



Implementing Tier 2 and 3 Interventions: What Can Research Tell Us?

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Texas Center for Learning Disabilities

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Welcome!

- Texas Center for Learning Disabilities Webinar Series
 - #1: TCLD Website Tour
 - #2: SLD and RTI
 - #3: Implementing Tier 2 and 3 Interventions
 - More to come covering other TCLD research topics!

- Archived webinars are available on www.texasldcenter.org/video/



Texas Center for Learning Disabilities

- Located across three organizations
 - University of Houston
 - The University of Texas at Austin
 - The University of Texas Health and Science Center at Houston
- Project Investigators include:
 - Jack Fletcher*
 - David Francis
 - Carolyn Denton
 - Sharon Vaughn
 - Andrew Papanicolaou



TCLD Research Projects

- Project I (Classification)
 - Project II (Early Identification)
 - Project III (Remediation)
 - Project IV (Magnetic Source Imaging)
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- For more information, see www.texasldcenter.org



Implementing Tier 2 and 3 Interventions in Grades 1-3: Findings of the Texas Center for Learning Disabilities

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Texas Center for Learning Disabilities Project 2: Prevention of Reading Difficulties

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Tolar



TCLD Project 2 Objectives

- Compare student outcomes and RTI in 1st grade Tier 2 intervention on different schedules and different dosages
- Study variables related to student response to reading intervention of increasing intensity in Grades 1-2
- For inadequate responders, compare an individualized Grade 2 Tier 3 intervention to typical school practice



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Tiers 1 and 2 in First Grade





First Grade Study

- Compared outcomes for Tier 2 Reading intervention provided for 1 semester on 3 schedules
- 9 schools in 2 districts
- Identified instructional characteristics that impacted student outcomes



Time in Tier II Intervention: The What Works Clearinghouse

- 20-40 minute sessions
- 3-5 times per week
- “For a reasonable amount of time” before providing more intensive Tier 3 intervention

Gersten et al., 2009



Study Design

**First Grade Struggling Readers
All received the same intervention**

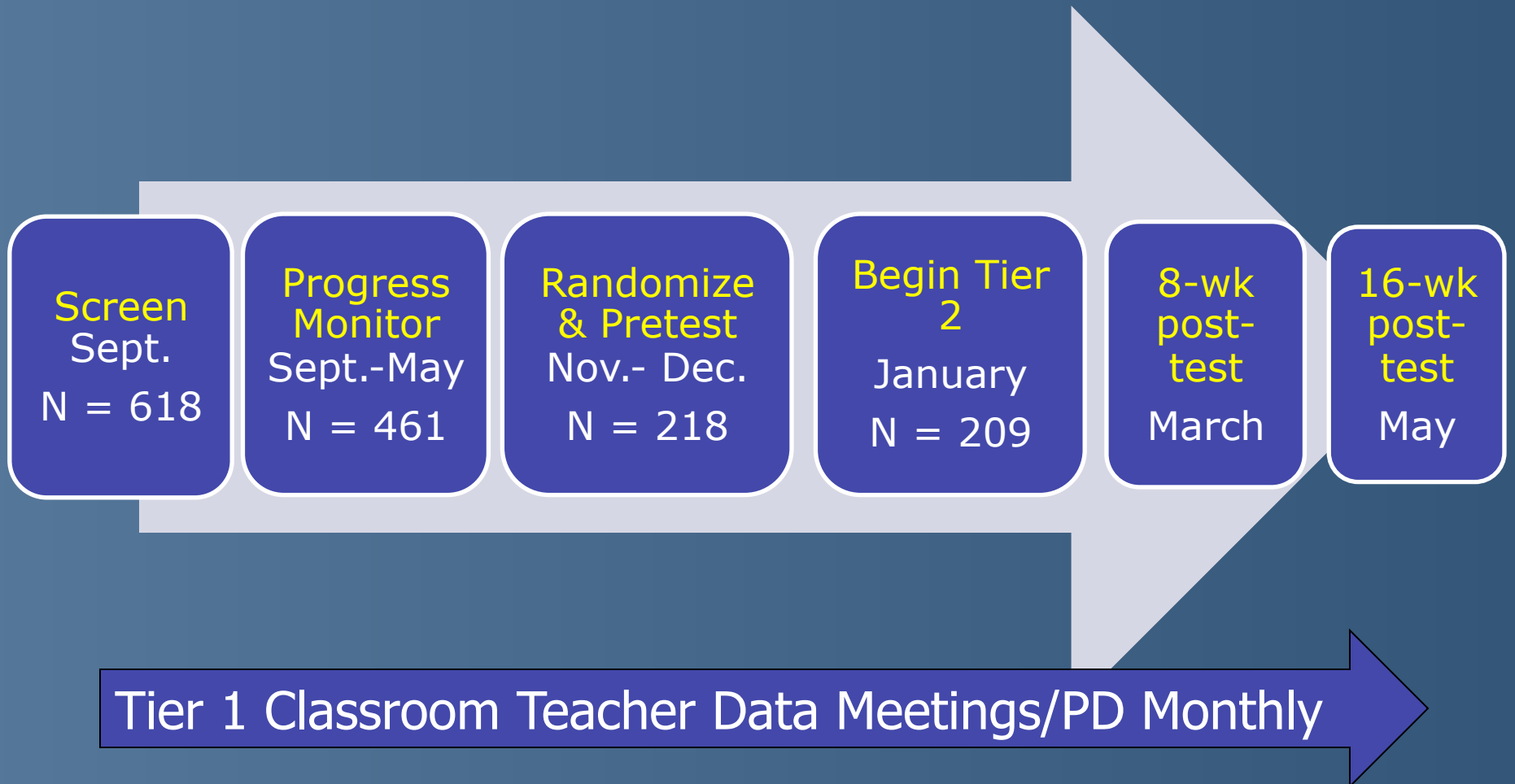
Concentrated
Group
8 weeks, 4 X
per week
32 sessions

Extended
Group
16 weeks, 4
X per week
64 sessions

Distributed
Group
16 weeks, 2
X per week
32 sessions



Timeline: First Grade Year





Demographics

Gender	Male	52%
	Female	48%
Ethnicity	African American	36%
	Hispanic	46%
	White	16%
	Other	2%
Economically Disadvantaged		68%



Tier 1 Intervention

- Grade 1, September through May
- Research-based classroom reading programs
- Universal screening and progress monitoring
- Researchers held monthly “data meetings” with classroom teachers
 - Examined student oral reading fluency data and provided brief professional development
- Provided in-class coaching to teachers who chose to participate



Tier 2 Intervention

- Same for all groups
- Beginning in January
- Modified *Read Well* program (Sprick, Howard, & Fidanque 1998)
- 30 minute lessons on the 3 schedules
- Groups of 2-4



Tutors

- 14 tutors, not certified teachers
- 1 master's degree, 10 bachelor's, 3 HS diploma
- 11 had prior tutoring experience; 3 had experience tutoring students with reading difficulties
- Ongoing PD and frequent coaching from PI and project site coordinators
- Most taught all in 3 conditions; 2 tutors taught in 2 conditions; 1 taught in only 1 condition



Read Well Program

- Explicit, systematic instruction in phonemic awareness, phonics, & word reading with many opportunities for practice
- Application in decodable text; teacher reads part of the text that is not decodable but contains richer vocabulary and concept development
- Each unit introduces one letter-sound or combination and new high-frequency sight words, with integrated practice of previously introduced material
- Four lessons are provided for each unit
- Unit mastery tests are provided



Adaptations of Read Well for This Study

- Tutors used unit tests as pretests and **could skip a unit** if the majority of students passed, adding instruction and practice in the specific items missed
- Mastery test could be re-administered after 1-3 days of instruction on a unit, and tutors **could move on** if the majority of students passed
- We added explicit vocabulary and comprehension instruction
- We developed semi-scripted lesson plans to support uncertified tutors



Results

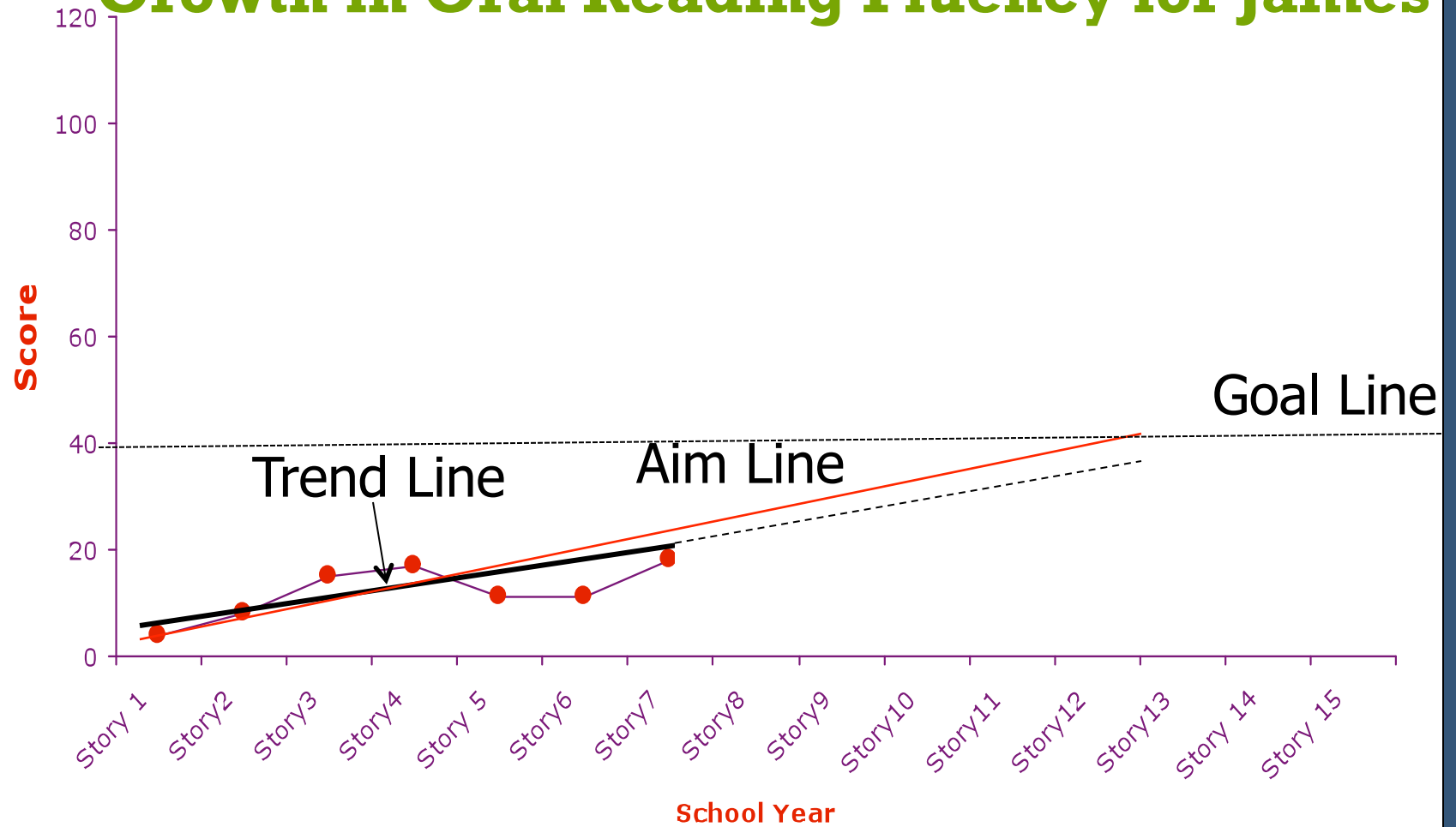
- No significant differences between the 3 groups on student outcomes or in the percentages of students with adequate intervention response
- Overall, effects were weaker than they had been for our previous studies

Intensity and RTI in Our Previous First Grade Studies (WJIII Basic Skills \geq 93 Criteria)

STUDY	SCHEDULE	OTHER VARIABLES	Adequate RTI Treatment Group	Adequate RTI Typical Practice Comparison
Mathes et al., 2005	40 min. 5 days/wk 30 weeks	Grps of 3-4 Cert. Teachers	93 %	84 % (Tier 1 only)
Mathes et al., 2005	40 min. 5 days/wk 30 weeks	Grps of 3-4 Cert. Teachers	99 %	84 % (Tier 1 only)
Denton et al., in press	40 min. 5 days/wk 24 weeks	Grps of 3-4 Cert. Teachers	91%	79%
TCLD Project 2 Study	30 min. 2-4 days/wk 8-16 weeks	Grps of 3 Para-prof.	74-81%	N/A



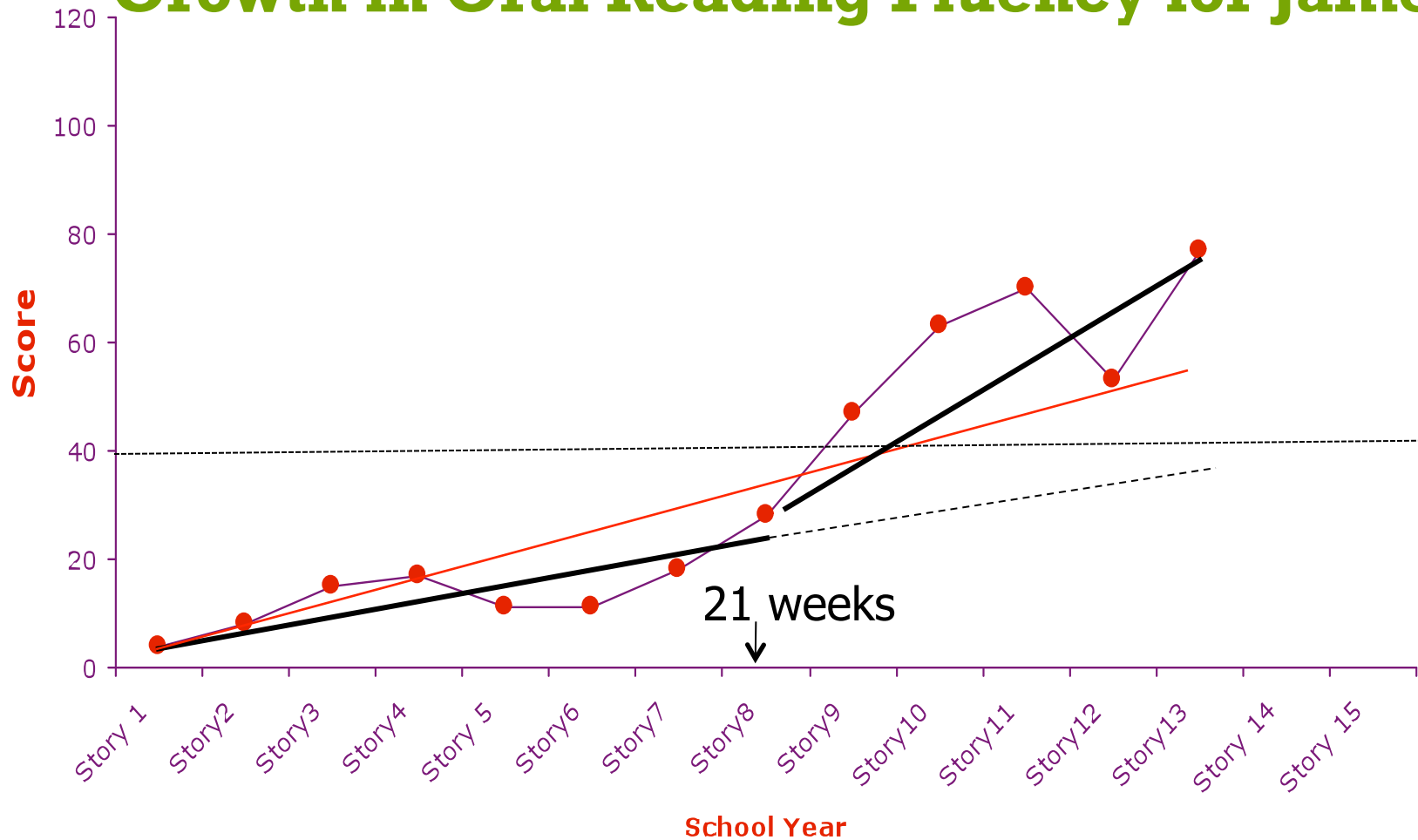
Growth in Oral Reading Fluency for James



Example from Mathes et al., 2005



Growth in Oral Reading Fluency for James



Example from Mathes et al., 2005



Effects of Instructional Characteristics in the First Grade Study

- What are the contributions of various instructional variables to student outcomes in Tier 2 intervention?
- Approach:
 - Combined 3 intervention groups; $N = 193$
 - Stepwise regression
 - Follow-up exploration



Variables Examined

- School (9)
- Tutor (14)
- Group size (2-4)
- Total Time in Intervention from attendance records



Variables Examined

- Fidelity and Quality of Implementation
 - Direct observation of each tutor 3 X over the year
 - Program adherence and quality of implementation, both coded on 3-point scales, 1 low-3 high
 - Scores did not vary much—most were high
- Program Coverage Rate: The average **portion** of a Read Well Unit covered **in each lesson**



Results

- The most consistent factor that contributed to outcomes was **Program Coverage Rate.**



Why Program Coverage Rate?

- Did Program Coverage rate differ systematically in the 3 Intervention Schedule Conditions?
 - Yes! $p < .001$
 - Distributed = Concentrated > Extended
- Did the Extended group just have "lower" students who progressed more slowly?

No: randomized design with no significant differences between the groups at pretest, 8 weeks, or 16 weeks



Why Program Coverage Rate?

- The same tutors covered a larger proportion of the program per lesson in the briefer intervention conditions (4 X 8 wks; 2 X 16 wks) than they did in the more extended condition (4 X 16 wks).
- ...a sense of **urgency!**



What is Instructional Intensity?

- Duration
- Group size
- Active involvement and time usage within lessons
- **A Sense of Urgency** (With individualized pacing across lessons)



Tier 3 in First* & Second Grade



* Several children were retained in first grade



Grade 1 At-Risk Readers

N = 192

All Received Tier 1 and
Tier 2

Inadequate Response

N = 107

**Final Analysis
Sample N = 72**

Adequate
Response

N = 85

Randomly Assigned

Tier 3

N = 47

Comparison

N = 25



Tier 3 Intervention

- 45 minutes daily for about 25 weeks
- Groups of 2-3 students
- Provided by certified teachers and experienced clinical tutors hired, trained, and coached by the researchers
- Outside of the regular classroom, in addition regular classroom reading instruction
- Adaptations of Responsive Reading Instruction and Read Naturally programs



Daily Lesson Components

- **Word Work:** Explicit instruction and practice in phonemic awareness, phonics, word reading, spelling
- **Fluency:** Repeated reading with teacher modeling and coaching; partner reading
- **Assessment:** Daily diagnostic assessment of one child on a rotating basis
- **Supported Reading:** Reading unfamiliar text with teacher support; integrated comprehension instruction
- **Supported Writing:** Writing a complete sentence to respond to a comprehension question



Individualizing the Intervention

- Each student was **individually assessed 2-3 times per week** using measures of key early reading skills (e.g., Letter-Sound Inventory)
- The teacher selected from a set of specific instructional activities **based on assessment data**
- Students read **text** that was **matched to their individual reading levels**
- Daily lessons were planned to **target individual students' needs**, on a rotating basis; each day a different student was given individual attention

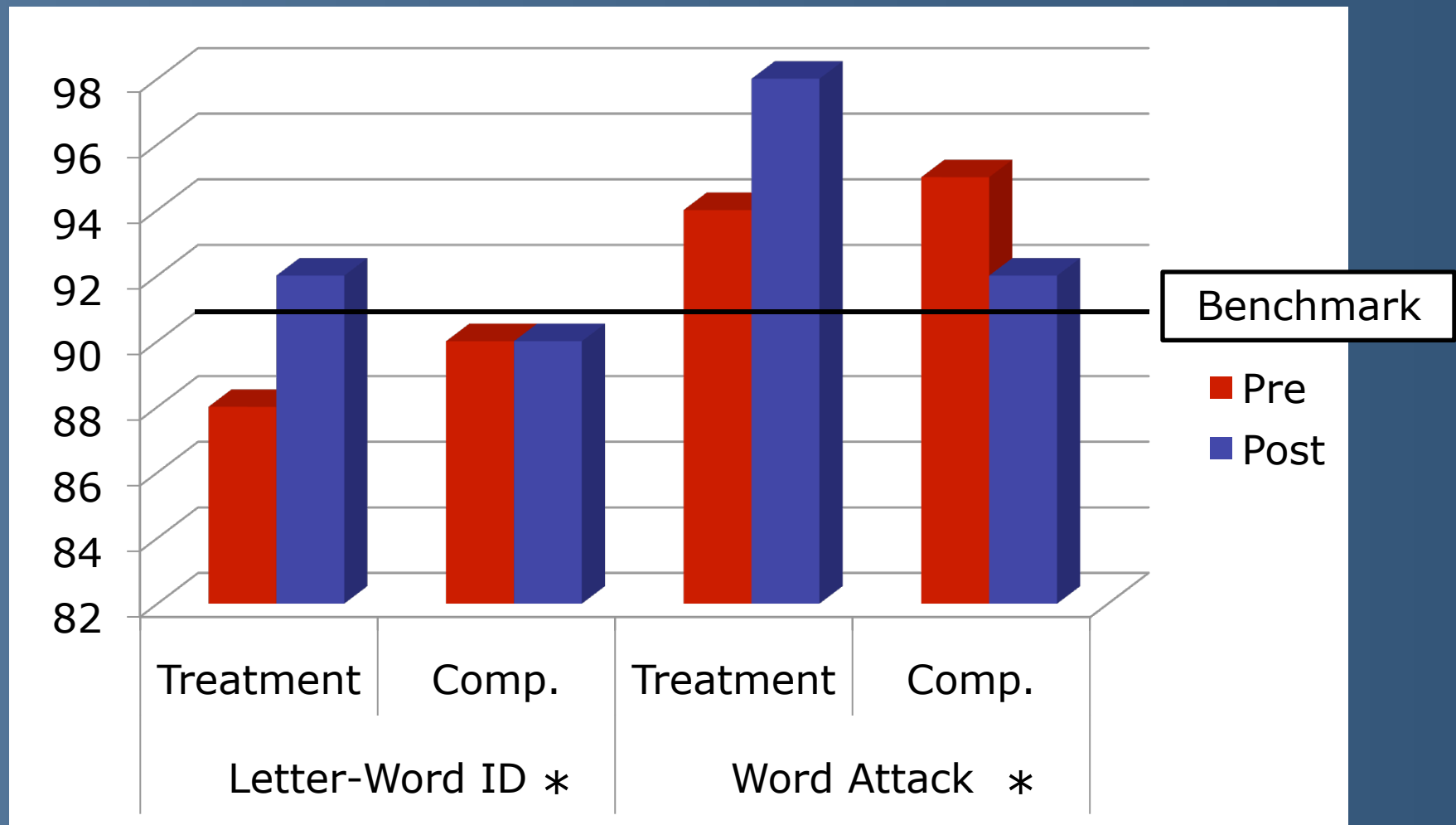


Fluency Program

- Integrated into the lesson for some students in January (depending on assessment results)
- Modified Read Naturally program
- Timed readings
- Repeated oral practice
- Audio tape modeling (recorded at 3 rates)
- Self monitoring (students graph their scores)
- Expository text at students' reading levels



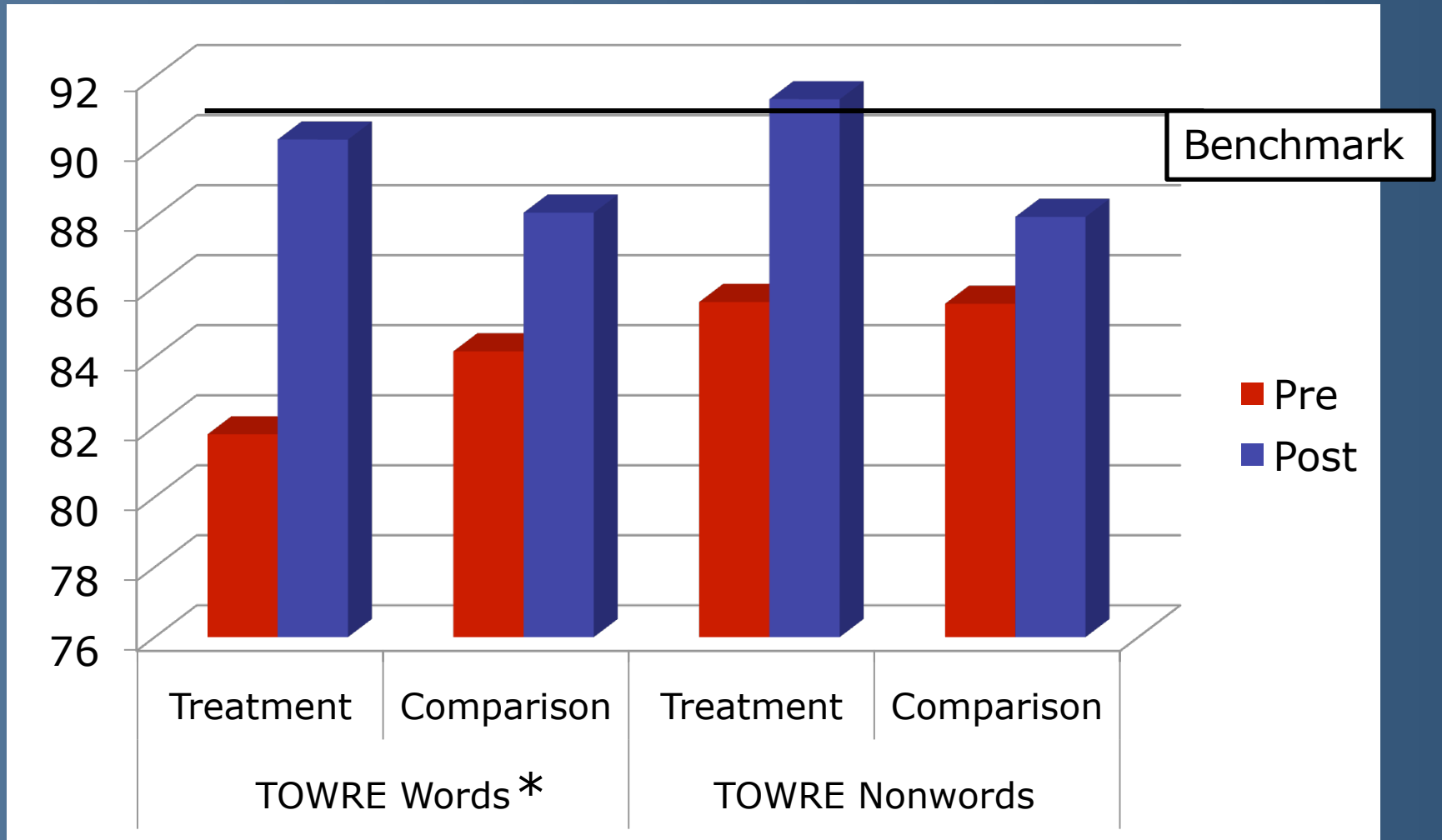
Woodcock-Johnson III Letter-Word Identification and Word Attack



* Significant difference between groups



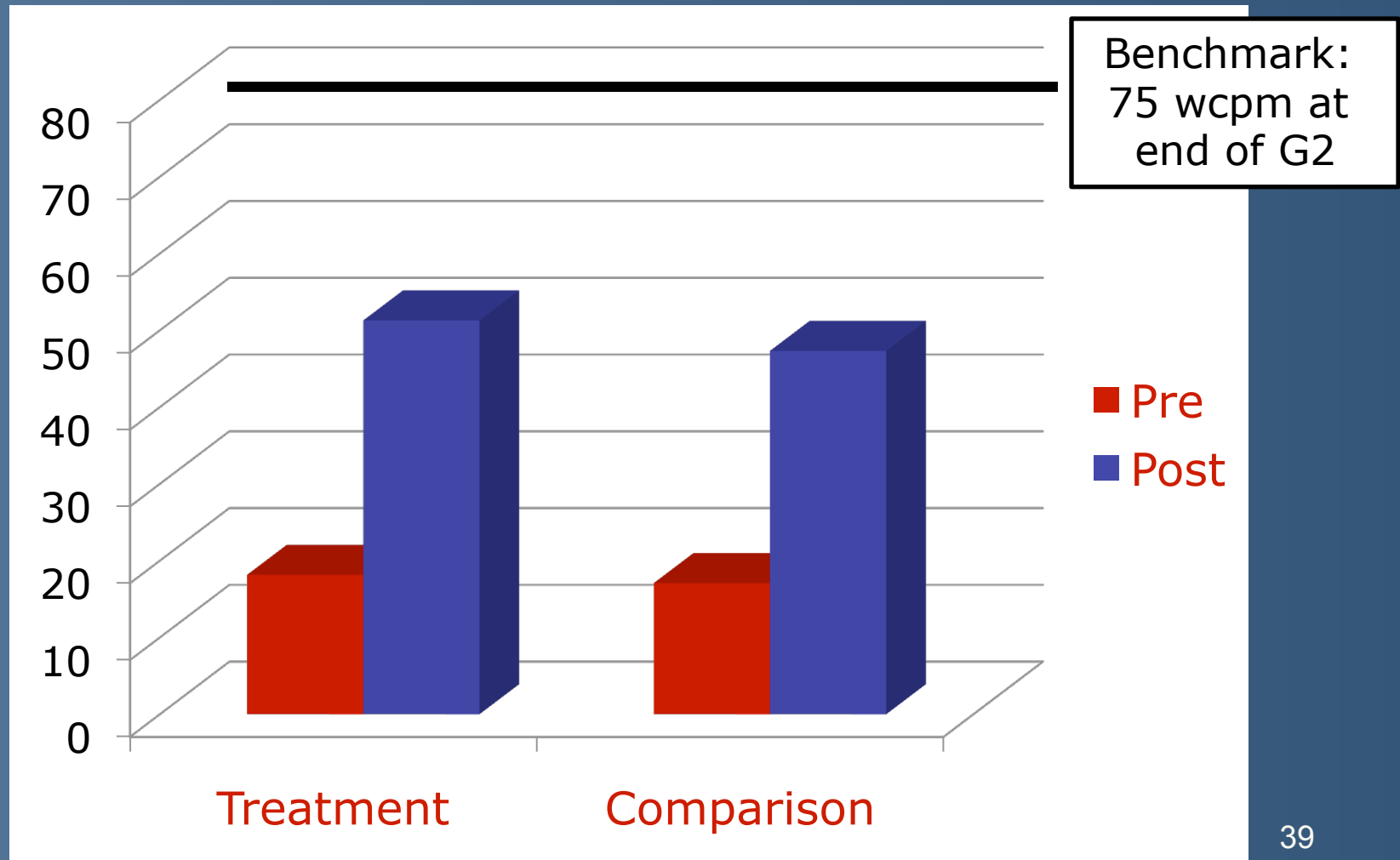
TOWRE Sight Word Fluency and Phonemic Decoding Efficiency



* Significant difference between groups

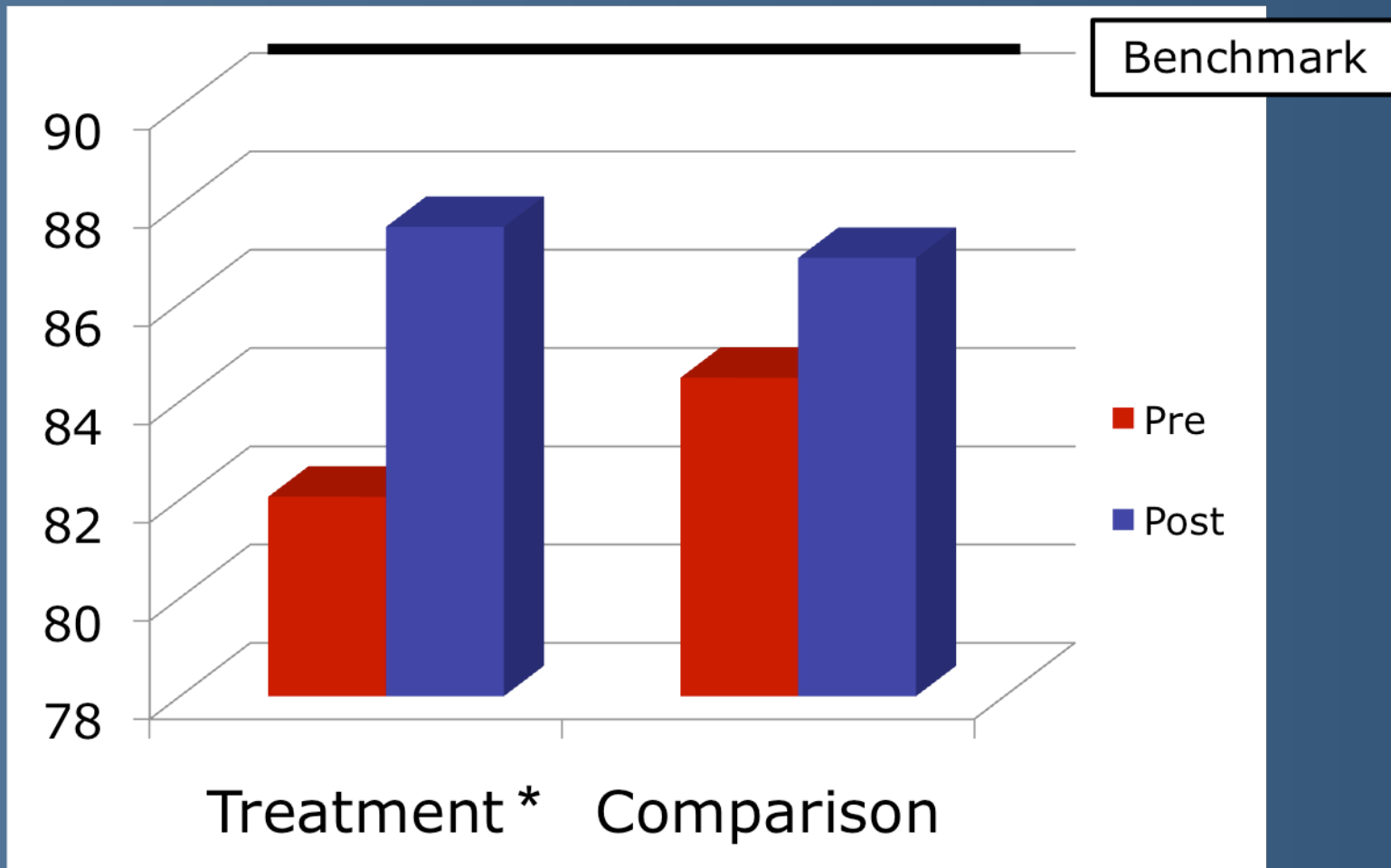


Passage Reading Fluency (Words Correct per Minute)





Woodcock-Johnson III Passage Comprehension

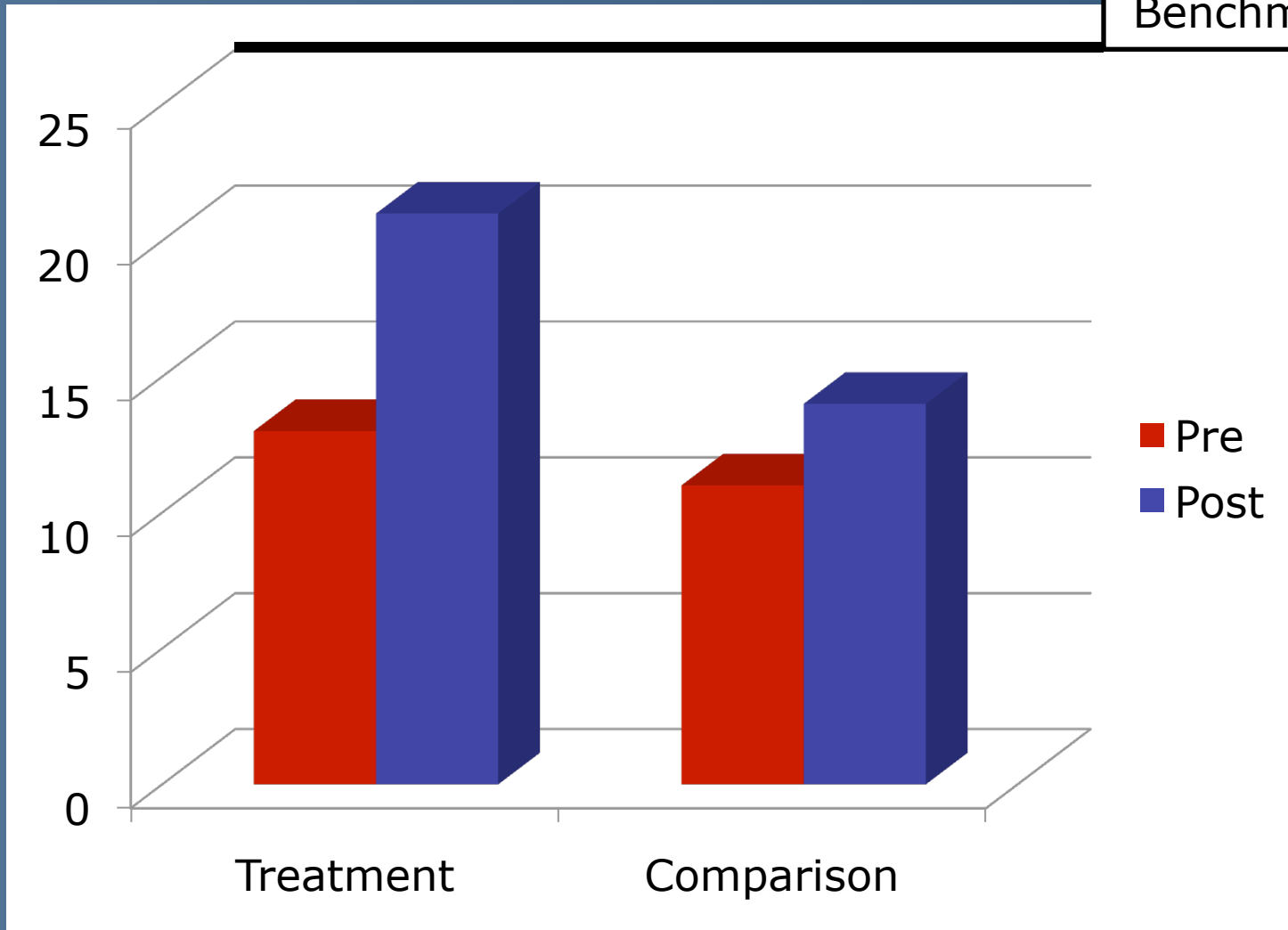


* Significant difference between groups



Gates-MacGinitie Comprehension Percentile Rank

Benchmark





Conclusions

- Tier 3 Intervention was more effective than typical practice in supporting growth in word reading, phonemic decoding, word reading fluency, and passage comprehension
- Many students remained impaired in fluency and comprehension



The numbers of children who still have reading difficulties after intervention is related to the *nature, quality, quantity* and *intensity* of instruction.

The Power of Instruction!





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Questions?



Thank you!

- Evaluation

[http://surveystation.austin.utexas.edu/
TakeSurvey.aspx?SurveyID=18LKnI70](http://surveystation.austin.utexas.edu/TakeSurvey.aspx?SurveyID=18LKnI70)

- Online Q&A for two weeks

[www.texasldcenter.org/qanda/
interventions.asp](http://www.texasldcenter.org/qanda/interventions.asp)