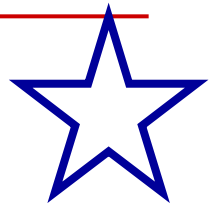


Children with Mental Retardation Can Learn to Read: Setting and Achieving Goals

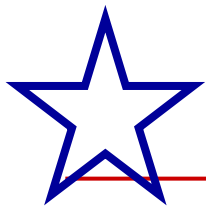


Presented by:

Dr. Jill H. Allor

Dr. Francesca Jones

Southern Methodist University



March, 2006

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SMU | THE INSTITUTE FOR
READING RESEARCH



Project Staff



Principal Investigator

Patricia Mathes, Ph.D.

Co-Prin. Investigator

Jill Allor, Ed.D.

Project Coordinator

Francesca Jones, Ph.D.

Research Teachers

Karen Britton

Bea Jolly

Deirdre North

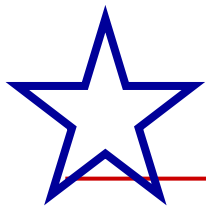
Janet Montana

Chuck Toney

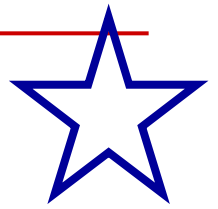
Research Assistants

Timothea Davis

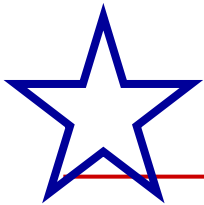
Dawn Levy



Multi-Site Research



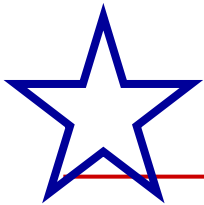
- Research is funded by Institute of Education Sciences (IES)
- Coordinated with other research projects
 - University of North Carolina – Charlotte
 - Georgia State University



Overview of Session



- ❑ Brief overview of research project
- ❑ Important literacy goals and how our intervention addressed them
- ❑ Case studies of students in the project

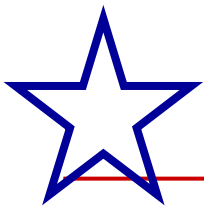


Why do the project?

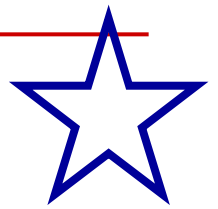
Review of Research Literature



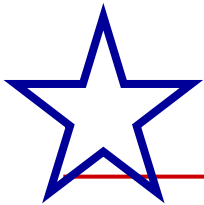
- Some research supporting sight word instruction
- Some research supporting phonics instruction
- But...
 - No studies were large scale
 - No studies employed a comprehensive reading program that included explicit, systematic phonics instruction



Research Questions



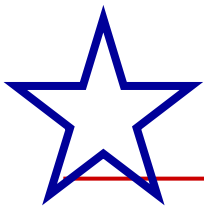
1. Are *reading interventions* that have been proven to be effective in teaching children who are very low readers also effective for teaching children with *cognitive disabilities or borderline IQ scores*?
2. What *level of reading competence* can be achieved by these students with the use of these interventions across several years?



Research Questions



3. When provided with this type of instruction, are these students afforded greater *access to participation in the general education curriculum?*



Research Design: 4-year Plan

10 Elementary schools → Move into Middle school

Condition

Year 1

Year 2

Year 3

Year 4

**Reading
Intervention**

75 Students
Grades 1-3

67 Students
Grades 2-4

60 Students
Grades 3-5

54 Students
Grades 4-6

Contrast

75 Students
Grades 1-3

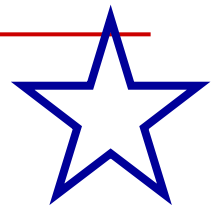
67 Students
Grades 2-4

60 Students
Grades 3-5

54 Students
Grades 4-6



Participants



- Total: 158

- 102 “Borderline”

- ★ according to *WASI: Wechsler Abbreviated Scales of Intelligence*
OR school-testing

- ★ IQ 70-79

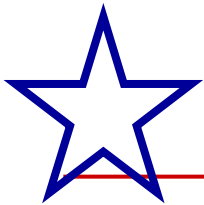
- 36 Mild range

- ★ IQ 55-69

- 20 Moderate range

- ★ IQ 40-54

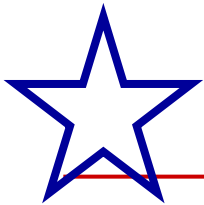
- Students randomly assigned to experimental or contrast group



Intervention

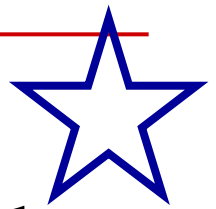


- ❑ Comprehensive, explicit, systematic phonics-based reading program
- ❑ Implemented daily by research teachers
- ❑ 35- to 45-minute sessions
- ❑ The intervention will be the **FOCUS** of **TODAY'S SESSION**



Curriculum: Proactive Reading

(Published as *Early Interventions in Reading* by SRA)



“Foundation” Level

- Skills typically taught in kindergarten
- Unpublished

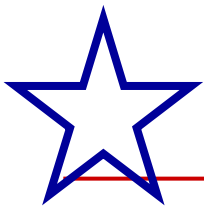
Level One

- Skills typically taught in first grade
- Published

Level Two

- Skills typically taught in second grade
- Recently published

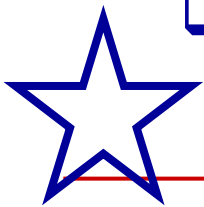
Students began in either “Foundation” or Level One



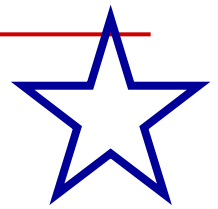
Curriculum: Critical Features



- Explicit and Systematic
 - Explicit strategies
 - Cumulative review
 - Careful sequencing
- Phonics-based
- Fast-paced
- Immediate Feedback
- Teaching to Mastery
- Increased Opportunities to Respond



Preliminary Findings: Progress Monitoring Data (DIBELS)



Initial Sound Fluency

- Measure of ability to identify the first sound in a word
- Which word begins with /c/?

Phoneme Segmentation Fluency

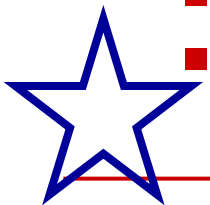
- Measure of ability to segment words into individual phonemes
- Tell me the sounds in cat. /c/ /a/ /t/
- Partial credit is given

Nonsense Word Fluency

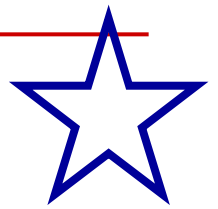
- Measure of ability to say the sounds in a list of CVC non-words
- Students can go “sound by sound” or read whole words

Oral Reading Fluency

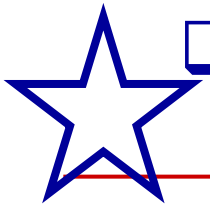
- 1 minute timed reading
- # of words correct per minute

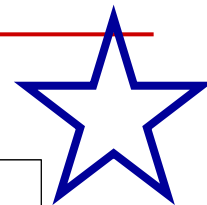


Preliminary Findings: Progress Monitoring Data (DIBELS)

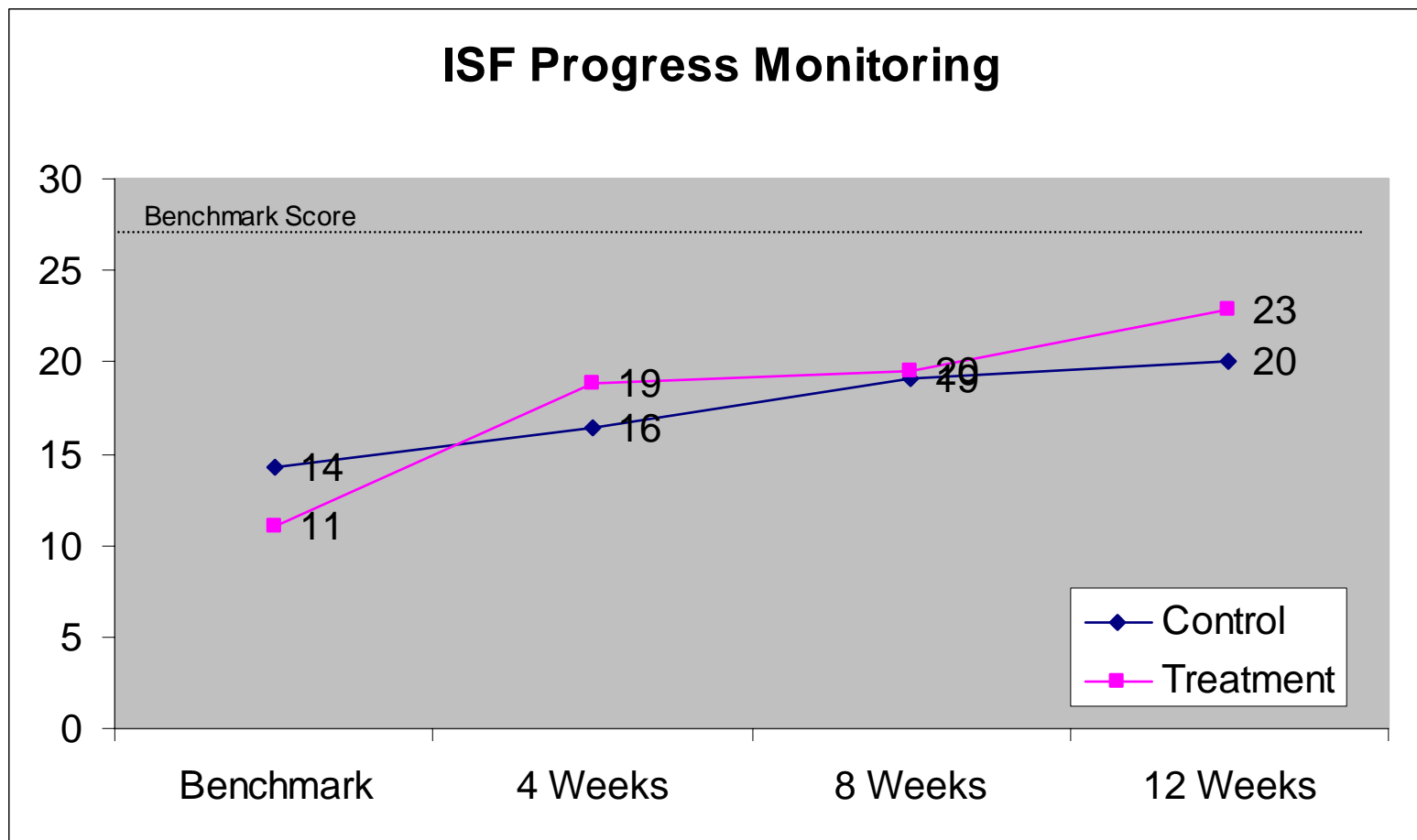


- Does not include 13 treatment students and 10 comparison students who began intervention late
- Only after first 12 weeks
- No significant findings; all trends in favor of experimental group
- Trends are highly favorable for PSF
- Trends are somewhat favorable for ORF
- VERY PRELIMINARY



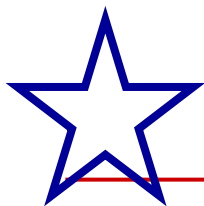


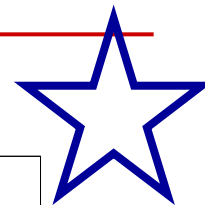
ISF Progress Monitoring



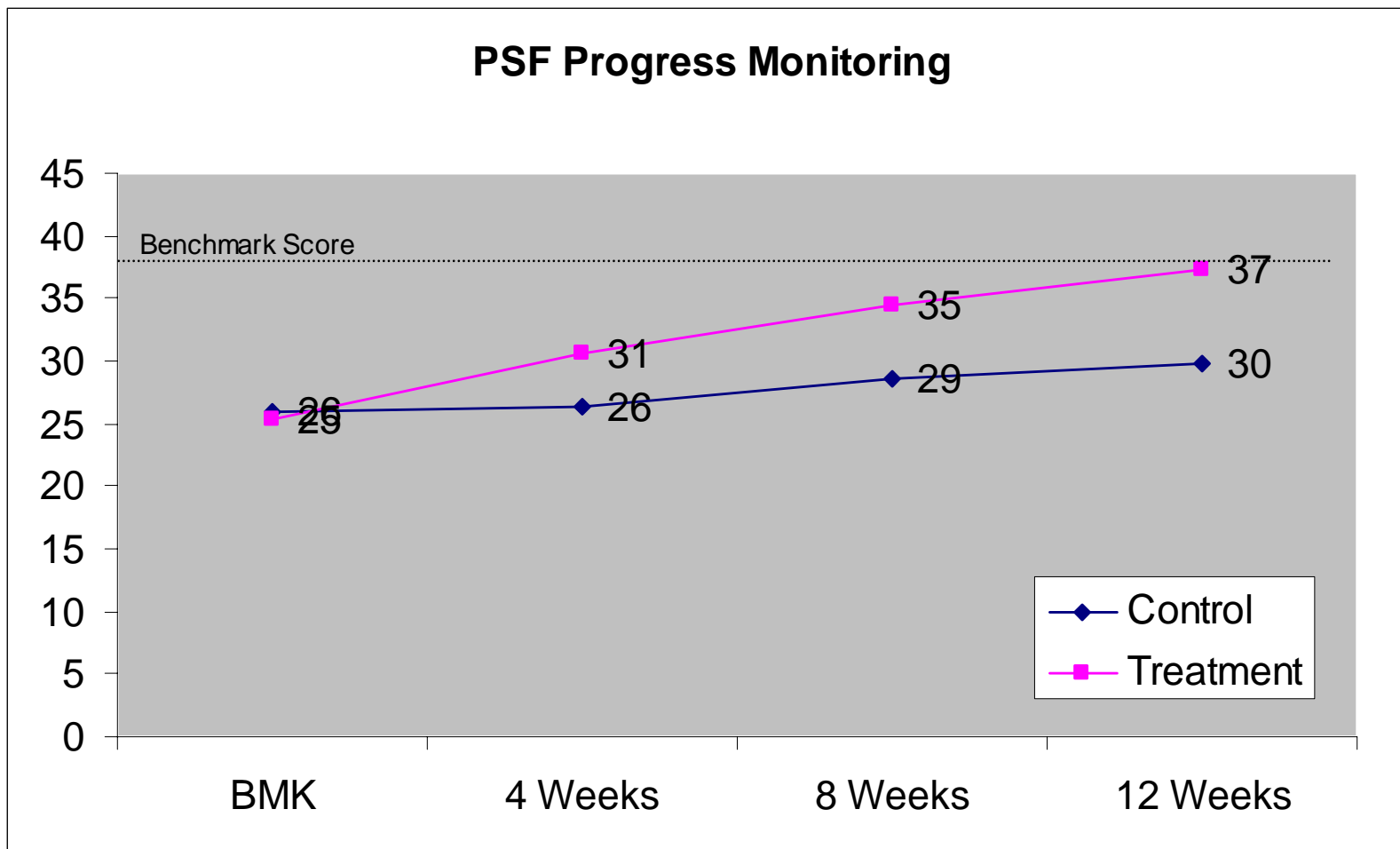
SD range from 7.5 to 12.9

(3rd data point is 19 for Control and 20 for Treatment)



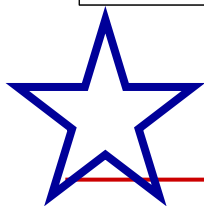


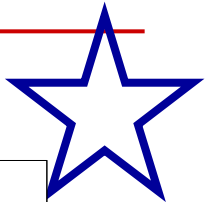
PSF Progress Monitoring



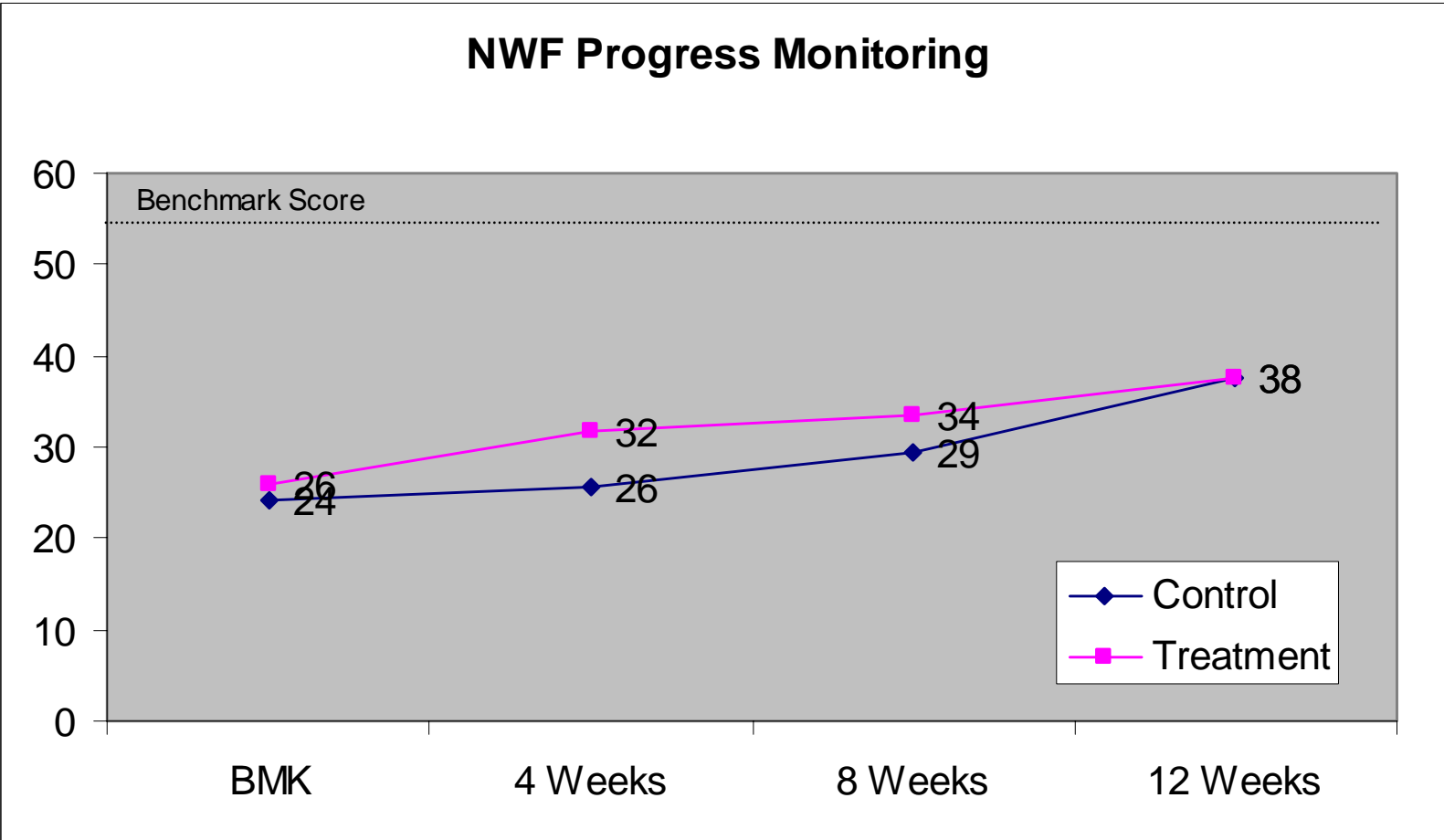
SD range from 17.4 to 21.2

(1st data point is 26 for Control and 25 for Treatment)

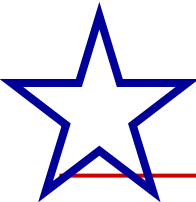


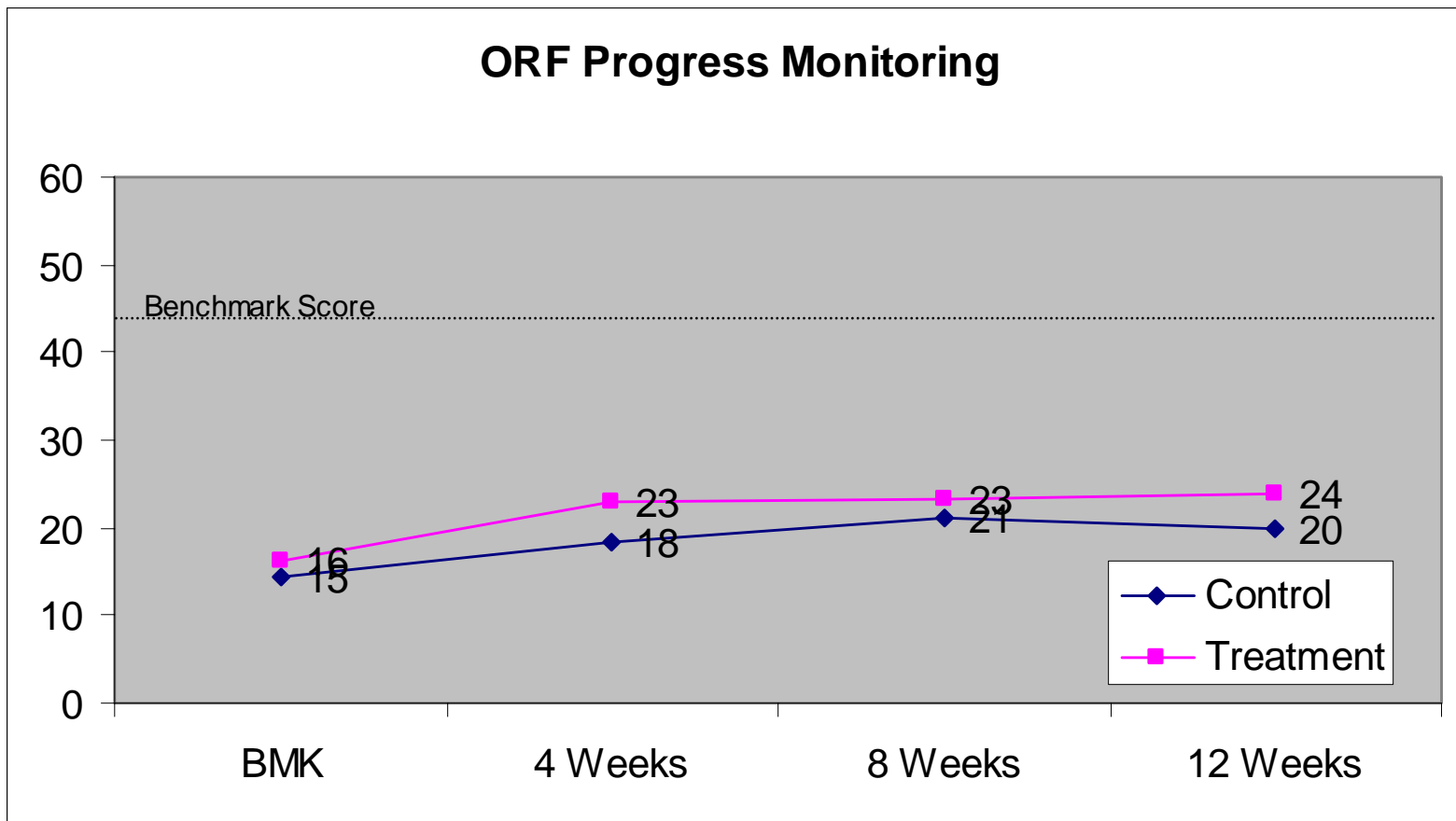
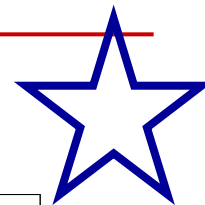


NWF Progress Monitoring



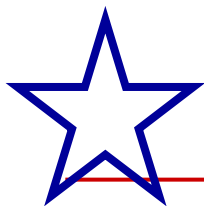
SD range from 22.9 to 37.1



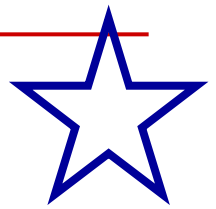


SD range from 19.0 to 31.5

(1st data point is 15 for Control and 16 for Treatment)



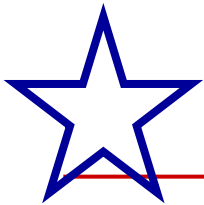
To be continued...



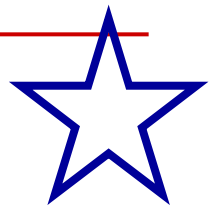
Pre/Post Academic Measures

- Comprehensive Test of Phonological Processing (CTOPP)*
 - Blending Words and NonWords*
 - Segmenting Words*
 - Sound Matching (first sound and last sound)*
 - Rapid Letter Naming*
- Test of Word Reading Efficiency (TOWRE)
 - Phonemic decoding efficiency subtest
 - Sight word (real word) efficiency subtest

*common measure



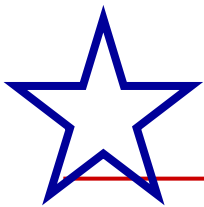
To be continued...



Pre/Post Academic Measures

Woodcock Language Proficiency Battery- R
(WLPB-R)*

- Language composite
- Memory for sentences*
- Picture vocabulary
- Oral vocabulary
- Listening comprehension*
- Verbal analogies
- Reading composite
- Letter-word identification*
- Passage comprehension*
- Word Attack*

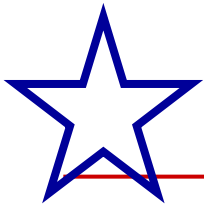


To be continued...



Survey Measures

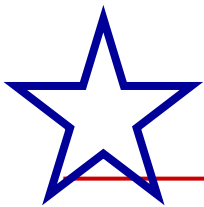
- Teacher perception
- Vineland Adaptive Behavior
- Parent Perception
- School survey



Goals for Next Year

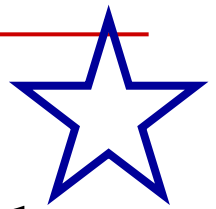


- ❑ Keep going!
- ❑ Careful intervention modification for students making little or no progress
- ❑ Developing additional oral language component
 - Listening comprehension
 - Oral expression
 - Vocabulary



Curriculum: Proactive Reading

(Published as *Early Interventions in Reading* by SRA)



“Foundation” Level

- Skills typically taught in kindergarten
- Unpublished

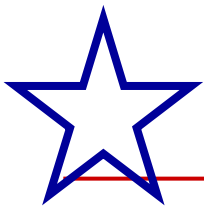
Level One

- Skills typically taught in first grade
- Published

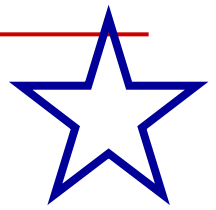
Level Two

- Skills typically taught in second grade
- Recently published

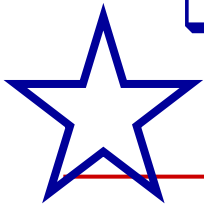
Students began in either “Foundation” or Level One



Curriculum: Critical Features



- Explicit and Systematic
 - Explicit strategies
 - Cumulative review
 - Careful sequencing
- Phonics-based
- Fast-paced
- Immediate Feedback
- Teaching to Mastery
- Increased Opportunities to Respond





Curriculum: Immediate Feedback and Modeling

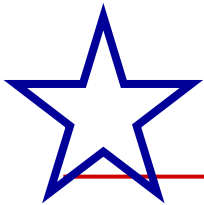


Model: “My turn” or “I”

Lead: “Our turn” or “We”

Test: “Your turn” or “You”

Retest: “Backing up”

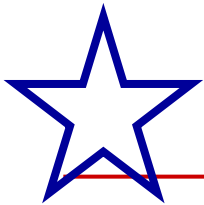




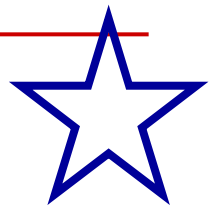
Curriculum: Providing Scaffolding



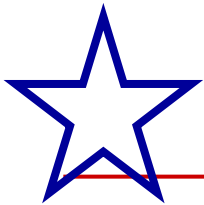
- Through careful sequencing of material (small steps)
- Through teacher feedback
- Through materials



Phonological awareness and phonemic awareness



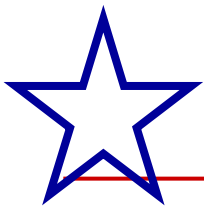
- Phonological Awareness: Category of auditory discrimination skills including sentence awareness, word awareness, rhyme awareness and awareness of phonemes within words.
- Phonemic Awareness: Awareness that words are composed of phonemes. Most important for learning to read.



Phonological Awareness Goals



- ❑ Recognize that SPOKEN sentences are made up of words, as demonstrated by moving a square for each word
- ❑ Recognize that words are made up of syllables, as demonstrated by clapping once for each syllable in a SPOKEN word

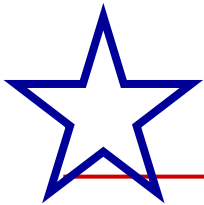


Phonemic Awareness Goals



- Isolate the first sound (segmenting the first sound in a word)
 - Teacher: What's the first sound in fish?
 - Student: /f/

- Blending onsets and rimes
 - Teacher: /fff/ /ish/, What word?
 - Student: fish





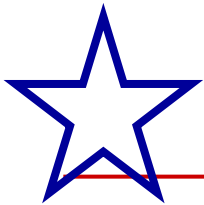
PA Instruction: “First Sound Game”



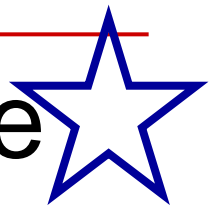
(In both Foundation and Level One)

Simple format

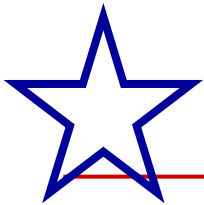
1. Teacher says a word emphasizing the first sound in that word. Sssip
2. Teacher asks, “What’s the first sound in sip?”
3. Teacher cues by holding up 1 finger.
4. Students respond with the first sound heard in the word. /sss/
5. Teacher provides the model-lead-test strategy for error correction.



PA Instruction: First Sound Game



- ❑ Scaffolded at Foundation Level
- ❑ Similar Procedures
 - This is shhheep. This is fffish. (magnet pictures)
 - Which one begins with /fff/?



More

Phonemic Awareness Goals

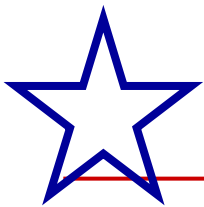


So far...

- Isolate first sound
- Blending onset and rime

Next...

- Blending individual phonemes into a word
 - Teacher: /mmm/ /aaa/ /nnn/
 - Student: man
- Segmenting words into individual phonemes
 - Teacher: Say “man” slowly.
 - Student: /mmm/ /aaa/ /nnn/

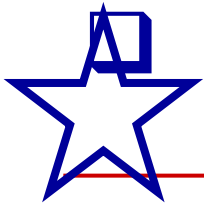




PA Instruction: Blending Words



- Activity “Say the Word Game”
- Teacher says word slowly, switching from sound to sound without pausing while holding up one finger for each sound.
- Pause briefly.
- Teacher says, “What word?”
- Students say the word at a normal rate.

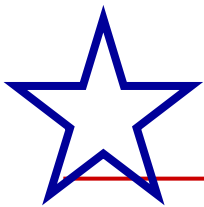




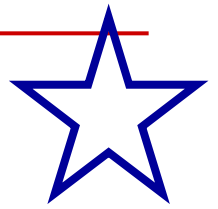
PA Instruction: Segmenting Words



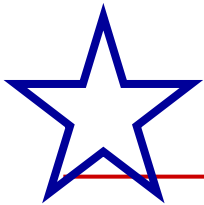
- Activity “Stretch the Word”
- Teacher says word.
- Students say word sound by sound, holding up one finger for each sound.
- Teacher guides process by holding up a finger for each sound, but says nothing.



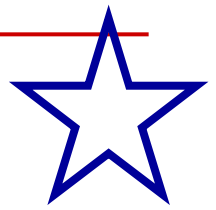
Goal: Phonemic Awareness



- ❑ Before entering a 1st grade level curriculum, students must be able to isolate the first phoneme in words
- ❑ This is reviewed quickly in Level One of Early Interventions in Reading.



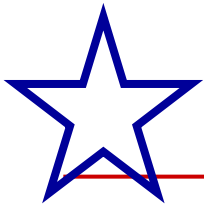
Goal: Letter-Sound Correspondence



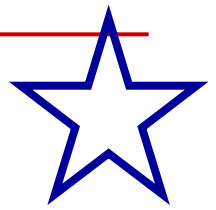
Letter-Sound Introduction



Letter-Sound Review



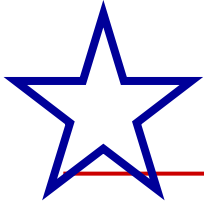
Goal: Combining Letter-Sound Knowledge and PA



□ Stop and Go Game

- Part of Foundation Level
- Provides additional practice for phonemic blending and segmenting
- Helps students apply (relate) blending and segmenting to print

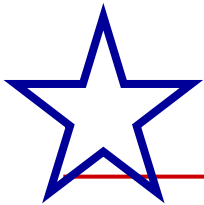
□ Stretch and Spell



Goal: Decoding

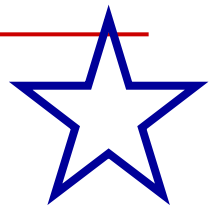


- ❑ Sound out CVC words made up of known letter sounds
- ❑ Very difficult in the beginning
- ❑ Words to sound-out contain only mastered sounds
- ❑ Practiced a little every day
- ❑ Moves quickly to “reading fast first” and “chunking”



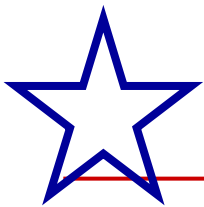


Sounding Out -- in the Beginning



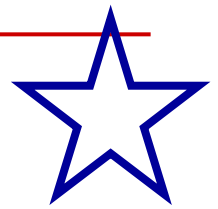
Format:

1. Write short list of vc and cvc words on board.
2. Teacher asks the students to sound out the first word.
3. Teacher points under each sound while the students say each sound in the word.
4. Teacher points under continuous sounds for 2 seconds, but moves quickly off of stop sounds.



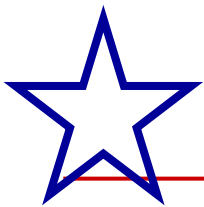


Sounding-Out, Then Reading Fast



Format:

1. Write short list of CVC type words selected directly from story to be read later on board.
2. Teacher points to a word and asks the students to sound out the word.
3. Teachers points under continuous sounds for 1.5 seconds, but moves quickly off stop sounds.
4. Teacher asks children to read the word fast.
5. Teacher repeats process for each word.



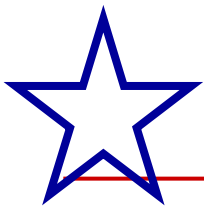


Decoding Instruction: What word now? Game

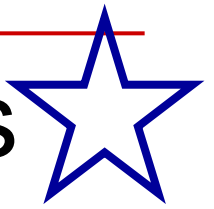


□ Format

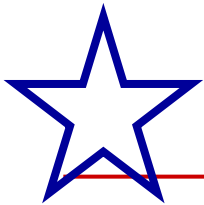
1. Sound it out.
2. Read it fast.
3. Change 1 phoneme.
4. Sound it out.
5. Ask: What word now?



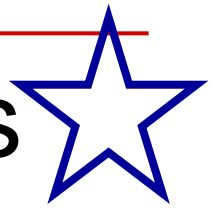
Language Comprehension Goals



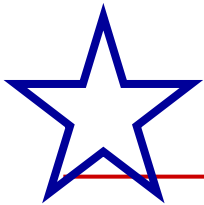
We will be focusing on this next year!



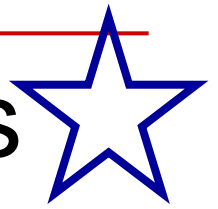
Language Comprehension Goals



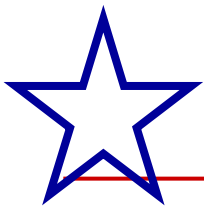
- Increase general knowledge
- Increase vocabulary
- With narrative text,
 - Identify the beginning, middle, and ending events in a story
 - Make reasonable predictions about what the story will be about
 - Make reasonable predictions about what will happen next



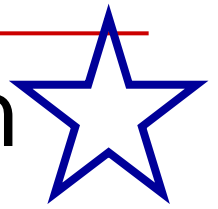
Language Comprehension Goals



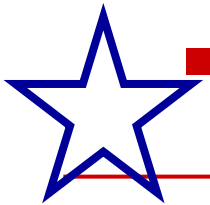
- With expository (informative) text,
 - Discuss related knowledge
 - ★ What do you know about thunderstorms?
 - Make reasonable predictions about what the text will be about.
 - ★ The book is about rain and clouds.
 - Retell basic information provided in the text.



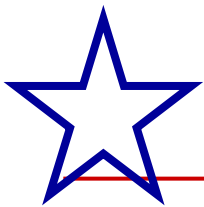
Reaching Language Comprehension Goals through Read-Alouds



- Very important when students are unable to read much text independently
- Key Elements
 - Direct teaching of key vocabulary
 - Providing key background knowledge as needed
- Discussion
 - Prior to reading to build background knowledge and vocabulary
 - During reading to elicit student language and extend it.
 - After reading to identify key information



A few case studies...



March, 2006

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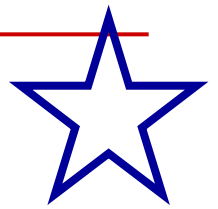


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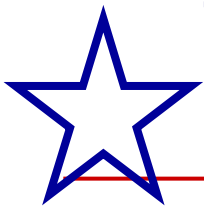


46

“Jason”



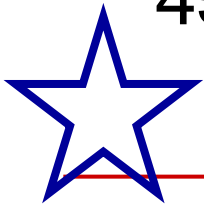
- ❑ Grade: 1
- ❑ IQ: 60
- ❑ Diagnosis: Autism and MR
- ❑ Placement: Teaching to Academic Potential (TAP)
- ❑ Level: Foundation
- ❑ What people said before: The TAP director was surprised that he made it into the treatment group and “wished us luck”



Intervention Teacher Comments



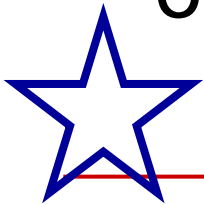
- Has improved his language, behavior, and attention
- Segmenting words such as “sat,” “Sam,” and “mat”
- Attempting to Blend
- In the beginning, he remained in his seat 5-7 minutes before throwing himself on the floor, etc.
- Currently, he remains in his seat the entire 35-45 minutes of the reading intervention

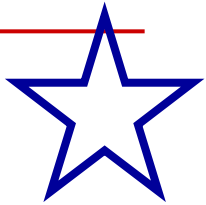


Methods for Increasing Attention

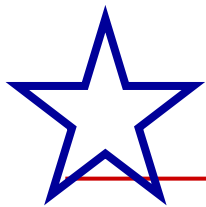
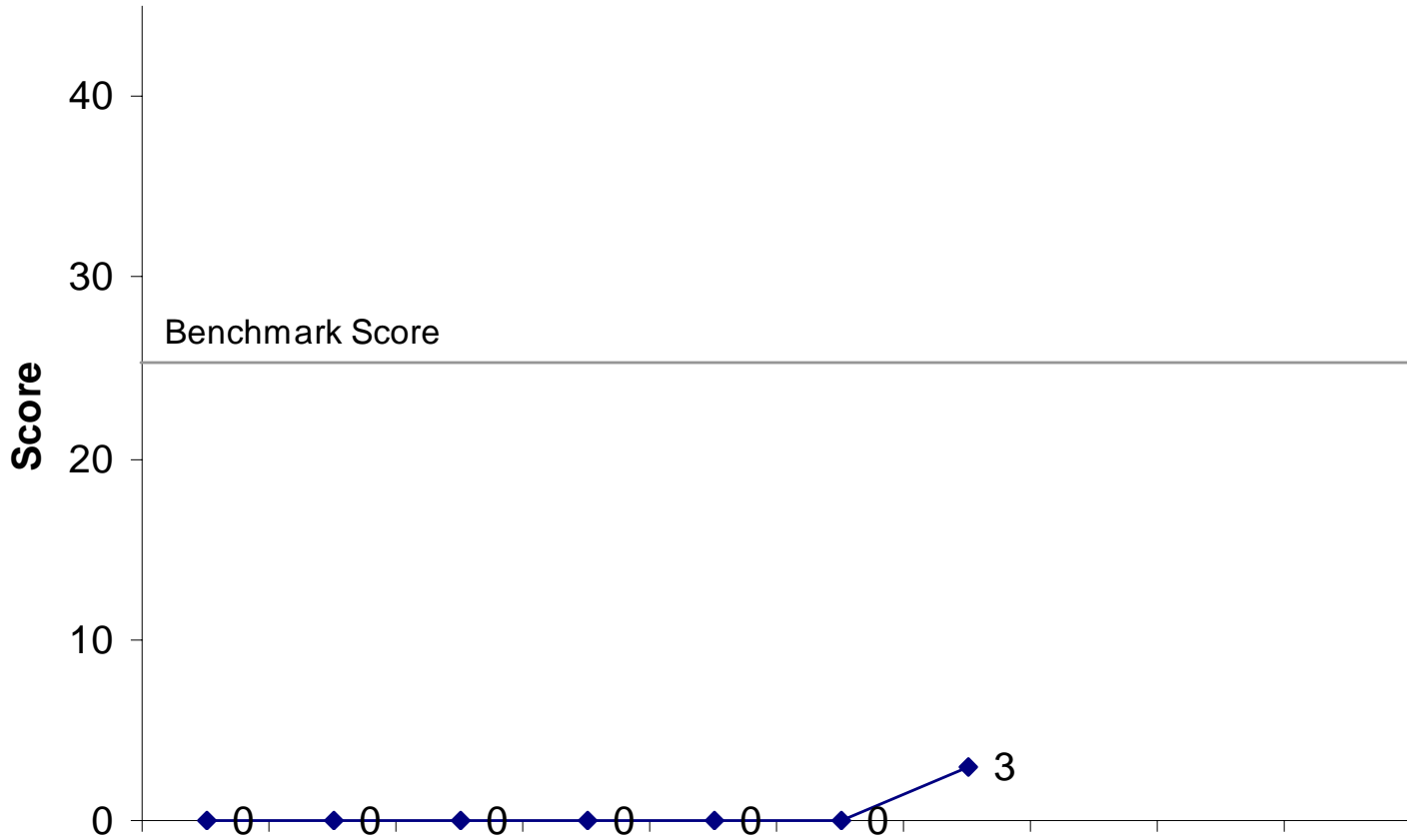


- ❑ Worked with special education teacher
- ❑ Very frequent periodic reinforcement during activities
- ❑ Varying reinforcers
 - Marbles
 - Allowed to have toy
- ❑ Taking breaks and then gradually fading out the breaks

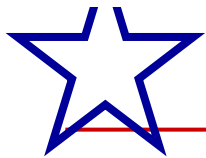
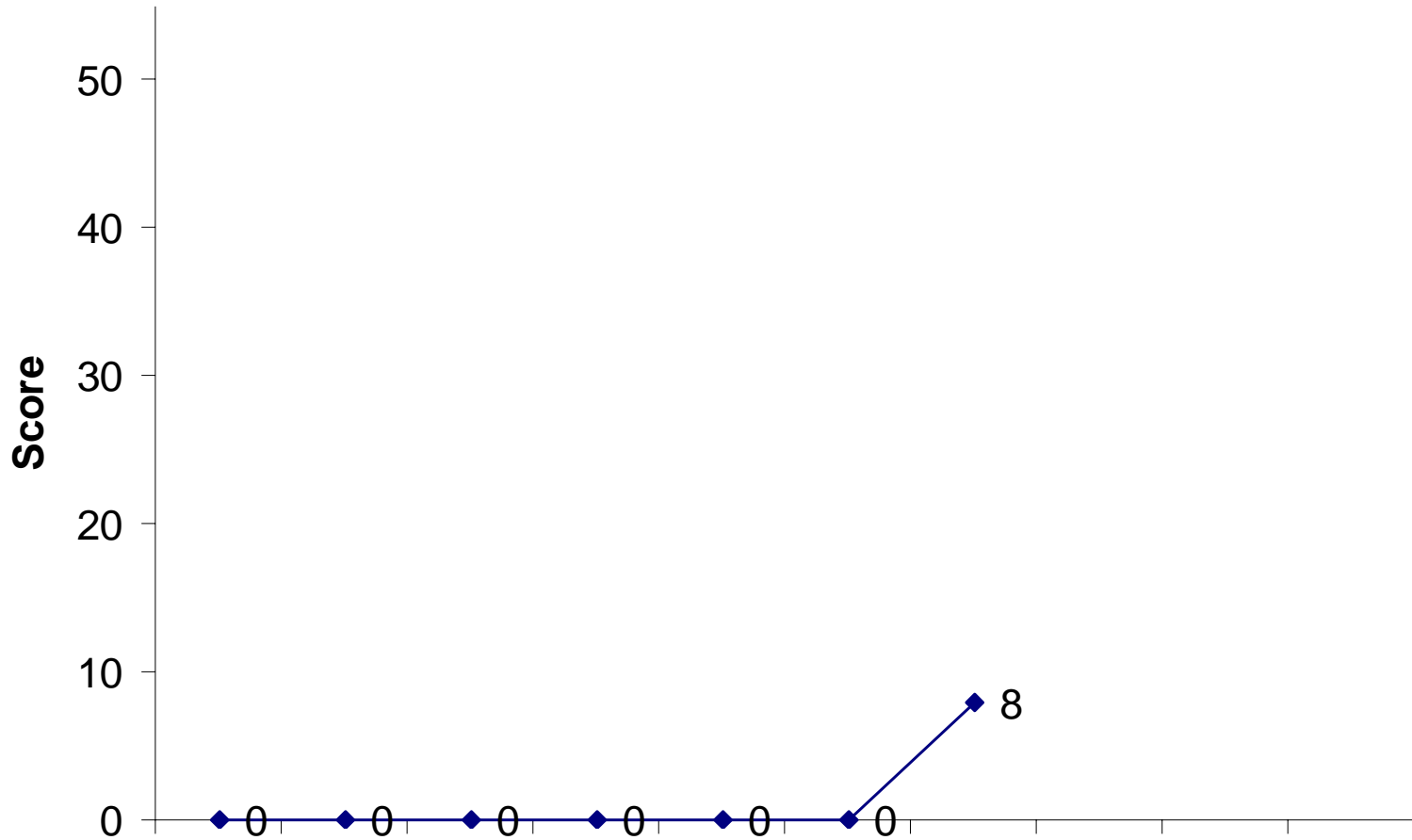
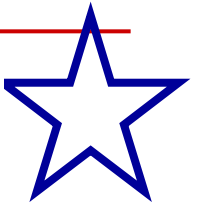


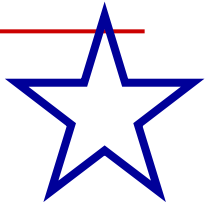


◆ Growth in Initial Sound Fluency for "Jason"

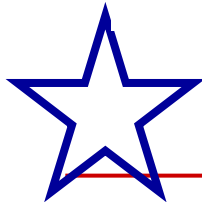
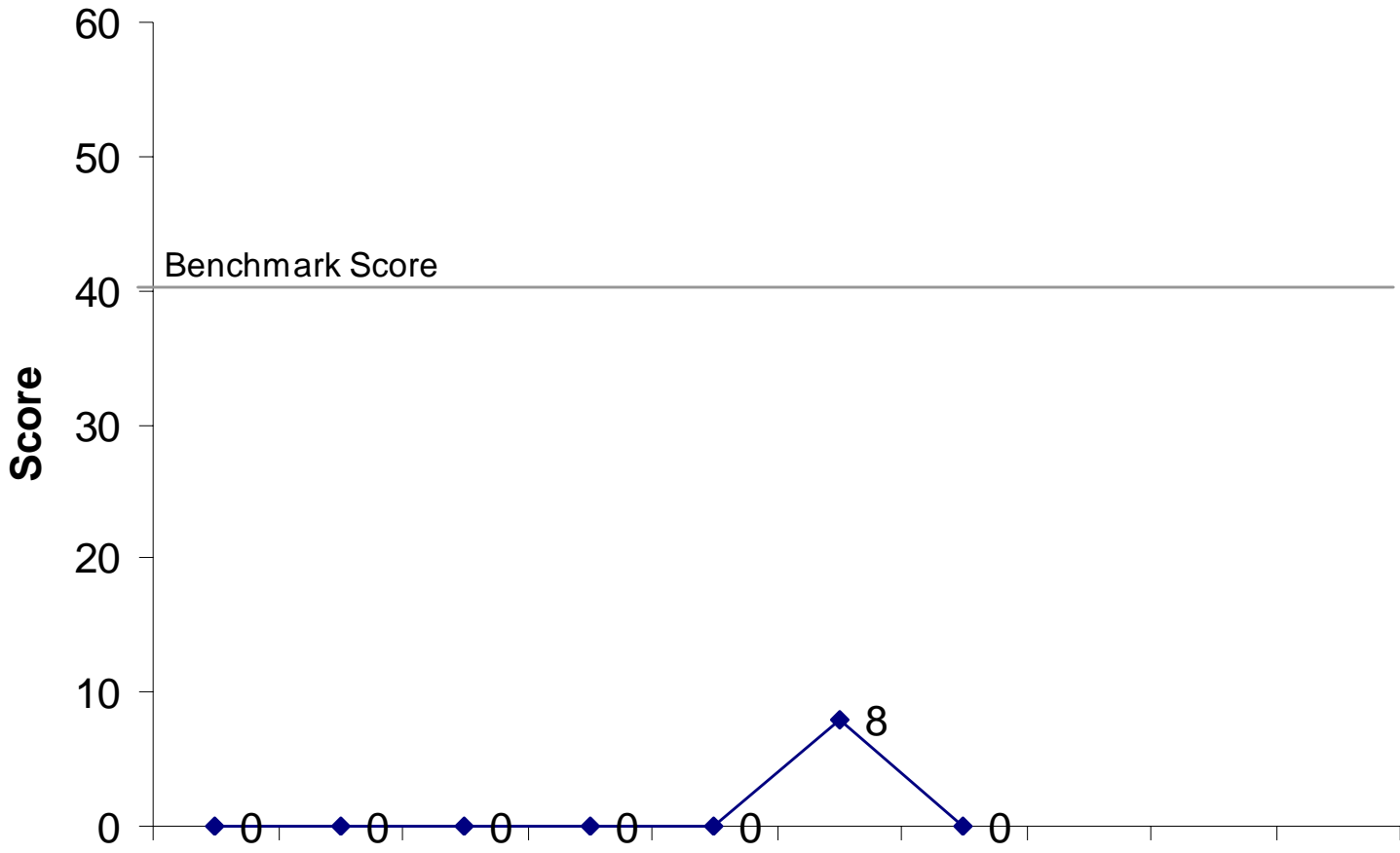


—◆— Growth in Phonemic Segmentation Fluency for "Jason"



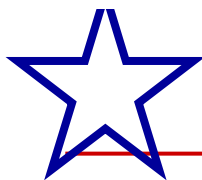
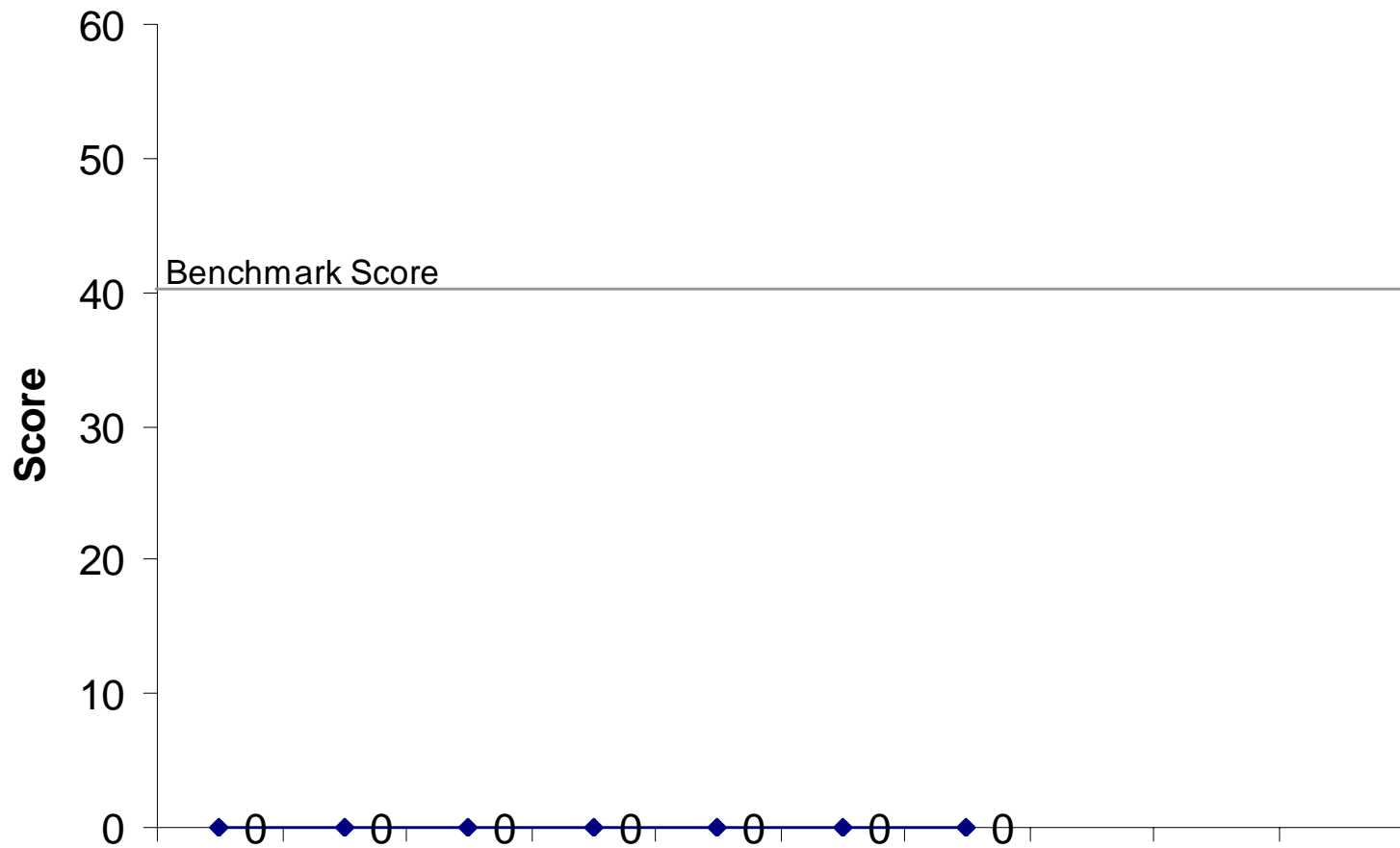


—◆— Growth in Nonsense Word Fluency for "Jason"





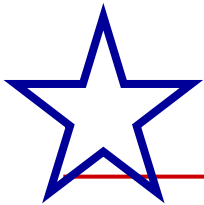
◆ Growth in Oral Reading Fluency for "Jason"



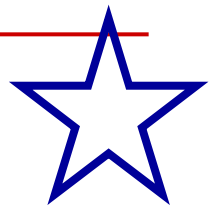
“Tyronne”



- ❑ Grade: 2
- ❑ IQ: 50
- ❑ Diagnosis: MR
- ❑ Placement: Living in Natural Communities (LINC)
- ❑ Level: Foundation mastered, beginning level one



Teacher Comments



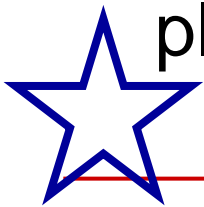
Intervention Teacher

- Able to tell beginning, middle and end of a poem/story
- Can blend words and read some words in the storytime readers
- Reading some sight words

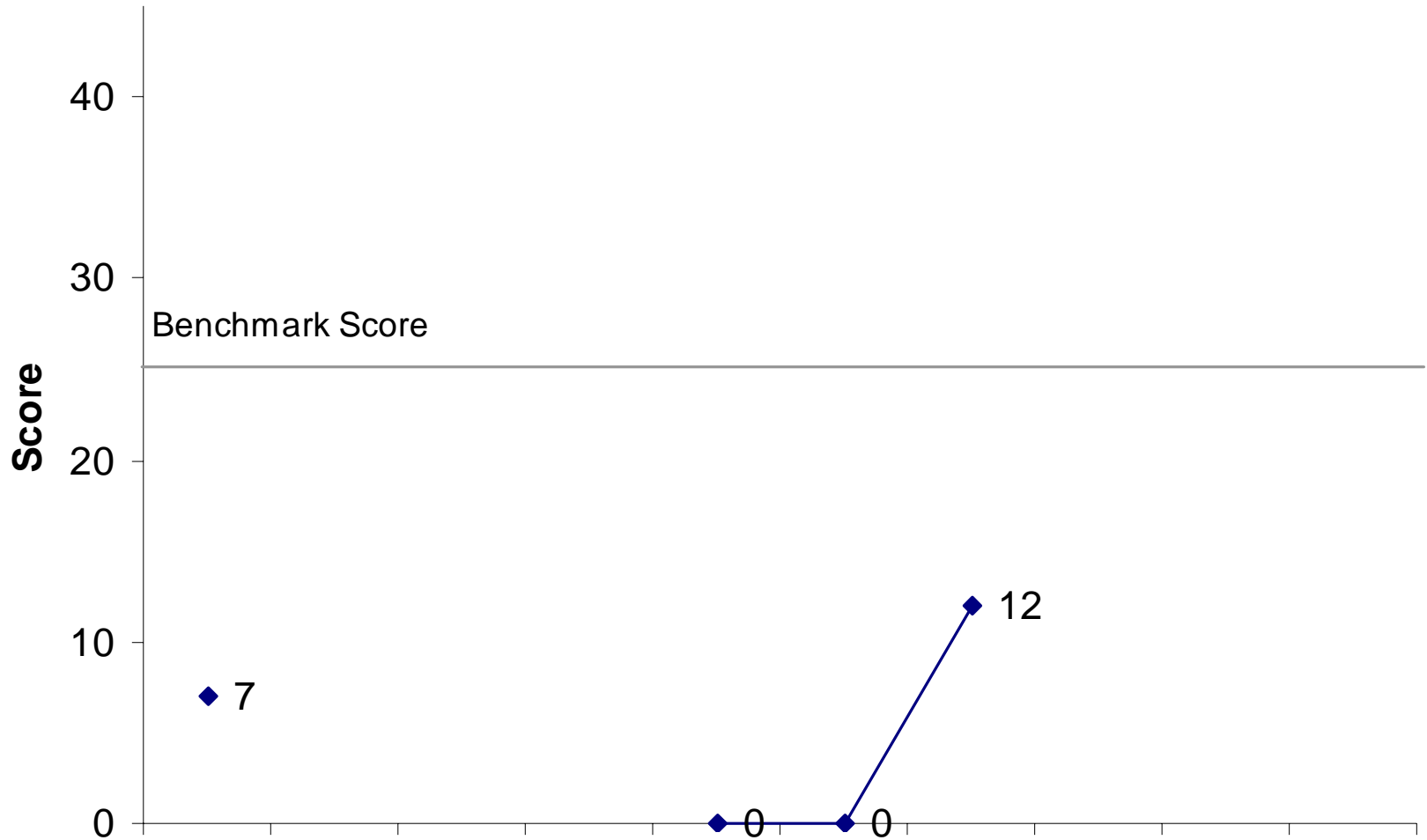
LINC Teacher

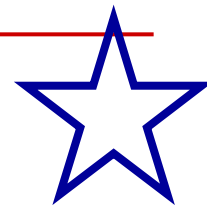
- “I have seen a lot of progress.”
- He now knows all of his letters and sounds.
- He can create words using letter flashcards and blend familiar and unfamiliar words.

Both are going to advocate for a less restrictive placement at Tyrone’s IEP meeting next month

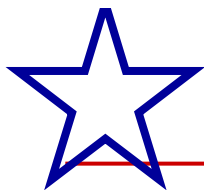
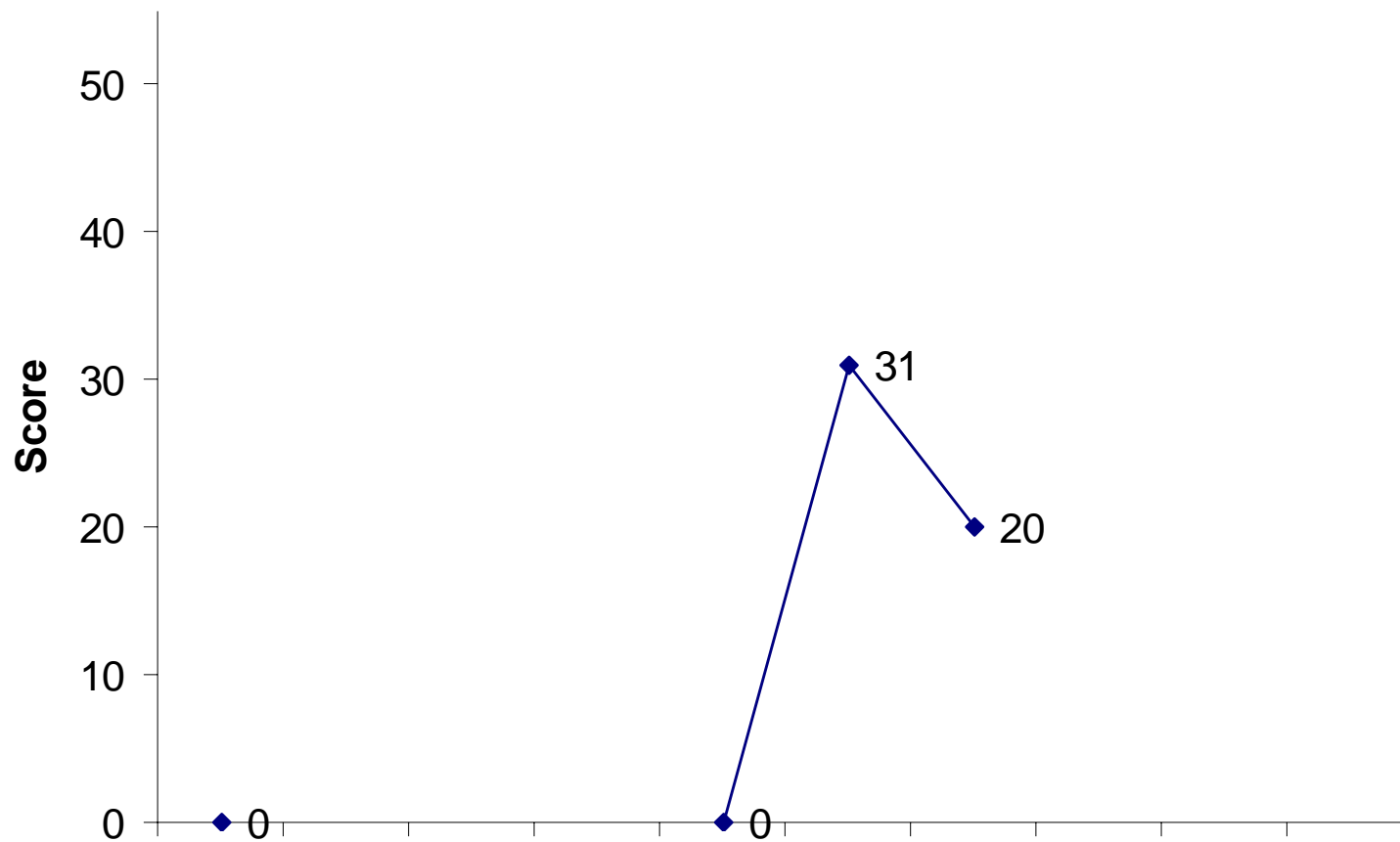


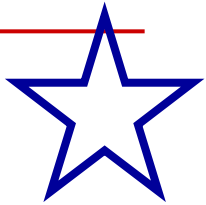
◆ Growth in Initial Sound Fluency for "Tyrone"



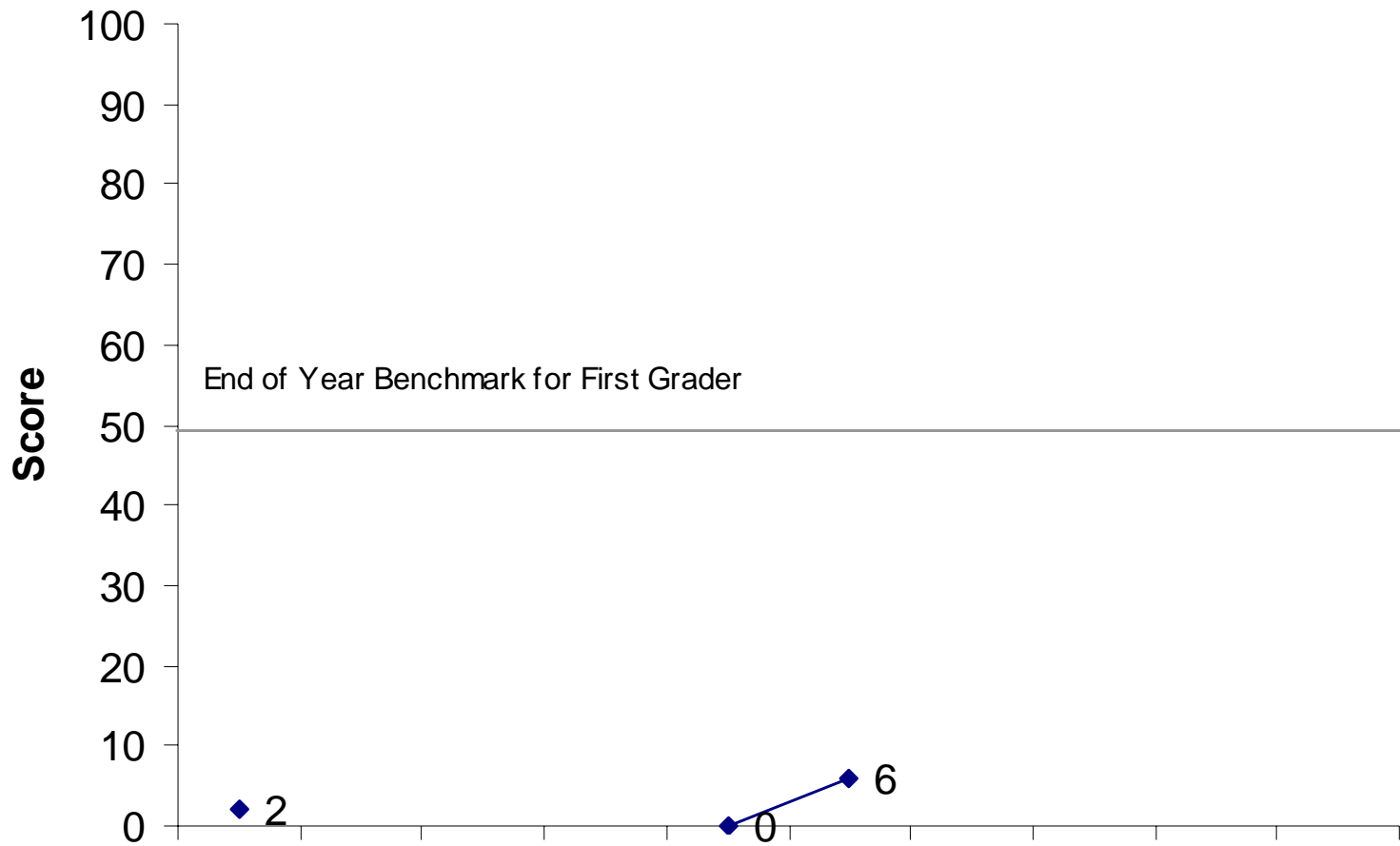


—◆— Growth in Phonemic Segmentation Fluency for "Tyrone"

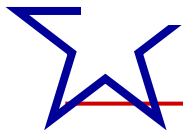
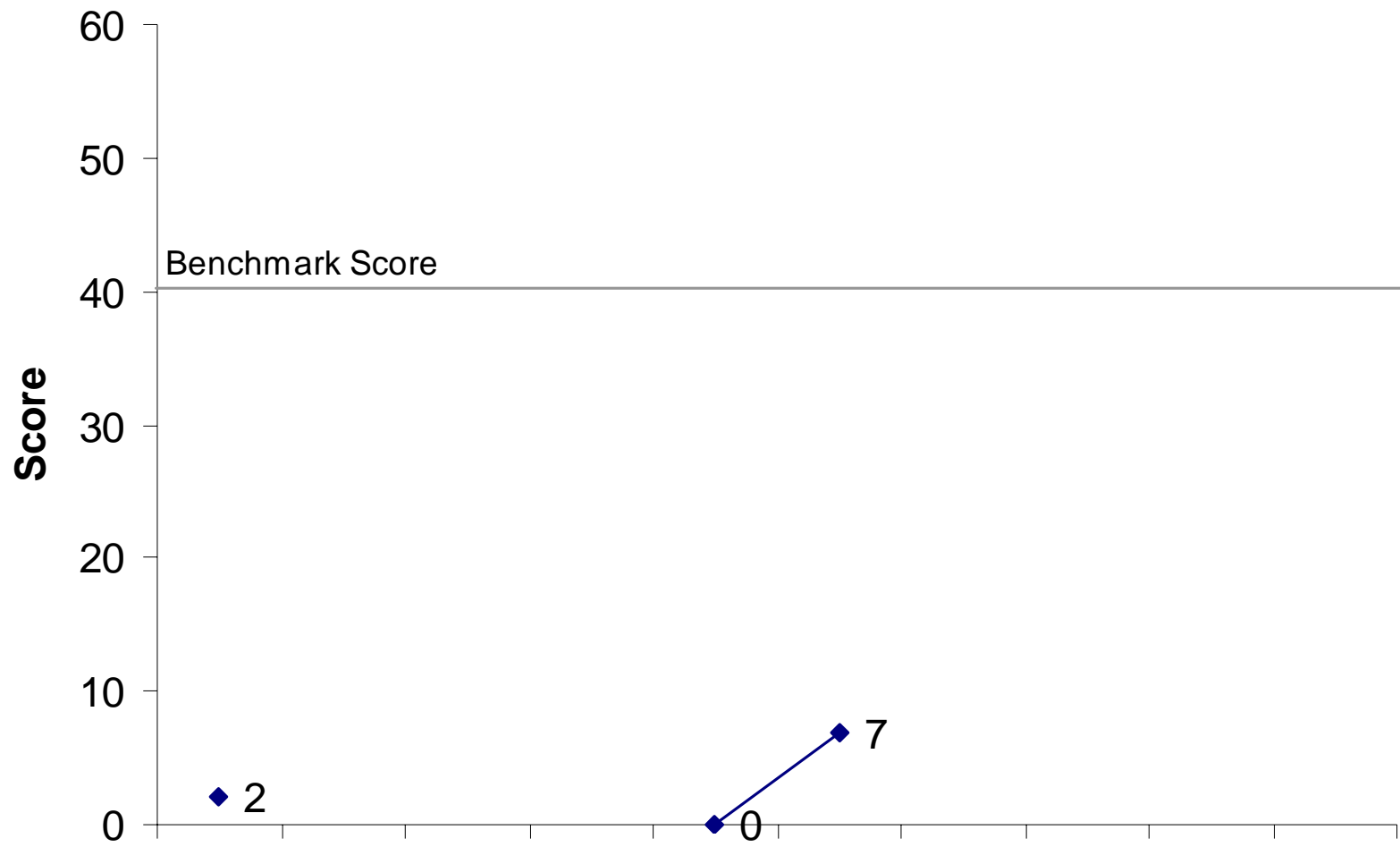




Growth in Nonsense Word Fluency for "Tyrone"



—◆— Growth in Oral Reading Fluency for "Tyrone"



March, 2006

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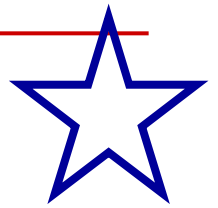


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“Maria”



- Grade: 1
- IQ: 59
- Diagnosis: Down Syndrome
- Placement: General Education with resource support
- Level: Foundation (almost finished)
- When the pre-test was to be administered, this student’s teacher told her that, “this was not a child we wanted for the study.”
- Teachers did not view reading as a reasonable goal



Teacher Comments

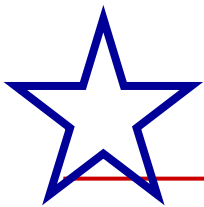


□ Intervention Teacher

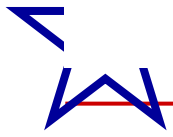
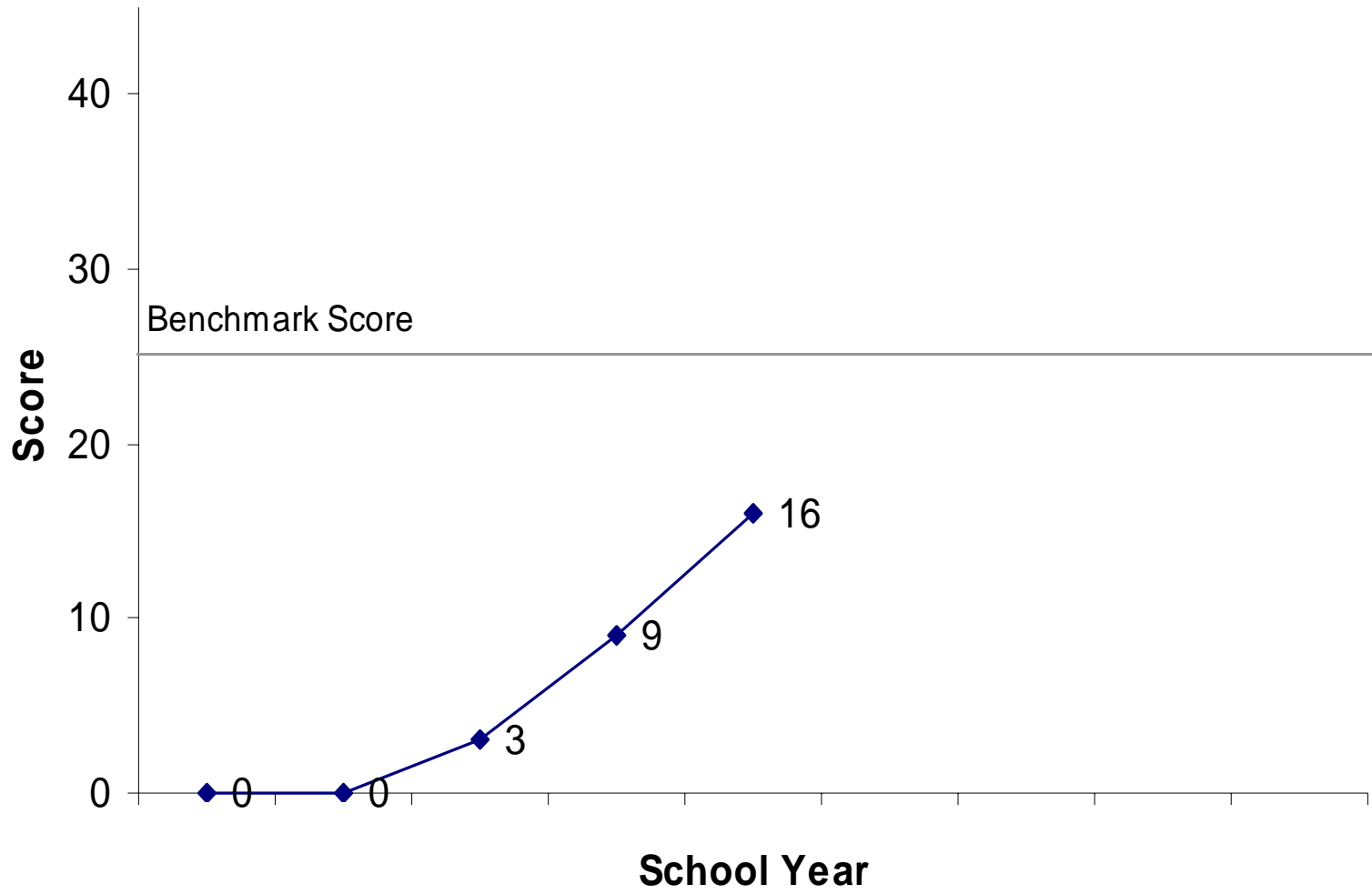
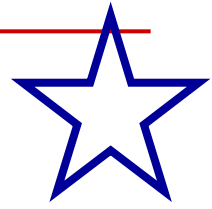
- Has mastered letter sounds
- Beginning to blend and segment simple CVC words
- Continues to struggle with working memory, though she has improved and it is “less of an issue”

□ Teacher

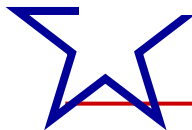
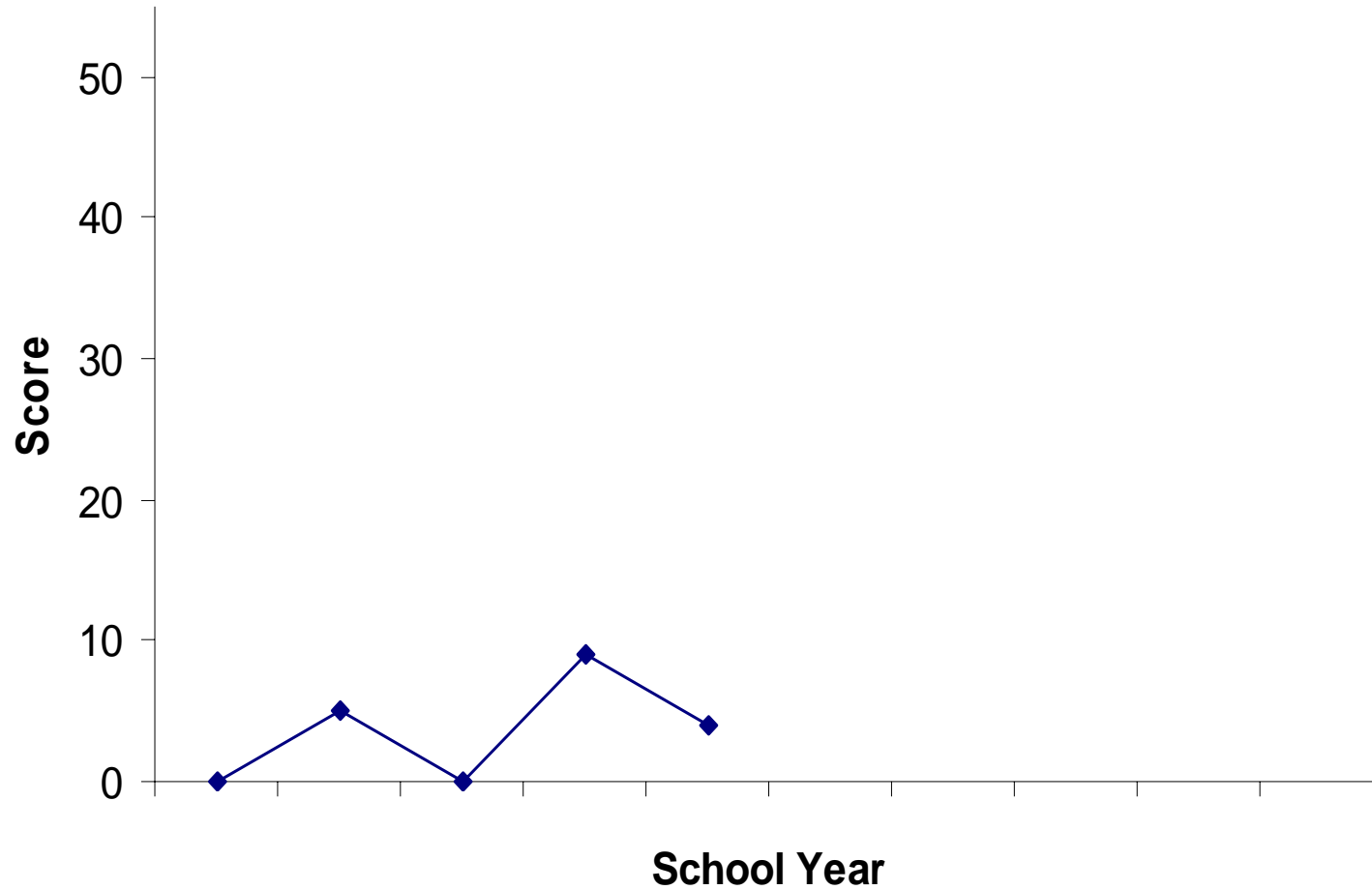
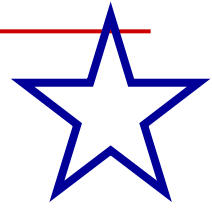
- Significant improvement in her letter name and sound knowledge
- Her classmates have noticed the improvement and “get excited” when she names the sounds of all of the letters now



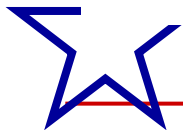
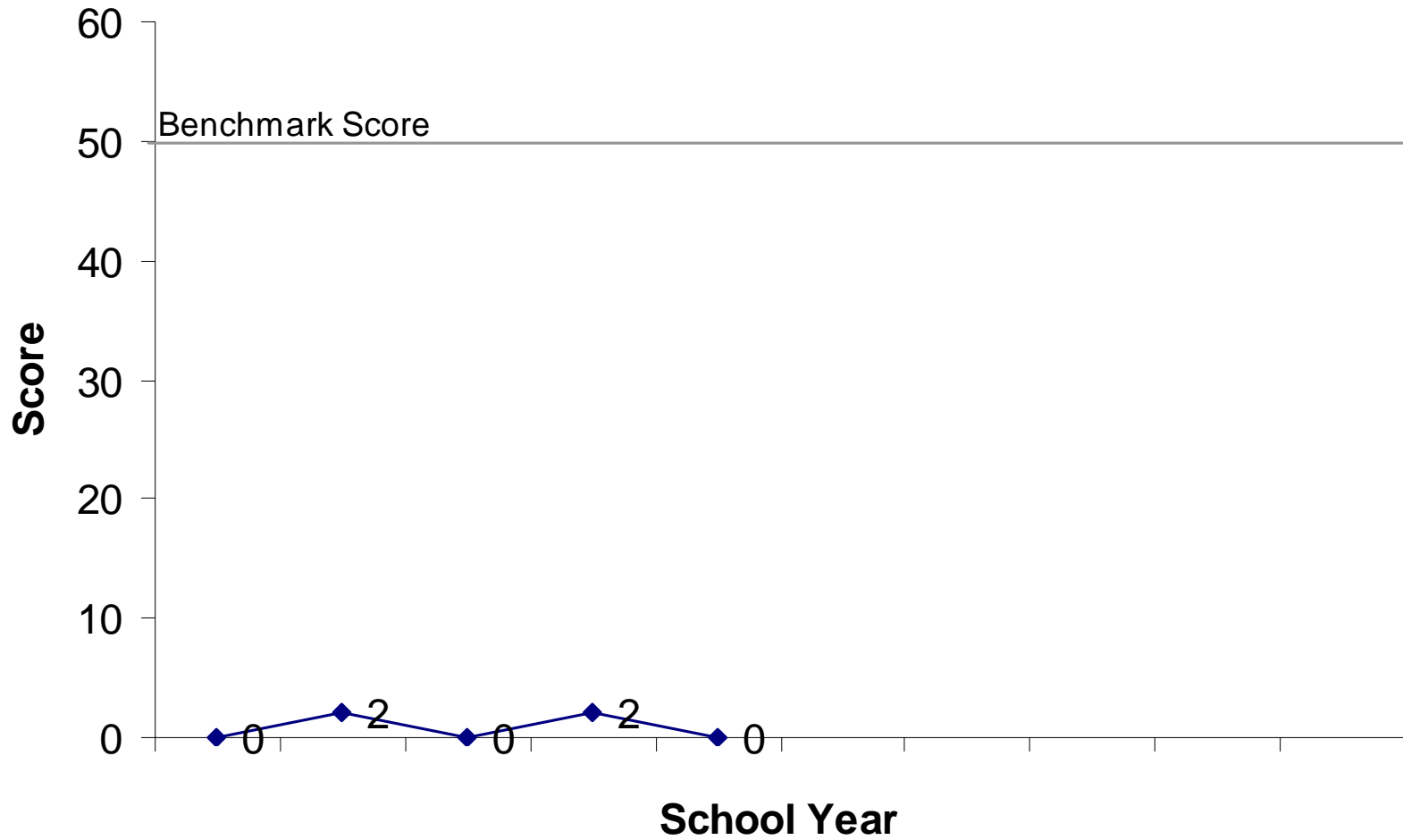
—◆— Growth in Initial Sound Fluency for "Maria"

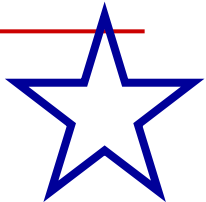


◆ Growth in Phonemic Segmentation Fluency for "Maria"

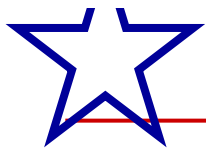
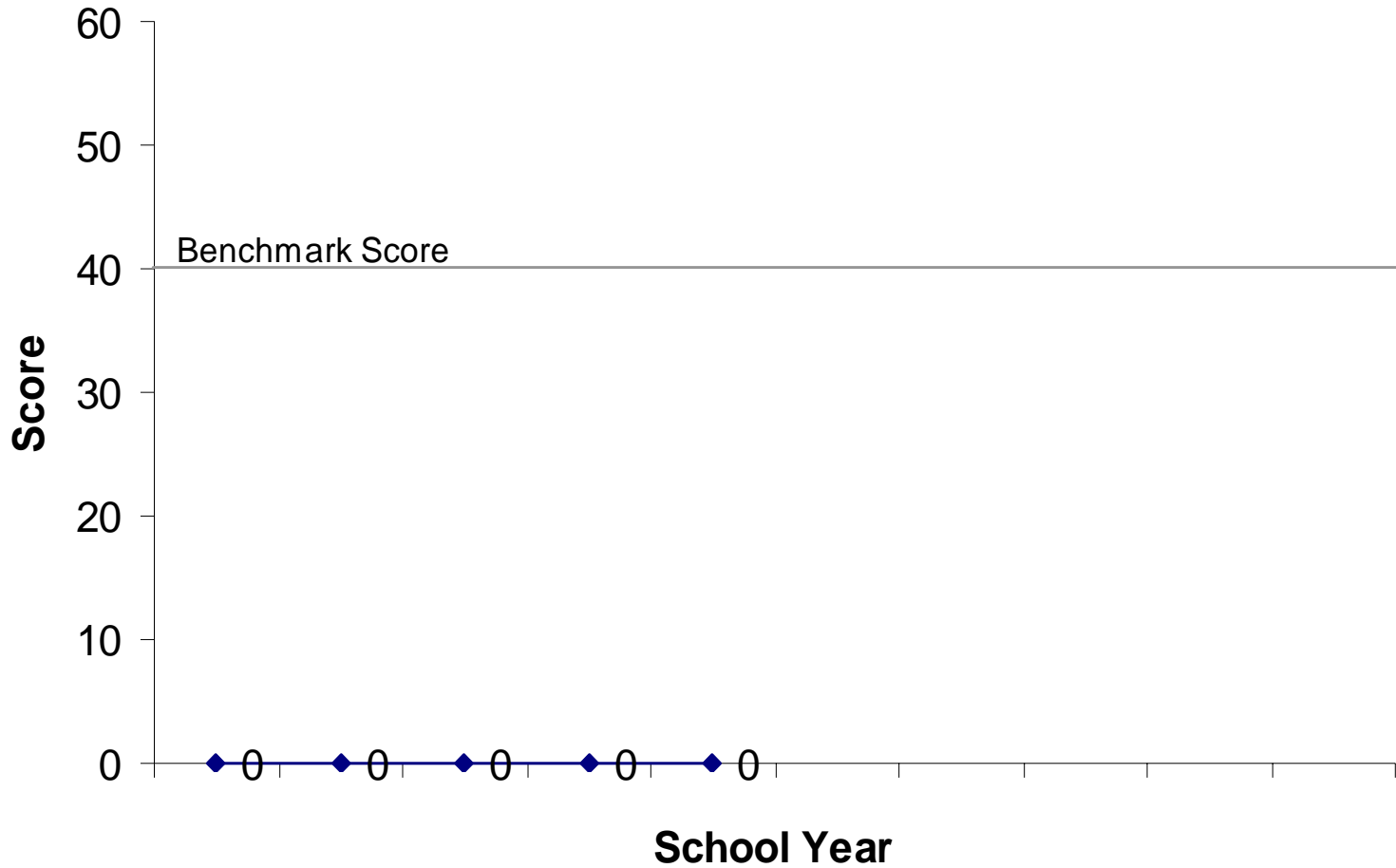


—◆— Growth in Nonsense Word Fluency for "Maria"





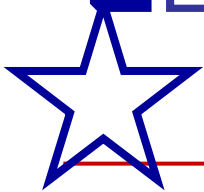
—◆— Growth in Oral Reading Fluency for "Maria"



“George”



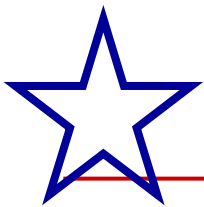
- Grade: 1
- Placement: General Education with resource support
- Diagnosis: MR
- IQ: 63
- Level: has finished Foundation level
- ESL

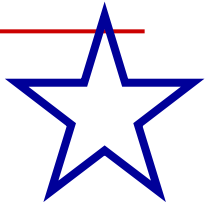


Intervention Teacher Comments

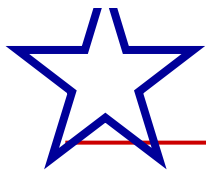
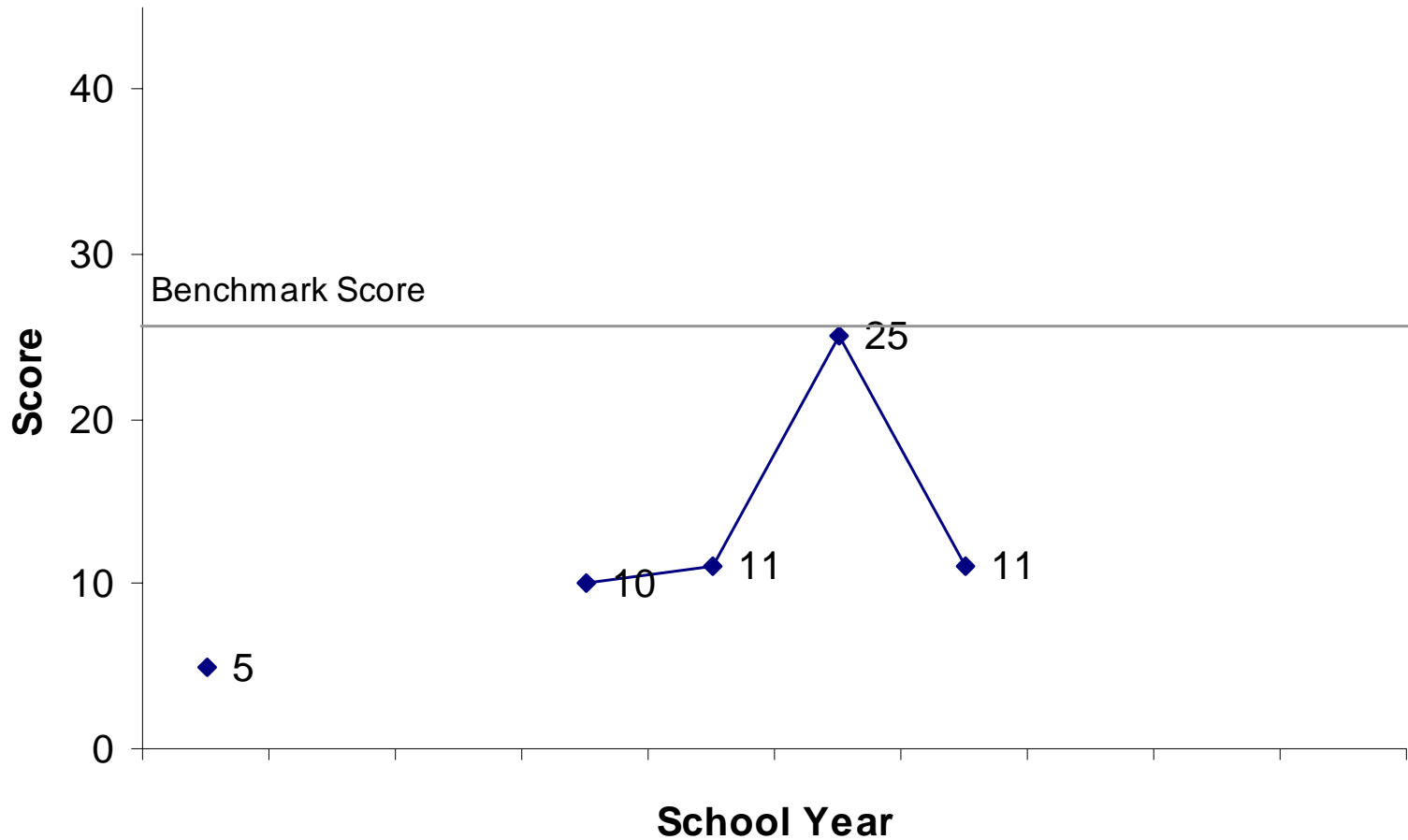


- Language and reading skills have progressed
- Stretches, blends, and attempts to read
- Initial sounds have improved, along with listening comprehension
- Attention skills have improved

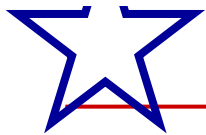
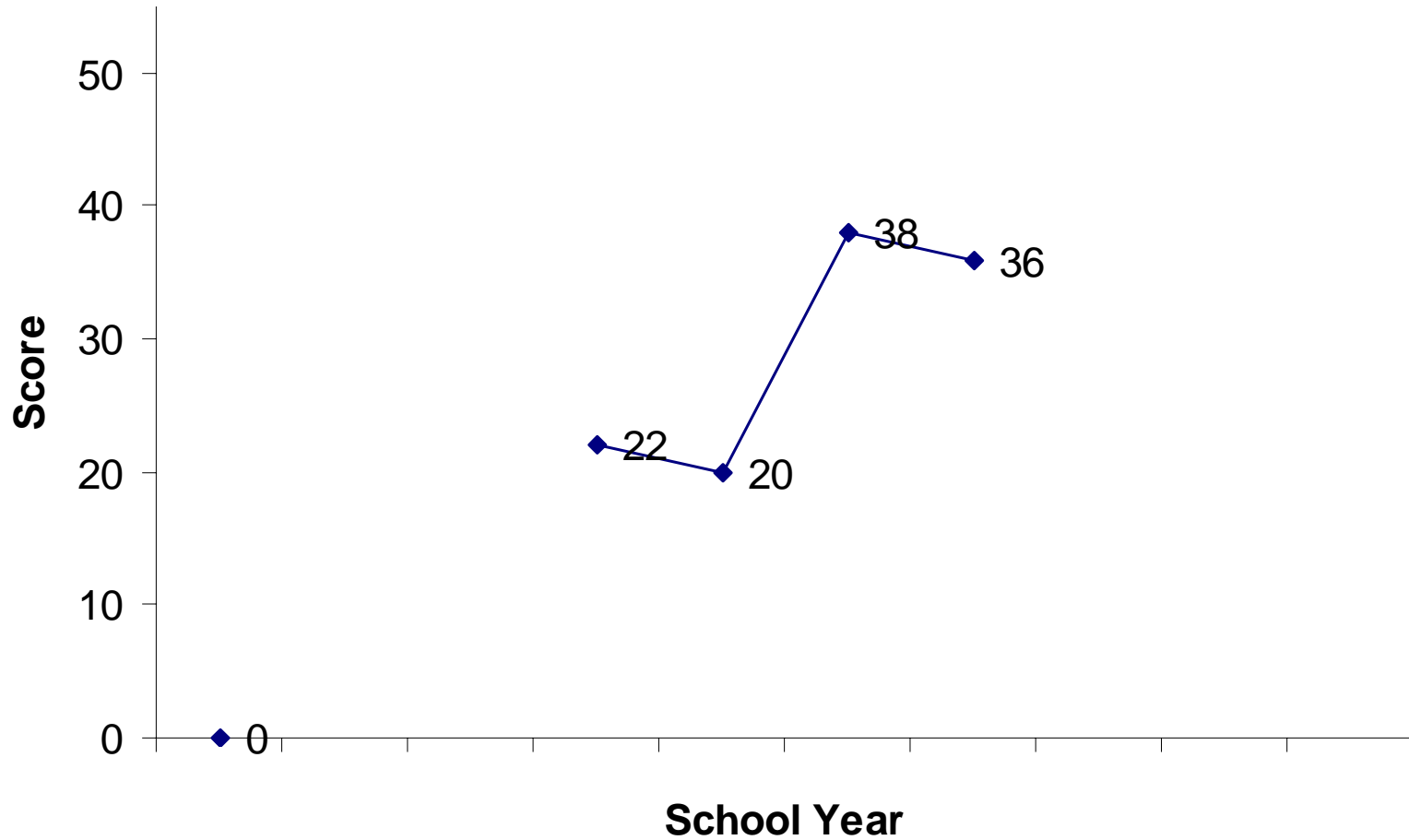
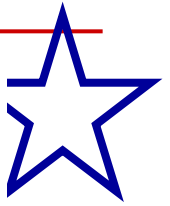




◆ Growth in Initial Sound Fluency for "George"

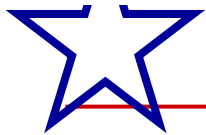
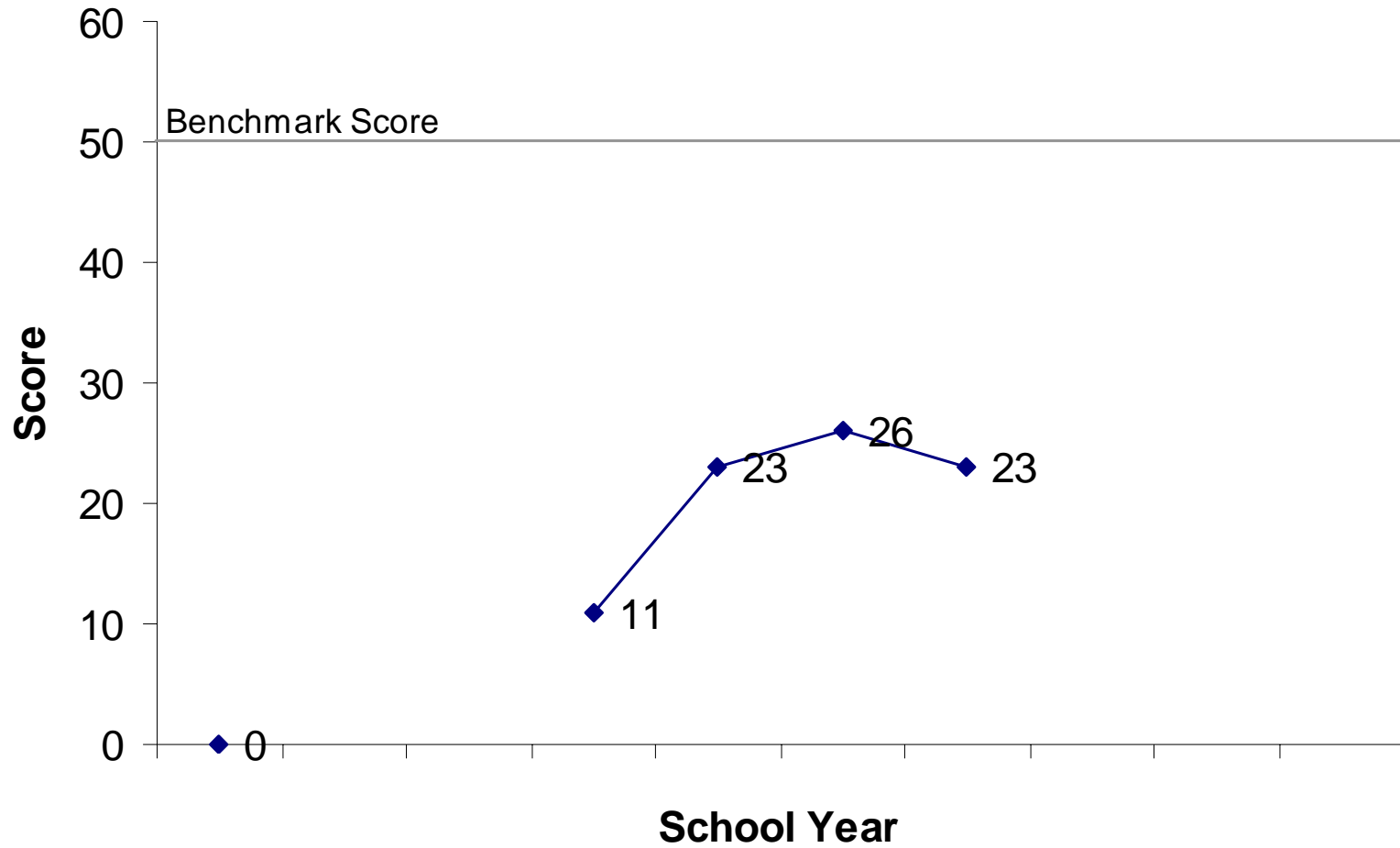


◆ Growth in Phonemic Segmentation Fluency for "George"



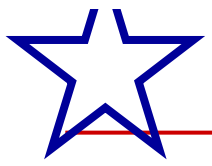
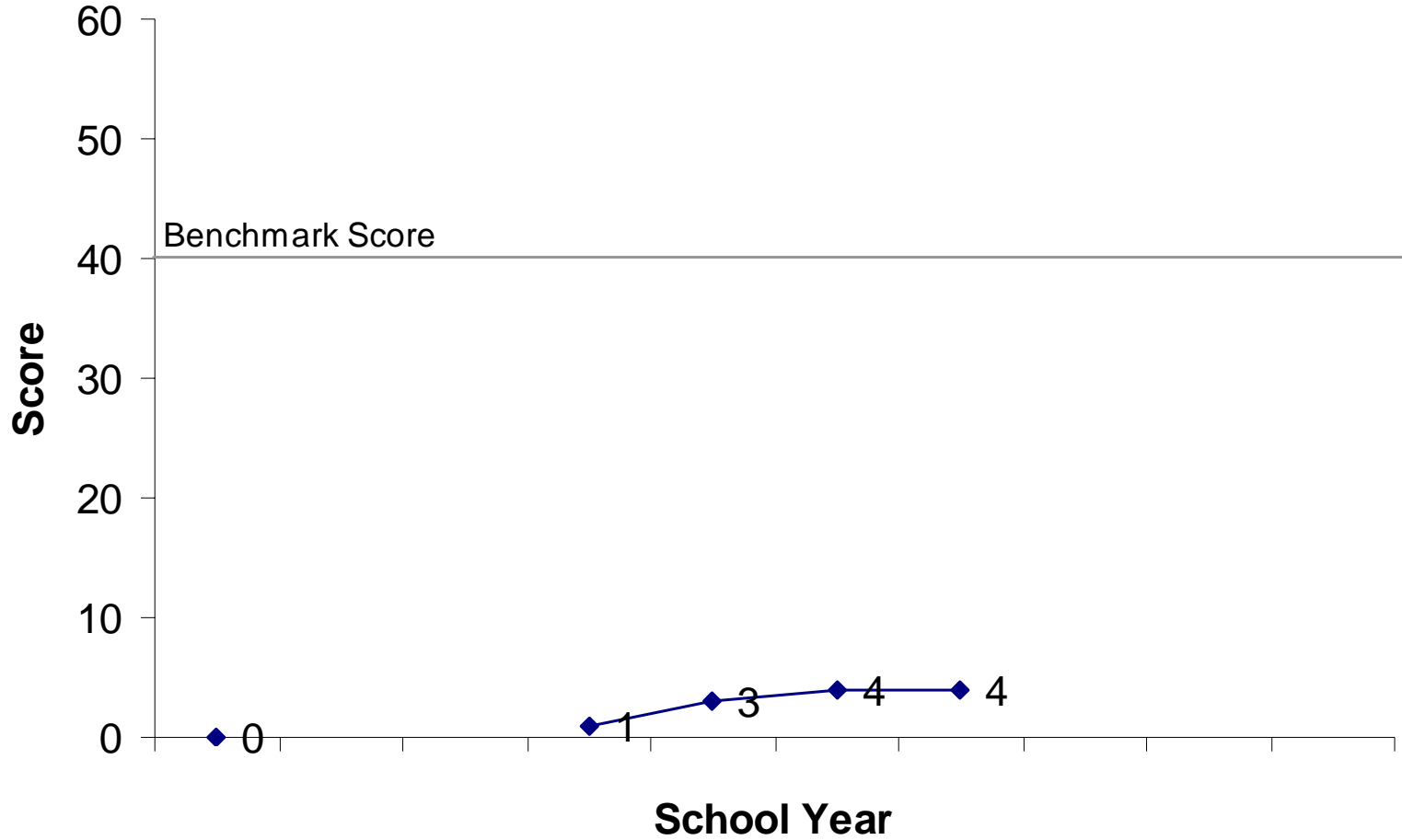


—◆— Growth in Nonsense Word Fluency for "George"

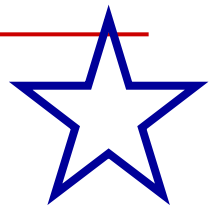




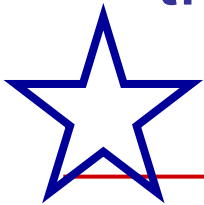
Growth in Oral Reading Fluency for "George"



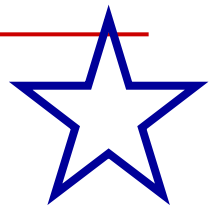
“Kory”



- ❑ Grade: 2
- ❑ Placement: General Education with Resource Support
- ❑ IQ: 68
- ❑ Diagnosis: MR
- ❑ Level: Level One (finishing Book B – 2/3 of the way through 1st grade level)



Teacher Comments

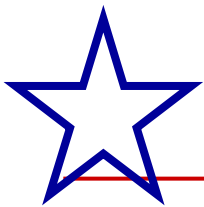


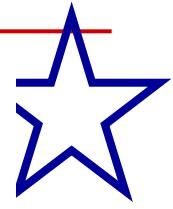
□ Intervention Teacher

- In a Level One test, he read the passage at 38 correct words per minute, which was slower than his normal pace
- Continues to struggle to keep his place when he reads and is often distracted, which slows down his scores
- Has not consistently mastered the long “e” vs. short “e” sound
- Sometimes switches “er” and “ar” sounds

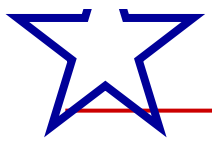
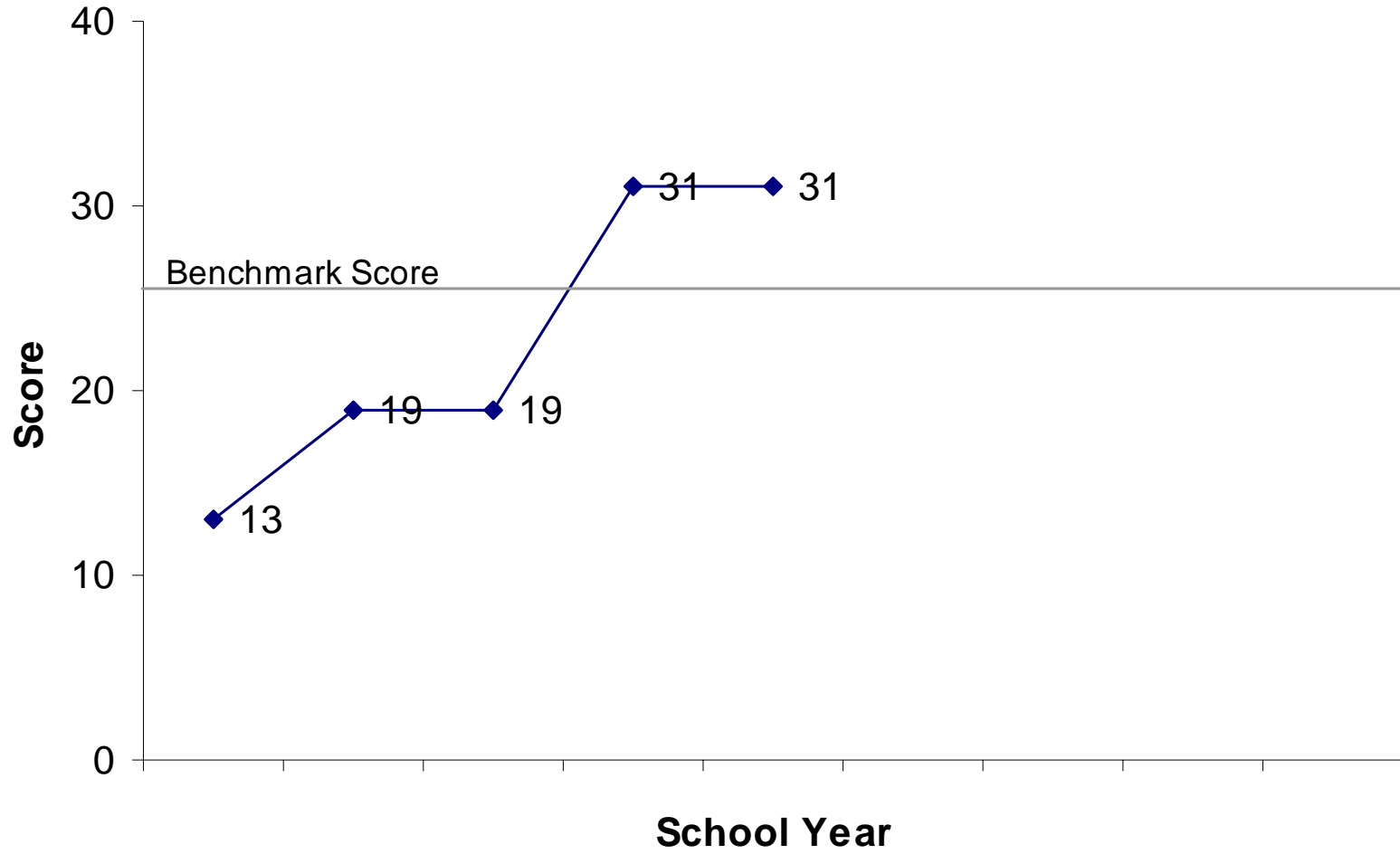
□ Classroom Teacher

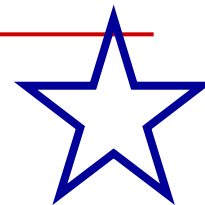
- She could hardly get him to do a thing at the beginning of the school year
- Now he is volunteering to answer questions, completing assignments, and acting like a “totally different student”



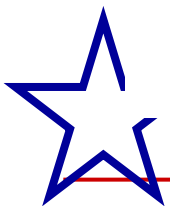
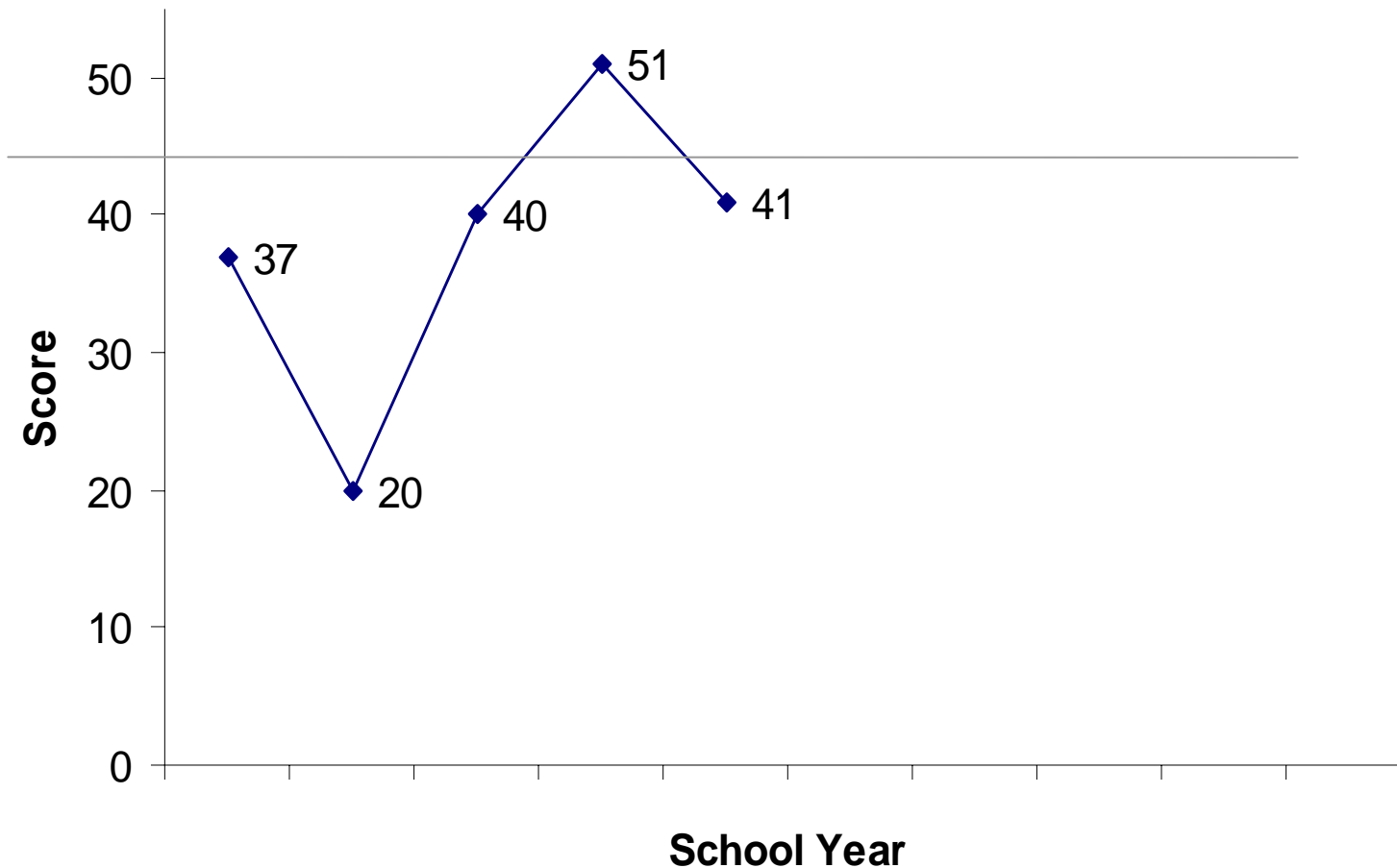


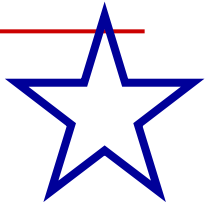
—◆— Growth in Initial Sound Fluency for "Kory"



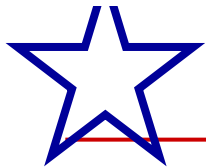
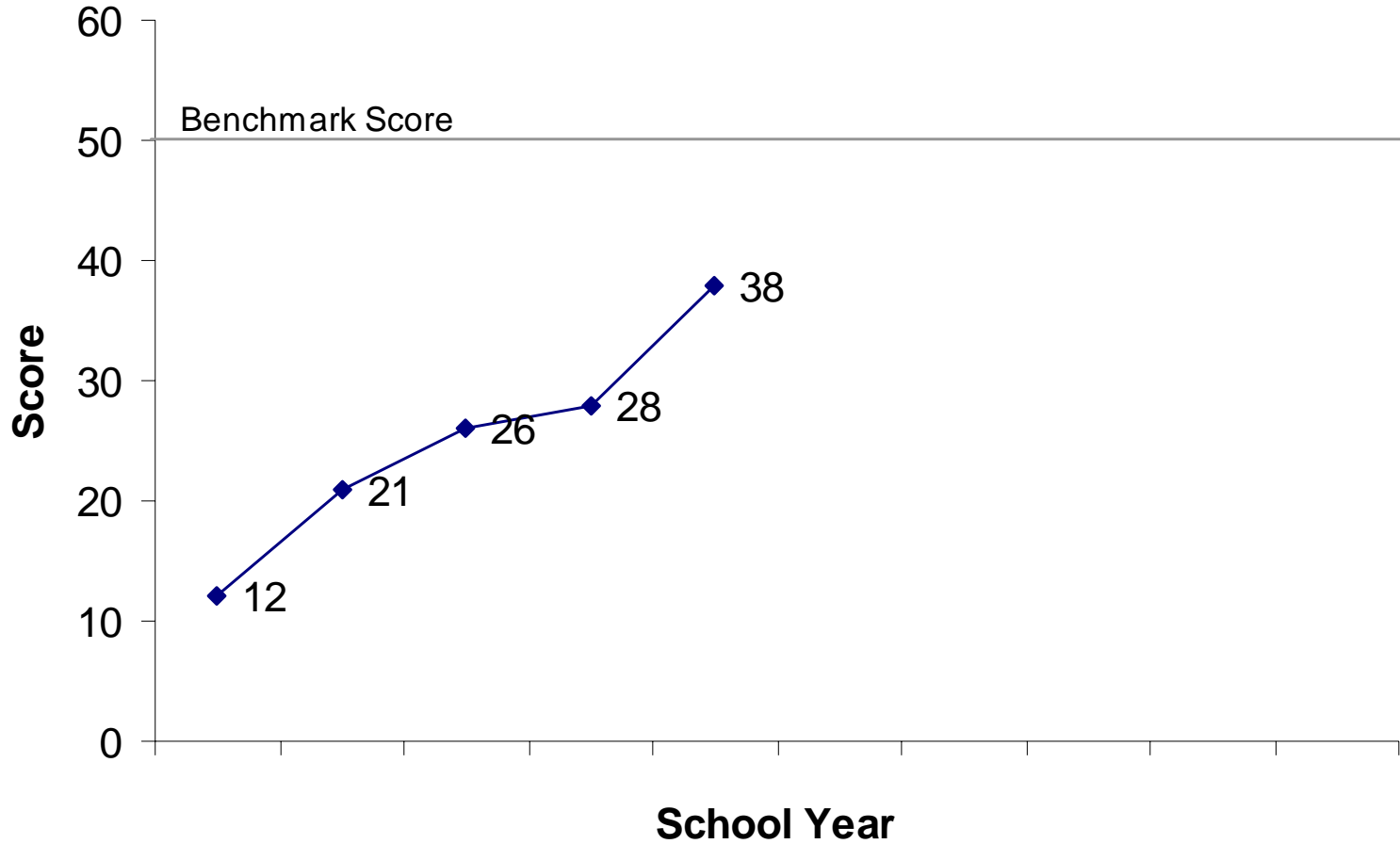


◆ Growth in Phonemic Segmentation Fluency for "Kory"



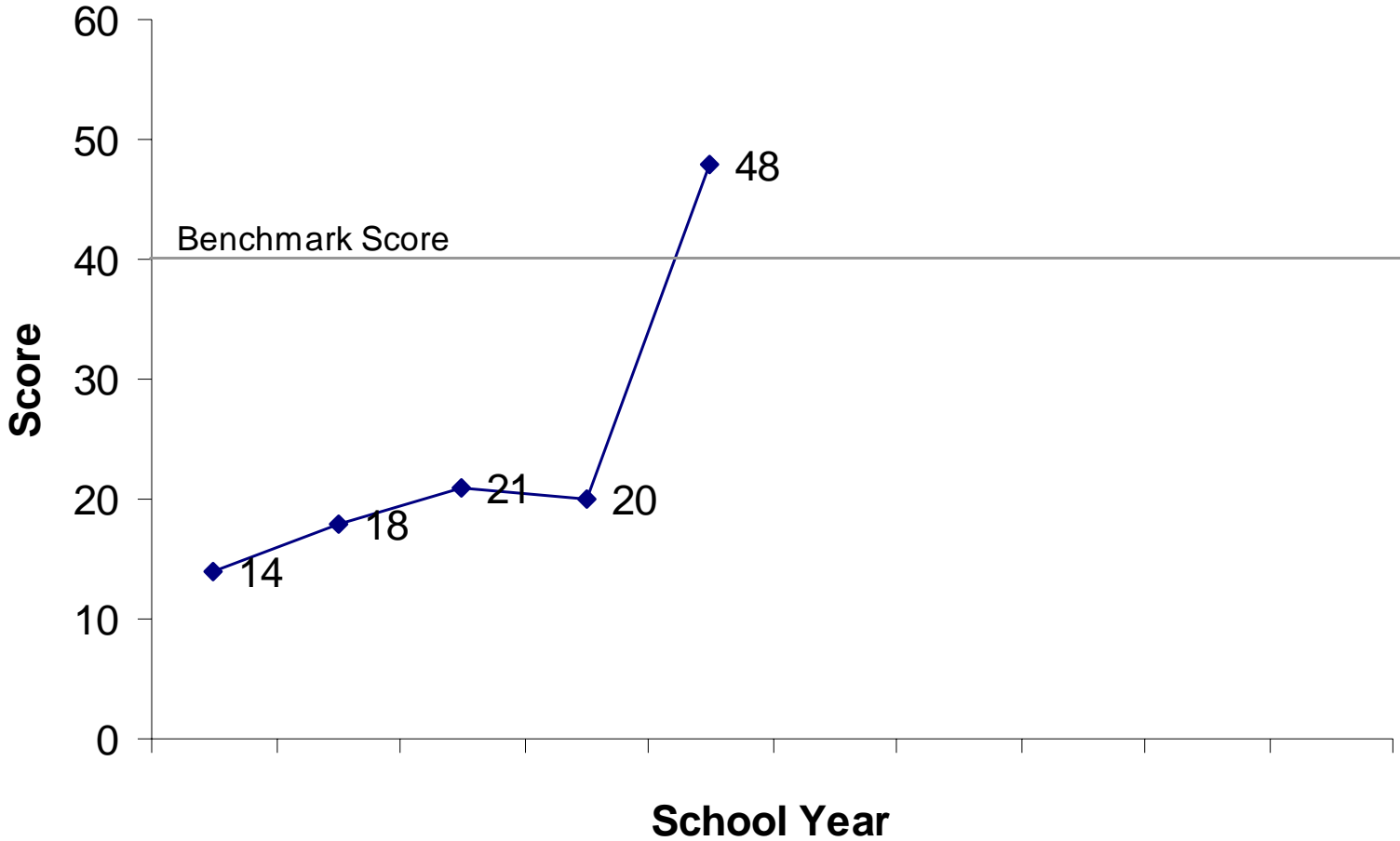


◆ Growth in Nonsense Word Fluency for "Kory"

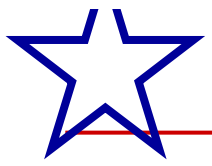




◆ Growth in Oral Reading Fluency for "Kory"



Note: Kory is in 2nd grade and this is the first grade benchmark.



To be continued...



Contact either:

- Dr. Francesca Jones
- fjones@smu.edu
- Dr. Jill Allor
- jallor@smu.edu

*Southern Methodist University
Institute for Reading Research*

