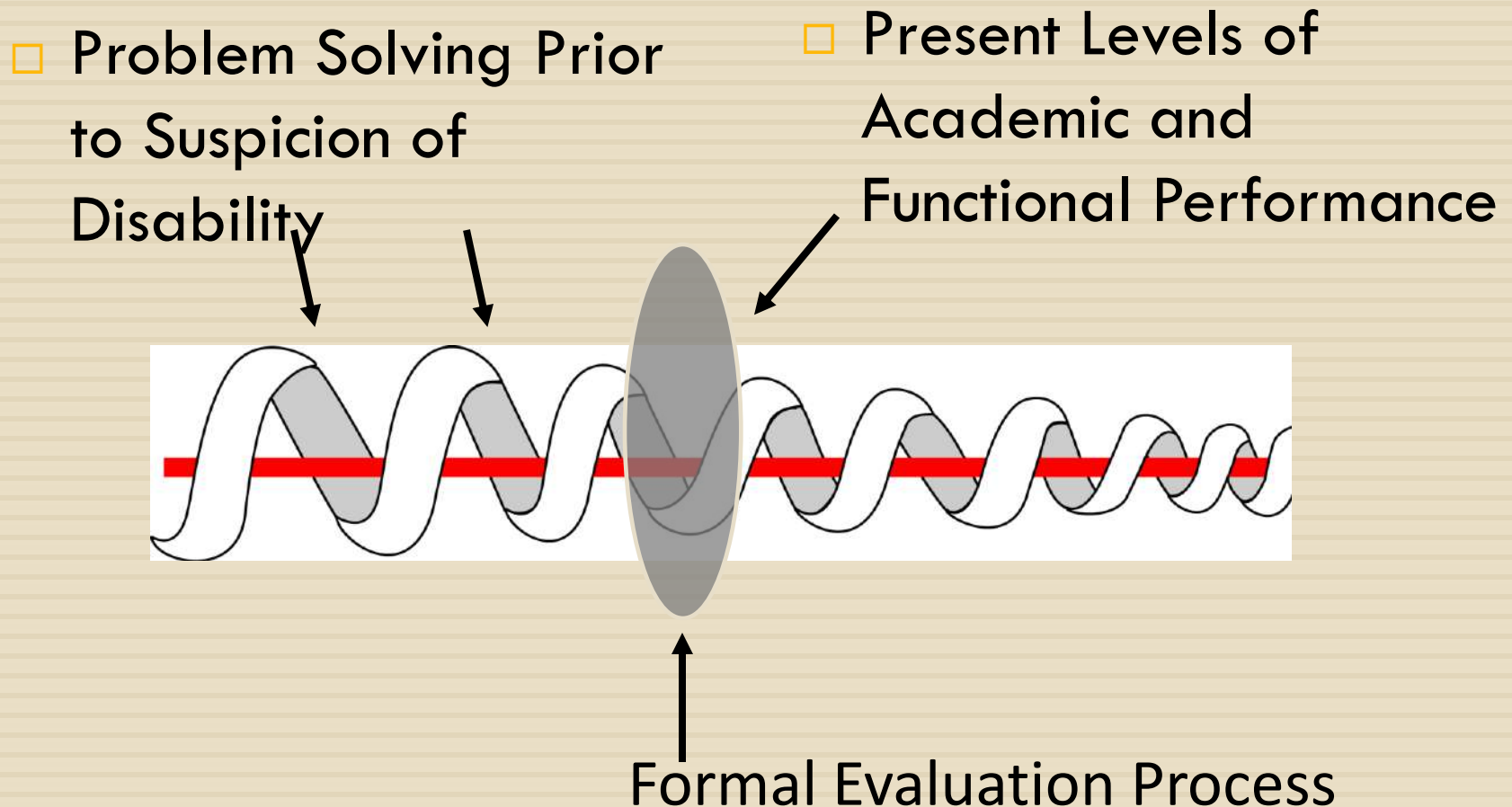


Identify gaps between performance and grade-level expectations.

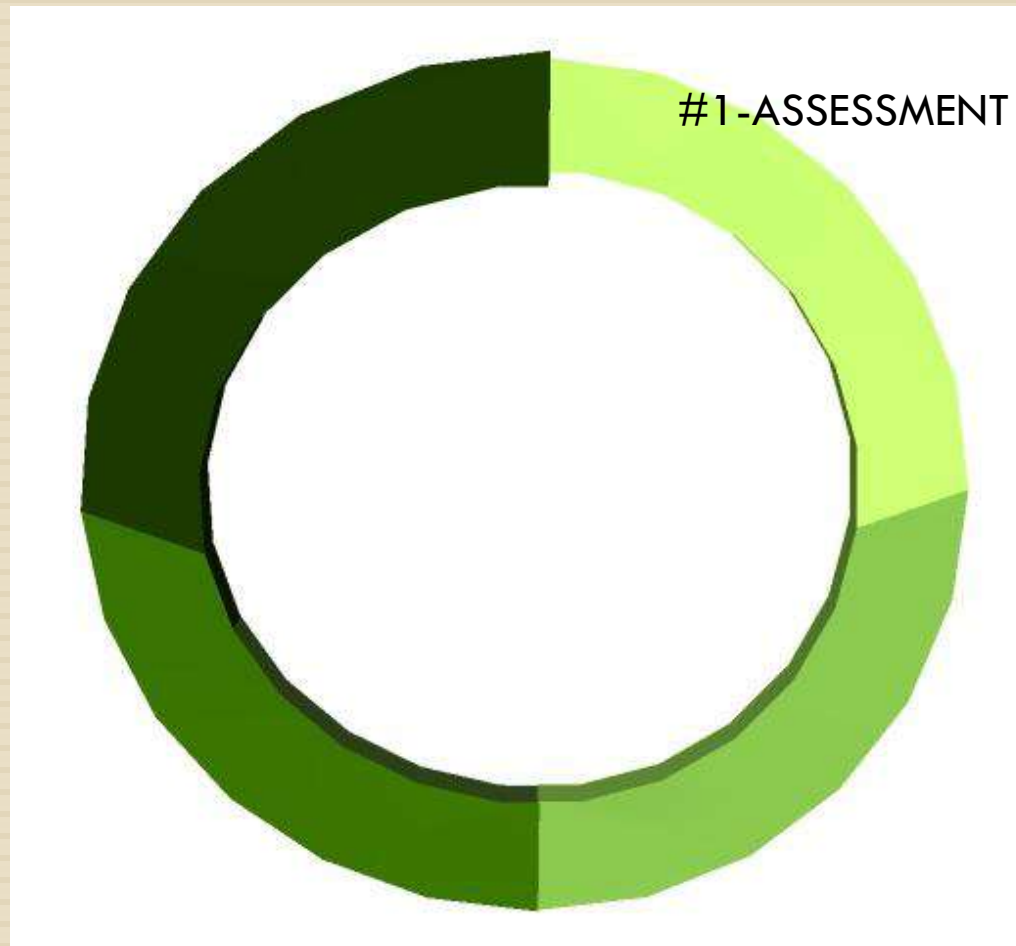
Identify the instructional variables to be included in plan to address the gap.

**Chapter 4-15, 6, 8, 9, 10**

# We Are Always Evolving a Picture of the Learner to Improve Response to Instruction



# Problem Solving



# The Role of Assessment

“The single most important factor in planning for a child with a learning disability is an intensive diagnostic study. Without a comprehensive evaluation of his deficits and assets, the educational program may be too general, or even inappropriate.”

-Johnson and Myklebust, 1967

What is remarkable about this quote?

# Value of Assessment

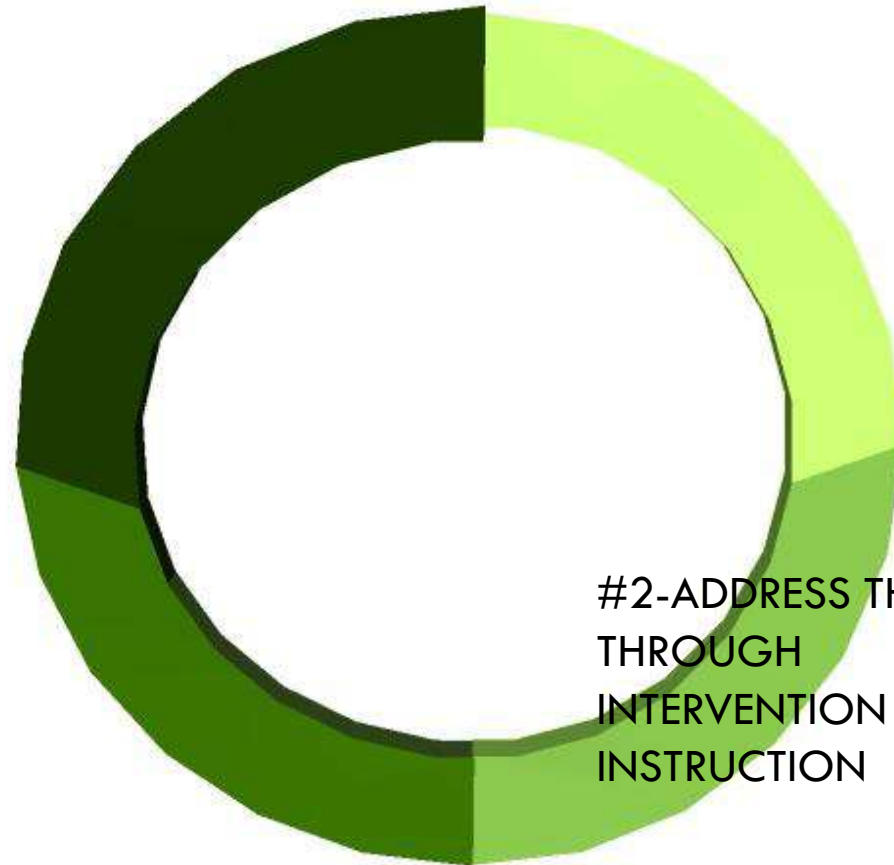
- Inform and improve instruction
- Promote student learning
  - ▣ Instruction at an appropriate level of difficulty
  - ▣ What has and has not been mastered
  - ▣ Focus on specific instructional needs of the student
  - ▣ Eliminates a “one size fits all” approach
- Frequent assessments can help students monitor their own learning
  - ▣ Metacognitive goal
  - ▣ Expectations and feedback
- Evaluate instructional methods being used with students
  - ▣ Redirect, modify or intensify



# Diagnostic Assessment Tools

- Shout it out! What are you currently using?

# Problem Solving



#2-ADDRESS THE GAP  
THROUGH  
INTERVENTION AND  
INSTRUCTION

# Evidence Based Instruction

“The integration of professional wisdom with the best available empirical evidence in making decisions about how to deliver instruction.”

-Whitehurst, 2002

PROGRAM, METHODOLOGY and/or PRACTICES that have a record of success!

\*\*\*Still must be a good match for the student needs!

# TEACHER EFFECT



- You do make a difference!
  - ▣ “Students’ responses to instruction are indicators of the quality of instruction they are receiving.”
    - Three variables:
      - The amount of time on task
      - The student’s level of success
      - The content covered
- Archer and Issacson, 1989

# Ten Effective Teaching Principles

- Active student engagement
- Build in success
- Increased opportunity to learn
- Direct instruction
- Scaffold instruction
- Address different forms of knowledge
- Organize and activate knowledge
- Teach strategically
- Explicit instruction
- Teach sameness

# AND THERE ARE MORE...

- Activate prior knowledge
- Differentiated instruction
- Higher-order thinking skills
- Feedback
- Expectations/climate of success
- Peer mediated instruction



# SLD Learners Benefit when Core Instruction Uses Research Based Instructional Practices

- Self-monitoring
- Reinforcement
- Self-questioning
- Strategy instruction
- Frequent, targeted, feedback
- Strategy cues
- Drill-repetition-practice
- Direct instruction
- Repeated reading
- Error correction
- Formative evaluation
- Peer mediation
- Peer tutoring
- Direct questioning and response
- & more

Kavale (2005), Swanson (1999), Swanson & Sachse-Lee (2000)

# Accommodations, Modifications, and Interventions...Oh My!

- Accommodations are changes made to instruction and/or assessment intended to help students fully access the general education curriculum without changing the instructional content.
  - ▣ More time
  - ▣ Allowing movement
  - ▣ Allowing use of a recorder to tape lectures
- Modifications are alterations made to instruction and/or assessment that change, lower, or reduce learning or assessment expectations in regard to the goal being addressed or assessed.
  - ▣ Reducing the amount of content a student needs to know
  - ▣ Modifying test questions
  - ▣ Shortening a spelling list
- Interventions are specific skill building strategy implemented and monitored to improve a targeted skill and achieve adequate progress in a specific area (academic/behavioral.) It often involves changing instruction or providing additional instruction.
  - ▣ Repeated readings
  - ▣ Social skill instruction



# Skills vs. Strategies

- Skills: automatic reactions that result in decoding and fluency and occur without awareness
- Strategies: deliberate, goal-oriented attempts to control and modify constructions of meaning

**“It is important to promote both skills and strategic reading because students need to know how to read strategically.”** Afflerbach, Pearson and Paris (2008)

# Basic Reading Skills

Phonological Awareness

Phonics-Decoding

Sight Word Recognition

[Reading Manual-Click HERE](#)

[More Reading Stuff-Click HERE](#)

# Tier I: Scientifically-based Reading Instruction

## *Instructional Content*

- Phonemic Awareness
- Phonics
- Fluency
- Vocabulary
- Comprehension

## *Instructional Design*

- Explicit Instructional Strategies
- Coordinated Instructional Sequences
- Ample Practice Opportunities
- Aligned Instructional Materials

# Definitions...

## Phonological Awareness

- “An oral language ability that provides the foundation for learning to apply phonics knowledge to reading and spelling”

## Phonics

- “A particular type of reading approach in which individuals are taught speech sounds and their corresponding letters directly”

# Phonological Awareness/Beginning Phonics

## Sequence

- Recognizing rhymes
- Producing rhymes
- Sound blending
- Segmenting sounds
- Analyzing initial, final and medial sounds
- Deleting sounds
- Inserting sounds
- Manipulating sounds
- Teach connections between phonemes and graphemes explicitly

## Curriculum/Intervention

- Elkonin boxes
- Road to the Code
- Phonic Reading Lessons
- Phoneme-Grapheme Mapping
- Read, Write, and Type (computer program)

# Phonics Instruction-Decoding

## Sequence

- Blending and segmentation
- Single consonants and short vowels in closed syllables
- CVCe syllables
- Consonant blends
- Open syllables
- Vowel digraphs and diphthongs (vowel team syllable)
- Silent letters
- Common prefixes and suffixes
- Additional syllable types (r-controlled and consonant -le)
- Latin and Greek roots

## Curriculum/Intervention

- Corrective Reading
- Explode the Code
- Foundations
- Glass Analysis
- Herman Method
- Language!
- Phonics Reading Lessons
- Primary Phonics
- Spalding Method
- S.P.I.R.E.
- Touch Phonics
- Wilson Reading System
- Decoding Multisyllabic Words
- Mega-Words
- Patterns for Success in Reading and Spelling
- WORDS
- REWARDS

\*\*\*Decodable Text Books



# Sight Word Recognition

## □ What are you using?

- ▣ Curriculum
- ▣ Intervention
- ▣ Strategies

## Website Resources

- Cambridge Online Dictionary
- Dolch Sight Words
- Florida Center for Reading Research
- Fry Instant Words
- National Right to Read Foundation
- Read Well
- Read-Write-Think
- Reading Rockets
- Starfall
- Vaughn Gross Center for Reading and Language Arts

# Reading Fluency





# Reading Fluency

- The ability to read connected text rapidly, smoothly, effortlessly, and automatically with little conscious attention to the mechanics of reading, such as decoding.

# Reading Fluency

## □ Findings

- Students with LD who repeatedly read text between two and seven times scored significantly higher on measures of fluency.
- Repeated reading with an adult model was a more effective method of improving fluency for students with LD than repeated reading after listening to a proficient peer, audiotape, or computer.
- Repeated reading with a model also appears to have a positive impact on comprehension.
- Another fluency intervention studied was chunking words or phrases to control how much text was presented to a student at a time. Students who practiced repeated reading of words presented 3-5 words at a time performed as well as students who practiced repeated reading without chunking words on measures of fluency and significantly higher on measures of accuracy.

## □ Combined Effects Size

- Repeated reading as a method of improving reading fluency in children with LD had an average effect size of  $d = 0.68$ .
- When repeated reading was used as one of several instructional features the mean effect size for measures of fluency was  $d = 0.71$ .
- Students with LD who listened to a proficient adult model read a passage before they read it showed average effect sizes of 0.46 for reading accuracy and 0.34 for comprehension. However, modeling by a more proficient peer had negligible effect size of 0.17.

# Reading Fluency

## Intervention/Strategies

- ▣ Speed Drills
- ▣ Choral Reading or Neurological Impress Method
- ▣ Repeated Reading
  - Use other genres
  - Partner or paired reading
  - Classwide peer tutoring
  - Reread to meet a performance criterion
  - Monitor progress
- ▣ Previewing
- ▣ Taped Books and Technology (for improved prosody)

## Recommendations for Increasing Fluency

- Select interesting passages
- Ensure active engagement
- Have students engage in multiple readings (3-4 times)
- Use instructional level text
- Read passages aloud to an adult
- Provide extra practice with trained tutors
- Provide corrective feedback on word errors
- Establish a performance goal or criterion of the number of words per minute
- Provide, short, frequent periods of fluency practice
- Provide concrete measures of progress using charts and graphs

# Reading Fluency

## □ Commercial Programs

- ▣ Great Leaps
- ▣ Read Naturally
- ▣ Quick Reads
- ▣ Six Minute Solution
- ▣ RAVE-O

## □ Websites and Programs

- ▣ Concept Phonics
- ▣ Kurzweil 3000
- ▣ OKAPI
- ▣ One Minute Reader
- ▣ Online Leveled Library K-6
- ▣ Read Well
- ▣ Reader's Theater Scripts
- ▣ Recordings for the Blind & the Dyslexic
- ▣ Soliloquy Reading Assistant

# Reading Comprehension



# Reading Comprehension

A meta-analysis of reading comprehension interventions designed for typically developing children reported that the eight most effective methods for improving text comprehension were comprehension monitoring, co-operative learning, graphic/semantic organizers for learning new vocabulary, story structure training, question answering, question generation, summarization, and multiple strategy teaching (National Reading Panel, 2000).

# Vocabulary

- “Vocabulary has a strong influence on reading comprehension and young children with limited word knowledge are at high risk for experiencing reading difficulties.”
- NRP Findings
  - ▣ Vocab should be taught directly and indirectly
  - ▣ Words must be seen multiple times in multiple contexts
  - ▣ Language rich environments foster learning of vocab
  - ▣ No one single method works best all of the time for teaching vocab

“Simply teaching words and their definitions is insufficient...”

### Incidental

- Read aloud
- Books on tape
- Word consciousness
  - “knowledge of and interest in words”
  - Hink-Pinks, puns, board games, charades, limericks

### Intentional/Explicit

- STAR-Select, Teach, Activate/Analyze/Apply, and Revisit
- Synonyms, antonyms and multiple meaning words
- Semantic maps, word webs, graphic organizers
- Preteach vocab words
- Examples and non-examples
- Keyword method (visual imagery)



# Dialogical Read Alouds

- 1) Select a book appropriate for the child's age and interests.
- 2) Read the story aloud to the child and use the PEER steps to interact.

P-Prompt the child by asking about a picture or element of the story. Example, point to a truck and say, "What is this?"

E-Evaluate the child's response by affirming or correcting as needed. Example, "Yes, that is a truck."

E-Expand the child's response by adding more description. Example, "That is a red fire truck."

R-Repeat. Have the child repeat the expanded response. Example, "Can you say 'red fire truck'?"

# Reading Comprehension

- “...constructing meaning by interacting with text through the combination of prior knowledge and previous experience, information in the text, and the stance the reader takes in relationship to the ideas presented in the text.”

-Pardo, 2004

# Strategies

## 7 Most Effective Strategies

- ❑ Comprehension monitoring (click or clunk)
- ❑ Cooperative learning
- ❑ Graphic and semantic organizers
- ❑ Question answering
- ❑ Question generating
- ❑ Story structure
- ❑ Summarization

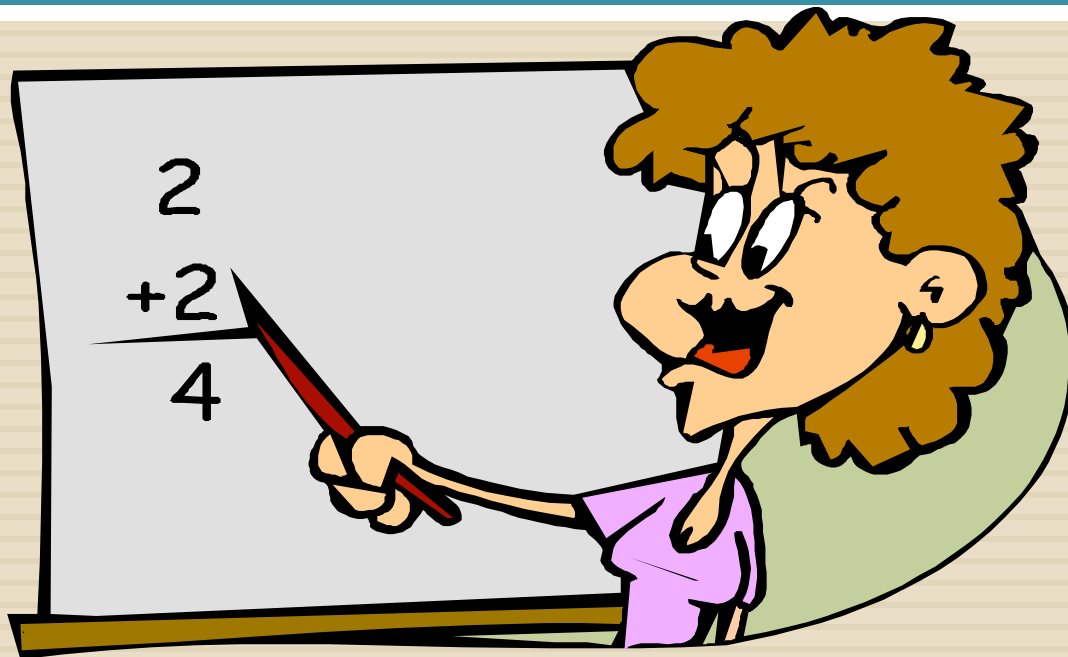
## Strategy Instruction

- ❑ DR-TA
- ❑ K-W-L
- ❑ SQ3R
- ❑ MULTIPASS
- ❑ Predicting
- ❑ Think aloud
- ❑ Visualization
- ❑ Repeated reading
- ❑ Retelling
- ❑ Reader's Theater

# Effective Instruction in Reading Comprehension

- Reciprocal teaching
- Collaborative strategic reading (CSR)
- Students achieving independent learning (SAIL)
- Peer-Assisted Learning Strategies (PALS)

# Math Calculation



# Effective Instruction

- Direct, explicit instruction with cumulative review
- Strategy instruction
- Concrete level (manipulatives) instruction
- Concrete, representational/semi-concrete, abstract teaching sequence
- Drill and practice
- Ongoing monitoring of student performance
- Teach self-regulating behaviors
- Peer mediated instruction

# More on effective instruction...

- “Effective instruction of basic skills provides: modeling, guided practice, independent practice, error correction, goal setting and progress monitoring.”
- Practice can include:
  - ▣ Board games
  - ▣ Computer assisted instruction
  - ▣ Self-correcting materials
  - ▣ Cover-copy-compare
  - ▣ Explicit timings
  - ▣ Peer tutoring
    - Reciprocal teaching
    - Peer assisted learning strategies
    - Cross-age tutoring

# Calculation Continued!

## Software/Internet Based

- ❑ Accelerated Math
- ❑ Destination Math Series
- ❑ Larson's Elementary Math
- ❑ Math Amigo
- ❑ Math Blasters Series
- ❑ Math + Music
- ❑ Skills Tutor
- ❑ Success Maker
- ❑ The Numbers Race

## Commercial Products

- ❑ Number Worlds
- ❑ PALS Math
- ❑ Touch Math
- ❑ Structural Arithmetic
- ❑ V-Math

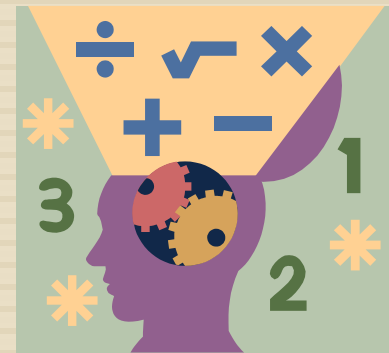


# Math Reasoning



Effective problem solving requires that an individual can:

- A. Represent the problem accurately
  - B. Visualize the elements of the problem
  - C. Understand the relationships among numbers
  - D. Use self-regulation, and
  - E. Understand the meaning of the language and vocabulary
- “The combination of direct/explicit instruction and cognitive strategy instruction is the most effective intervention for students struggling with math problem solving.”



# Problem Solvers...

## Good

- Use a variety of strategies including self-monitoring
- Read the problem for understanding
- Paraphrase the problem
- Identify key info (underline)
- Ask themselves “what is the ? Or what am I looking for?”
- Formulate a plan (verbal and visual)
- Estimate the answer
- Compute and check
- Understands the language of mathematics

## Poor

- Poor number sense
- Little or no use of strategies including self monitoring
- Little or no use of visualization
- Little or no planning
- Little or not use of estimation
- Limited math vocabulary
- May compute prior to understanding the problem
- Little or no checking of procedures or answer for accuracy

“Over 30% of individuals with ADHD are also diagnosed with math learning disabilities.”

# Evidence-Based Features of Effective Math Instruction

- Clarity of objectives
- One skill or concept
- Use of manipulatives or representations including diagrams and hands on materials
- Instruction approach includes modeling and are explicit
- Teacher examples-Think aloud!
- Provision of adequate practice both guided and independent
- Have students verbalize their understanding and rational of they strategies they employ
- Review of prerequisite math skills
- Error correction and feedback
- Vocabulary
- Strategies-TAUGHT and PRACTICED
- Progress Monitoring

# Math Problem Solving Strategies

- Draw a pic, make a model or act it out
- Work backward from the answer
- Make a table or systematic list
- Guess, check and revise
- Look for a pattern
- Solve a simpler, related problem
- Break it down into subordinate problems
- Eliminate possibilities
- Use algebra

# Written Expression

“Poor writers lack awareness of what good writing is and do not know how to produce it. In addition, they lack knowledge of text structures (genres) and content, do not plan before or during writing, do not monitor their own performance and show poor attention and concentration.”  
(Troia, 2002; Troia and Graham, 2003)

# Tier I: Evidence-Based Writing Practices

Findings from Writing Next (Meta-analysis for grades 4-12)

- **Writing strategies** (ES overall=0.82, n=20; ES for low achieving students=1.02, n=9).
- **Summarization** (ES overall=0.82, n=4).
- **Collaborative writing** (ES =0.75, n=7).
- **Specific product goals** (ES overall=0.70, n=5; “similar” effect for low-achieving students, n=2).
- **Word processing** (ES overall=0.55, n=18; ES=0.70, n=5 for low-achieving students).
- **Sentence combining** (ES=0.50, n=5).
- **Pre-writing** (ES=0.32, n=5).
- **Inquiry activities** (ES=0.32, n=5).
- **Process writing** (ES=0.32, n=21).
- **Study of models** (ES=0.25, n=6).
- **Writing for content-area learning** (ES=0.23, n=26).

Tip: Effective =  
.8+ large  
.5 moderate  
.2-.3 small

# 3 Elements of Direct/Explicit Instruction

1. Adhere to a basic framework of planning, writing and revision
  - a) Teach them the steps explicitly using examples
  - b) Use a think sheet, prompt card or mnemonic for support
  - c) Planning-use a semantic map, verbalize the steps, use a planning think sheet that presents a series of structure prompts
  - d) Writing-1<sup>st</sup> draft using the plan that was created
  - e) Revising-peer editing, teacher-student conference
2. Explicitly teach critical steps in the writing process
  - a) Teach text structures (genres)
  - b) Use explicit models, prompts and mnemonics
3. Provide feedback guided by the information explicitly taught
  - a) Relevant and frequent
  - b) Engage in dialogue between teacher and student
  - c) Help student develop metacognitive skills



# Other ideas...

- Strategy Instruction-Self Regulated Strategy Development (Spring Book Study)
- Mnemonic strategies:
  - TREE-Topic Sentence, Reasons to provide support, Examine the quality of each reason, Ending for the writing.
  - STOP-Suspend judgment, Iake a side, Organize ideas, Plan more as you write.
  - DARE-Develop your topic sentence, Add supporting ideas, Reject arguments for the other side, End with a conclusion

# Teach Text Structure

## ■ Narrative writing-SPACE LAUNCH

- S-Setting
- P-Problems
- A-Actions
- C-Consequences
- E-Emotional reactions
- L-List idea words for my story
- A-Ask if my ideas will meet my writing goal
- U-Use encouraging self talk
- N-Now write a story with million dollar words, sharp sentences and lots of detail
- C-Challenge myself to develop more good ideas
- H-Have fun

## ■ Expository writing-DEFENDS

- D-Decide on goals and themes
- E-Estimate main ideas and details
- F-Figure best order for main ideas and details
- E-Express the theme in the first sentence
- N-Note each main idea and supporting detail
- D-Drive home the message in the last statement
- S-Search for errors and correct

# Teaching revision and editing

- Editing checklists
  - ▣ COPS
  - ▣ SEARCH
- Teach specific evaluation criteria
- Peer revision and teacher-student dialogue
- Explicit strategy instruction
- Word processing

# Intervention Sites

## Intervention Central

<http://www.interventioncentral.org/academic-interventions>

## Go SBR

<http://www.gosbr.net>

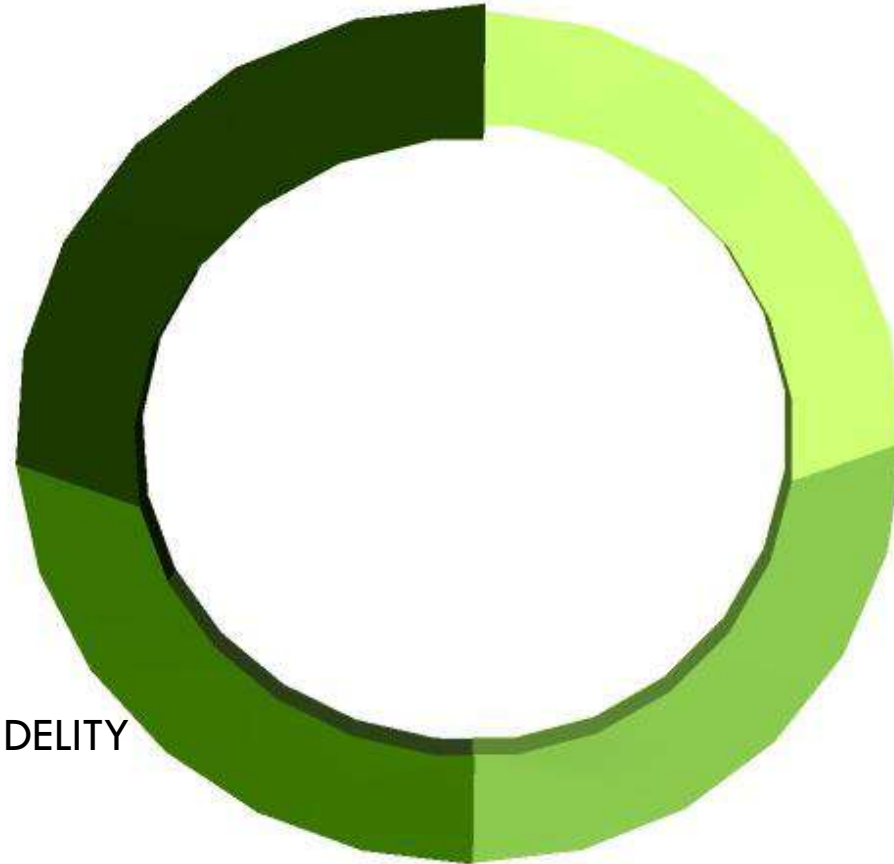
## Hiawatha Valley Ed. District

<http://www.hved.org/index.php/resources/5-interventions-resources>

## National Center on RTI

<http://www.rti4success.org/instructionTools>

# PROBLEM SOLVING



#3-IMPLEMENT WITH FIDELITY

# Did You Know?

- An evidence-based program is one thing...
- Implementation of an evidence-based program is a very different thing.

(Fixsen and Blase, 2006)

# fi·del·i·ty

1. strict observance of promises, duties, etc.: a servant's fidelity.
  2. loyalty: fidelity to one's country.
  3. conjugal faithfulness.
  4. adherence to fact or detail.
  5. accuracy; exactness: The speech was transcribed with great fidelity.
- “What does fidelity in regard to intervention/instruction mean to you?”

## Screening

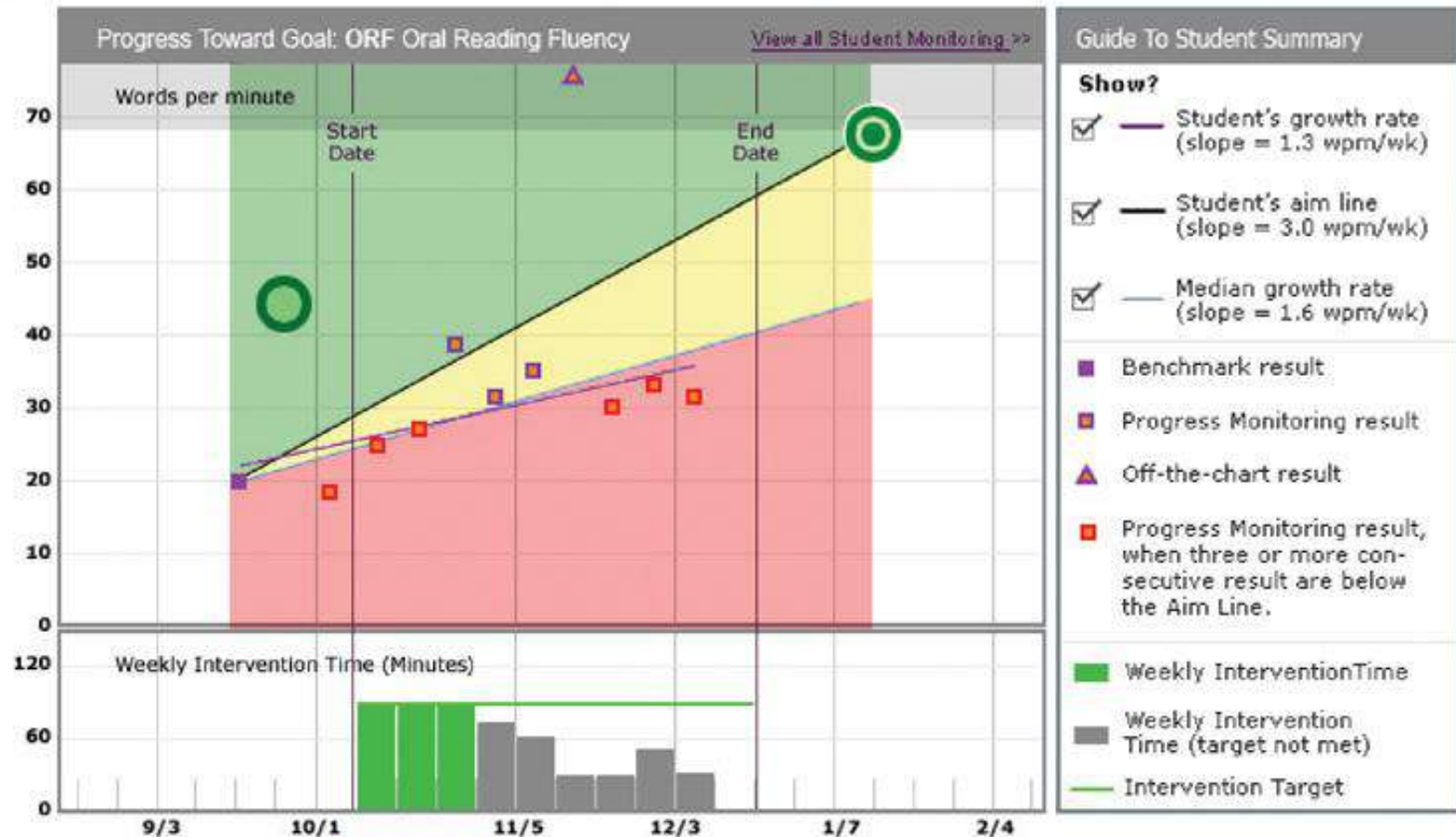
## Instructional Decision

## Monitoring Progress

## Determining Eligibility

BOY Support Level : **Intensive**

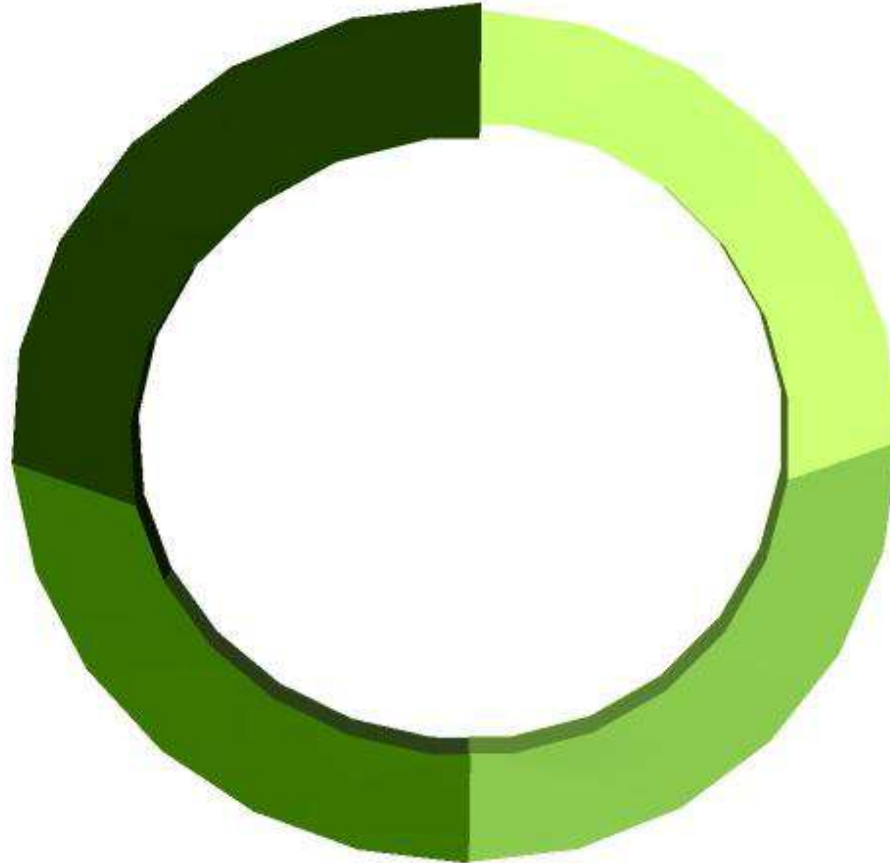
Notes: [\[Edit\]](#) Although Jessica has continued to make some progress, she is not responding as well to the computer based intervention as she had to the small group intervention. We should try to get her back into a more personal setting as soon as feasible. Lorem ipsum dolor sit amet, equilibris portesis rigosimetrical upum oratos mi amores. Quisera serapim enoch [\[See Rest\]](#)





# PROBLEM SOLVING

#4-PROGRESS  
MONITOR



# Implementing intervention > Progress monitoring

- Different areas of concern/tiers need to be progress monitored at different frequencies.
- For example, behavior interventions may need to be monitored daily or hourly depending on the student, the concerning behavior, and the intervention.
- Academic interventions can be monitored between 1 x per week and 2 x per month depending on the tier.

# Components of Progress Monitoring

- Baseline data-Must be collected before the intervention is started and will be used to set the goal line.
- Progress monitoring tool-Must directly measure growth in the area of concern.
  - ▣ For example, a math fact fluency probe would not directly measure improvement in a student's math reasoning skills.
  - ▣ Decision rules should be determined before the implementation of the intervention. This is important because it is used to evaluate the success of the intervention or the need to change the intervention.

# Progress Monitoring Tools

- Curriculum based measures:
  - ▣ AIMSWEB Probes
  - ▣ Dibels
  - ▣ Teacher created CBM's
  - ▣ FAST
  - ▣ [www.interventioncentral.com](http://www.interventioncentral.com)
- Progress monitoring tools are NOT:
  - ▣ MCA-II's
  - ▣ NWEA-Measures of Academic Progress
  - ▣ End of unit/chapter tests

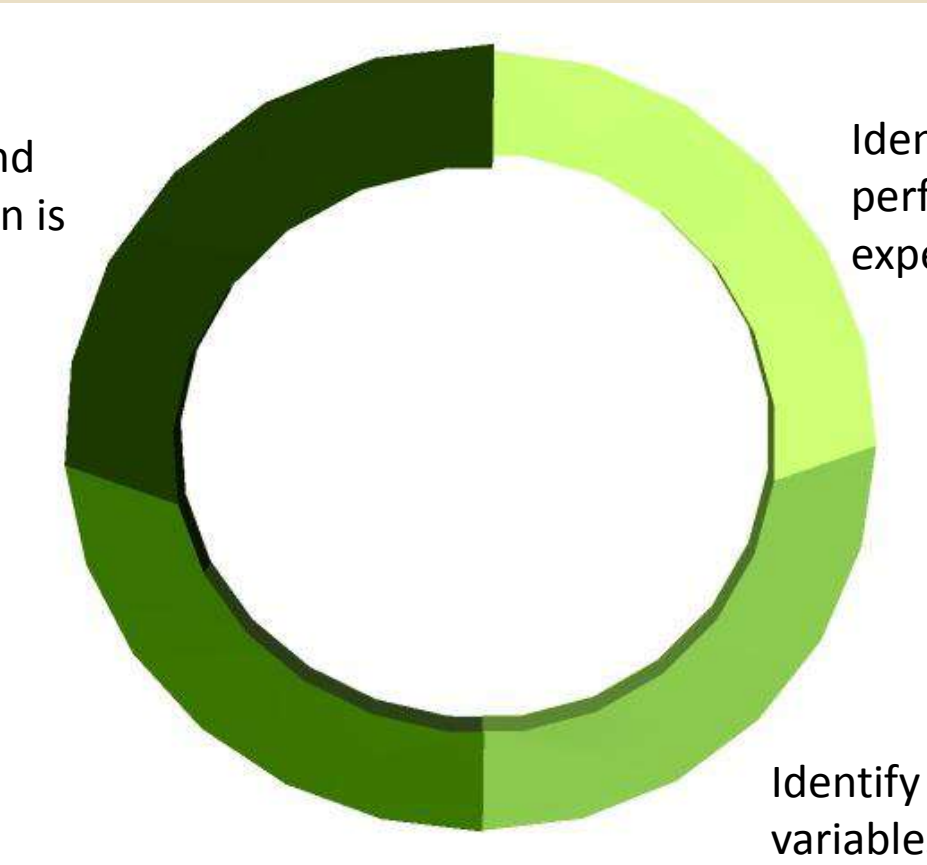
# What does the progress monitoring tell us?

- Depending on the student's progress with intervention, we can determine:
  - ▣ If an intervention needs to be modified
  - ▣ If a different intervention is needed
  - ▣ If a student needs to switch to a different intervention tier
  - ▣ If a student should be referred for a special education evaluation
- Refer to p. 5-5 for table on appropriate PM practices

# We Improve Achievement with Problem Solving

Evaluate the data and determine if the plan is working.

Carry out the intervention as intended.



Identify gaps between performance and grade-level expectations.

Identify the instructional variables to be included in plan to address the gap.

**Chapter 4-15, 6, 8, 9, 10**

# Questions

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