

# Instructional Influences on Growth of Early Reading: The Case for Individualization

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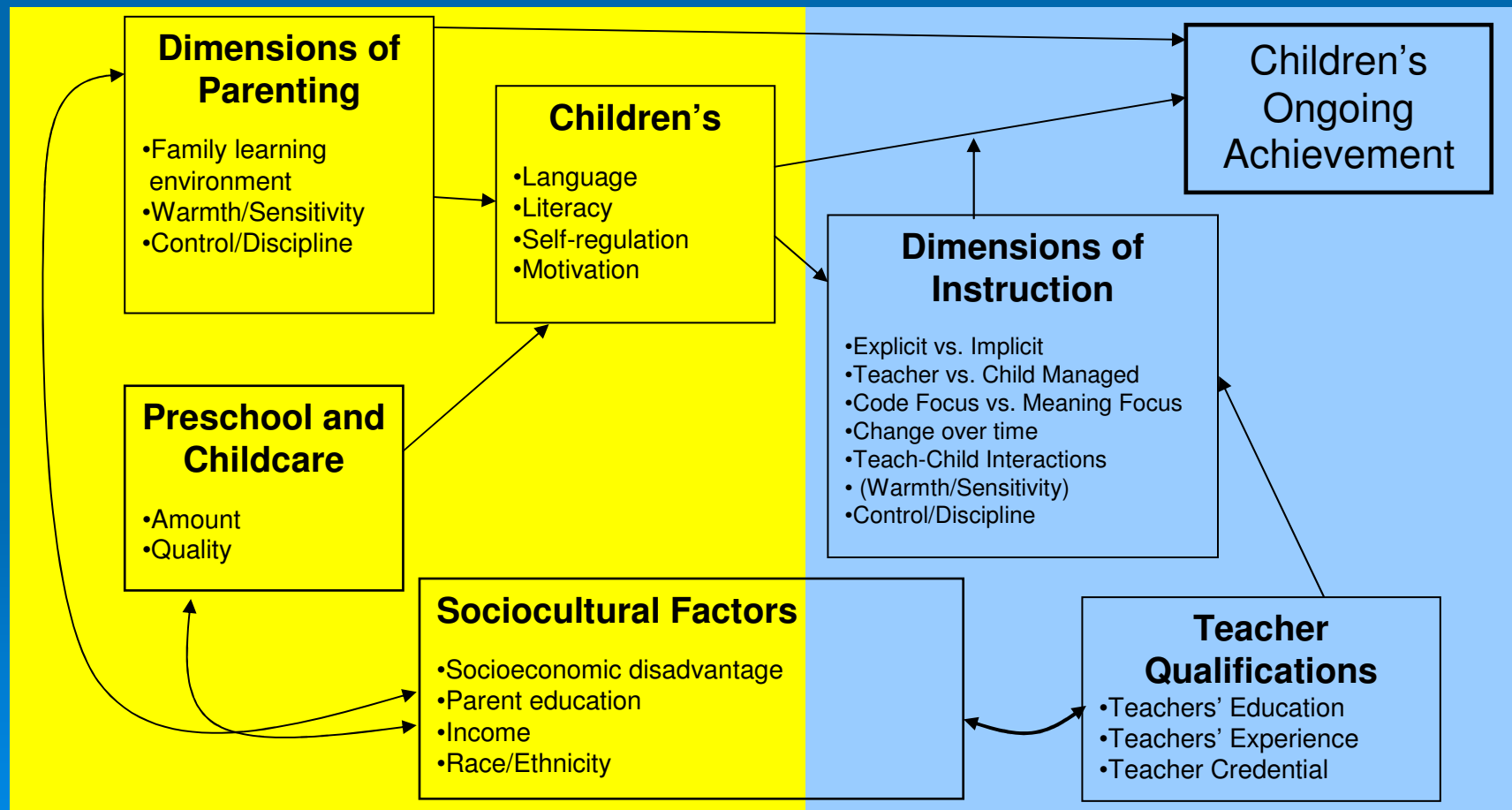
# Current Trends in Literacy Research

- Early individual differences
  - Multiple sources of influence
  - Sources interact
  - Variable early schooling experiences
- 

# Sources of Variability in the Transition to School

Before Children Get to School

Once Children Start School



# Once Children Start School

## ➤ Beyond the Reading Wars

- Morrison, Bachman, & Connor (2005)
- Rayner et al. (2001)


## ➤ Balanced Instruction

- Morrison et al. (2006)




## ➤ Child by Instruction Interactions

- Foorman et al. (1998) – Phonological Awareness
- Juel & Minden-Cupp (2000) – Reading skill group

# Dimensions of Instruction

- Teacher- vs. Child-Managed
  - Code- vs. Meaning-Focused
  - Explicit vs. Implicit
  - Change over the school year
- 
- A series of concentric circles in a lighter blue shade, resembling ripples in water, are positioned in the bottom right corner of the slide.

# Child Factors

- Letter Knowledge and Word Decoding
  - Comprehension
  - Vocabulary
  - Oral Language skills
  - Phonological Awareness
  - Self Regulation/Executive Functioning
- 
- 
- 

# Research with First Graders

## ➤ 107 First Grade Children

- 44% girls
- 62% were European American; 38% were African American
- IQ (Stanford-Binet)
  - Mean = 101 (15.0)

## ➤ 44 Teachers

- Schools located in mid-sized city

# Classroom Observations

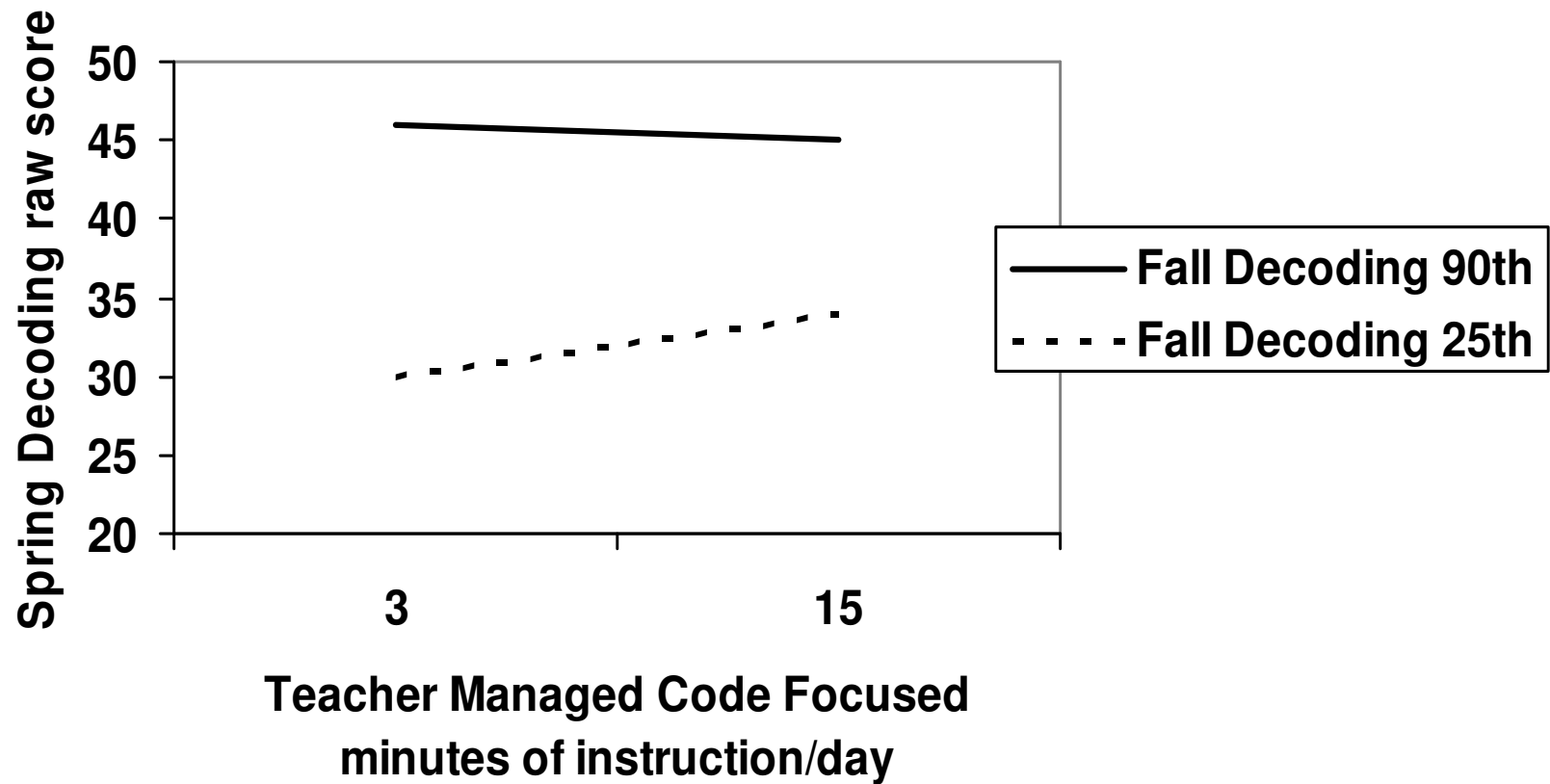
- Three day-long observations
  - Fall, Winter, and Spring
- Written narratives recording minute by minute teacher and child actions by type of activity
  - 18 specific language arts types of activities identified and number of minutes recorded
- Activities grouped by dimensions of instruction
  - Variables represent number of minutes per day
- School district reported that they utilized Whole Language reading instruction through the early grades (data collected during mid to late 1990s)



# First Grade Dimensions of Instruction

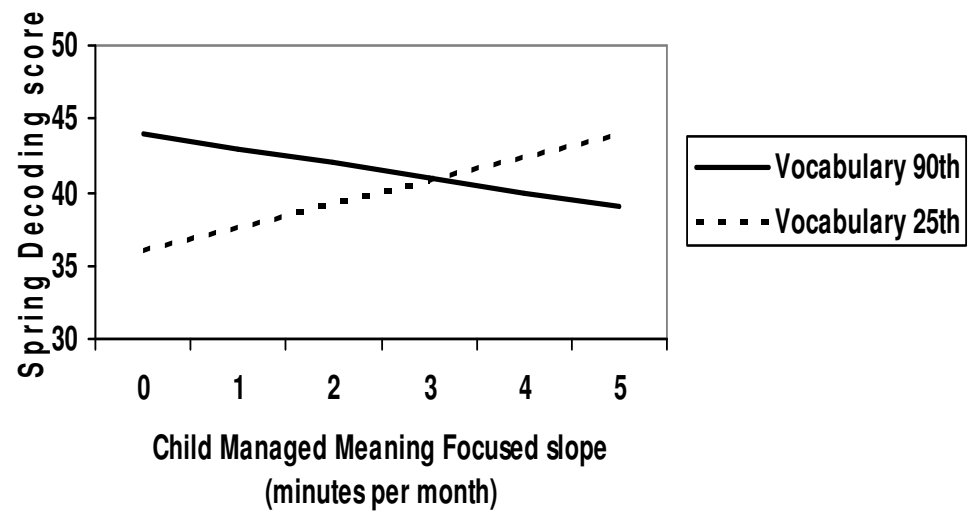
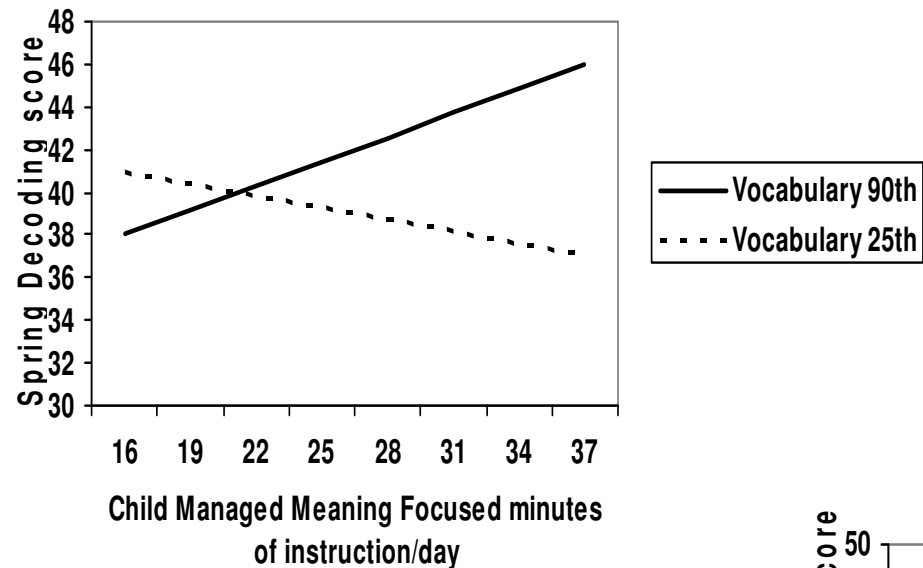
	Teacher Managed	Child Managed
Code Focused	<ul style="list-style-type: none"><li>•Alphabet activities</li><li>•Letter Sight-Sound</li><li>•Initial Consonant Stripping</li><li>•Word Segmentation</li></ul>	<ul style="list-style-type: none"><li>•Spelling</li></ul>
Meaning Focused	<ul style="list-style-type: none"><li>•Vocabulary</li><li>•Teacher Read Aloud</li><li>•Student Read Aloud</li><li>•Choral Group Writing</li><li>•Writing Instruction</li><li>•Model Writing</li><li>•Listening Comprehension</li><li>•Discussion</li></ul>	<ul style="list-style-type: none"><li>•Student Read Aloud</li><li>•Individual Sustained Silent Reading</li><li>•Reading Comprehension Worksheets</li><li>•Student Individual Writing</li></ul>

# First Grade Fall Decoding by Teacher Managed Code Focused Amount



Percentiles from Norm Tables    Grade Equivalent 1.9 = Raw Score 34.5


# Fall Vocabulary by Child Managed Meaning Focused Amount and Slope



# Replications

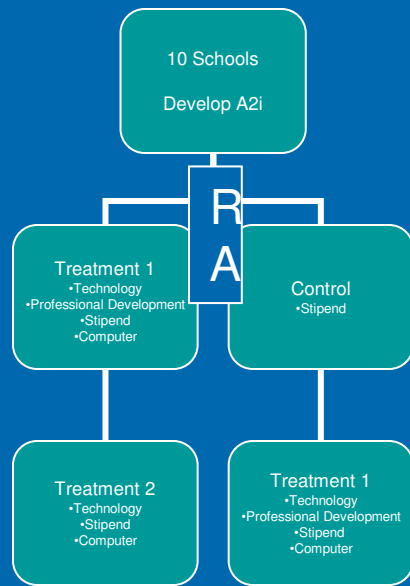
- Third Grade Reading Comprehension
- Preschool Literacy Development

# Implications

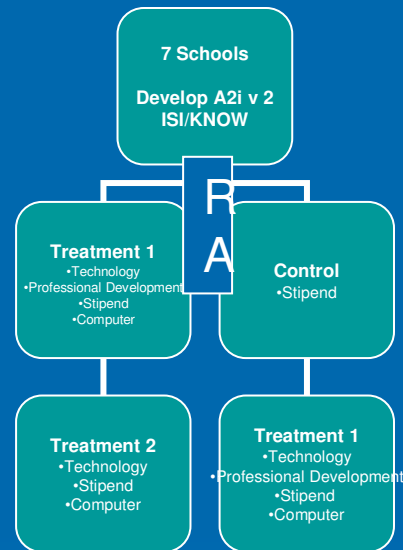
- Reconceptualizing “high quality” and “balanced instruction”
  - Importance of early and ongoing assessment
  - Individualizing instruction?
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# Intervention Study

- “Child-Instruction Interactions in Early Reading: Examining Causal Effects of Individualized Instruction”
- Carol McDonald Connor, PI
- Funding from IES and NICHD



2004-2005



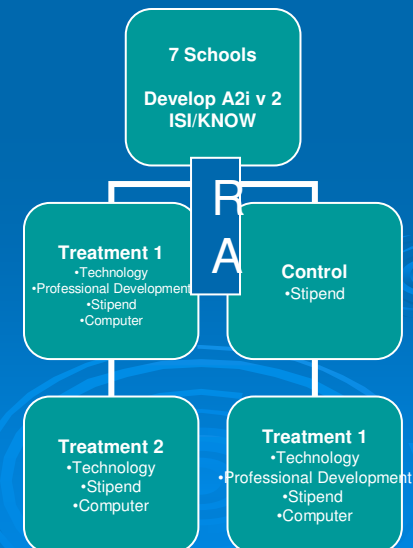
2005-2006

2006-2007

2007-2008

2008-2009

2009-2010



# Participants 2005-2006

- 10 Schools – FARL 24-96%
- 47 Teachers – no differences between groups for years of experience and years of education
- 616 Children
  - 59% eligible for free or reduced priced lunch
  - 54% African American, 37% White
  - A subset of 411 (12 per classroom) were randomly selected for the classroom observation protocol



# Procedures

- Student Assessments
  - 3 times during the school year – fall, winter, and spring
  - Woodcock Johnson-III
- Classroom observation
  - Video-taped
  - 3 times per year – fall, winter, and spring
- Compare results of treatment and control groups
  - Instruction
  - Student outcomes

# The Intervention

## ➤ Instruction

- Dedicated and uninterrupted language arts block of at least 90 minutes
- Conceptualize instruction multi-dimensionally
  - TM Instruction in small groups or individually using homogenous skill based groups
  - Attending to the assessed skill levels of the group
- Provide A2i algorithm recommended amounts\*\*\*

## ➤ Professional Development

- 2 workshops and bi-weekly meetings
- Classroom-based support bi-weekly

## ➤ Laptop computer

# A2i Software

- Uses the algorithms from our research backwards
  - We know how well we want students reading in the spring
    - Grade level or 1 school-year growth
  - We assess children's vocabulary and letter-word reading skills in the fall
- A2i Computes amounts of
  - TM-CF and CM-MF
- Recommends homogeneous ability groups
- Embedded in planning software
- Feedback on students' assessed progress

## Classroom View

**School:** Ramapo HS  
**Classroom:** Mr. Demo's Classroom  
**Status:** Active

	Teacher Managed		Child Managed		Group	
	Meaning-Focused	Code-Focused	Meaning-Focused	Code-Focused	Recommended	Assigned
<b>Group 1</b>						
<a href="#">Acre , Omari</a>	<div><div></div></div> 19	<div><div></div></div> 41	<div><div></div></div> 24	<div><div></div></div> 15	1	1 ▼
<a href="#">Addison , Tadarius</a>	<div><div></div></div> 19	<div><div></div></div> 41	<div><div></div></div> 20	<div><div></div></div> 15	1	1 ▼
<a href="#">Bailey , Essence</a>	<div><div></div></div> 19	<div><div></div></div> 37	<div><div></div></div> 20	<div><div></div></div> 15	1	1 ▼
<b>Recommended Minutes</b>	<div><div></div></div> 20	<div><div></div></div> 40	<div><div></div></div> 20	<div><div></div></div> 15		
<b>Group 2</b>						
<a href="#">Adams , Kylin</a>	<div><div></div></div> 19	<div><div></div></div> 19	<div><div></div></div> 20	<div><div></div></div> 15	1	2 ▼
<a href="#">Adderley , Lothario</a>	<div><div></div></div> 19	<div><div></div></div> 11	<div><div></div></div> 24	<div><div></div></div> 15	2	2 ▼
<a href="#">Agosto , Nathan</a>	<div><div></div></div> 19	<div><div></div></div> 14	<div><div></div></div> 26	<div><div></div></div> 15	2	2 ▼
<a href="#">Corley , Kadarius</a>	<div><div></div></div> 19	<div><div></div></div> 19	<div><div></div></div> 30	<div><div></div></div> 15	1	2 ▼
<a href="#">Pitt , Brad</a>	<div><div></div></div> 19	<div><div></div></div> 11	<div><div></div></div> 29	<div><div></div></div> 15	2	2 ▼
<b>Recommended Minutes</b>	<div><div></div></div> 20	<div><div></div></div> 15	<div><div></div></div> 25	<div><div></div></div> 15		
<b>Group 3</b>						
<a href="#">Ahn , Jusun</a>	<div><div></div></div> 19	<div><div></div></div> 9	<div><div></div></div> 33	<div><div></div></div> 15	2	3 ▼
<a href="#">Child , Test</a>	<div><div></div></div> 19	<div><div></div></div> 10	<div><div></div></div> 32	<div><div></div></div> 15	3	3 ▼
<a href="#">Johnson , Damion</a>	<div><div></div></div> 19	<div><div></div></div> 9	<div><div></div></div> 32	<div><div></div></div> 15	3	3 ▼
<b>Recommended Minutes</b>	<div><div></div></div> 20	<div><div></div></div> 10	<div><div></div></div> 30	<div><div></div></div> 15		
					<a href="#">Update</a>	
					<a href="#">Reset to Recommended Groupings</a>	

[Classroom View](#)**Literacy Minutes Manager**[Group Activity Planner](#)[Classroom Setup](#)[Core Curriculum Index](#)[Discussions](#)[KNOW](#)[Admin](#)

M

T

W

TH

F

WK

## Literacy Minutes Manager (Monday)

**School:** Ramapo HS**Classroom:** Mr. Demo's Classroom**Status:** Active

### Group Breakdowns

#### Teacher Managed

#### Child Managed

#### Summary

	Meaning-Focused	Code-Focused	Meaning-Focused	Code-Focused	Assigned/Recommended
Group 1	0/20	35/40	20/20 +	0/15	55/95
Group 2	0/20	15/15 +	20/25	0/15	35/75
Group 3	0/20	10/10 +	20/30	0/15	30/75
Total Assigned/Rec.	0/60	60/65	60/75	0/45	120/245

### Timelines

8:00 9:00 10:00 11:00 12:00 1:00 2:00 3:00

Demo, Al									Child-Managed Assigned/Rec.	Teacher-Managed Assigned/Available
Group 1									20/35	
Group 2									20/40	
Group 3									20/45	

Total Assigned/Recommended

Total Assigned/Available  
Total Available Minutes/Recommended

60/120

 60/240  
 240/125 +

**Activities Planned For: Monday, October 10, 2005**

<u>Classroom</u>	<u>School</u>	<u># of Groups</u>
Mr. Demo's Classroom	Ramapo HS	3

**Start Time:** 10:00 am

<b>Group</b>	<b>Instr.</b>					<b>Lesson</b>			
	<b>Type</b>	<b>Source</b>		<b>Activity</b>	<b>Unit</b>	<b>/Week</b>	<b>Page #</b>	<b>Dur.</b>	<b>Teacher</b>
1	TM-CF	Open Court	Level 1	About Words and Sentences	3	2	T41	3	Al Demo
1	TM-CF	Open Court	Level 1	Phonics Developing Oral Language	3	2	T42	3	Al Demo
1	TM-CF	Open Court	Level 1	Introduce /f/	3	2	T39	10	Al Demo
1	TM-CF	Open Court	Level 1	Initial /f/	3	2	T39	2	Al Demo
1	TM-CF	Open Court	Level 1	Final /f/	3	2	T39	2	Al Demo
1	TM-CF	Open Court	Level 1	Blending	3	2	T40	3	Al Demo
1	TM-CF	Open Court	Level 1	Find a Word Game	3	2	T38	3	Al Demo
3	CM-MF	Open Court	Level 1	Concept/Question Board Lesson 2	3	2	Station	5	

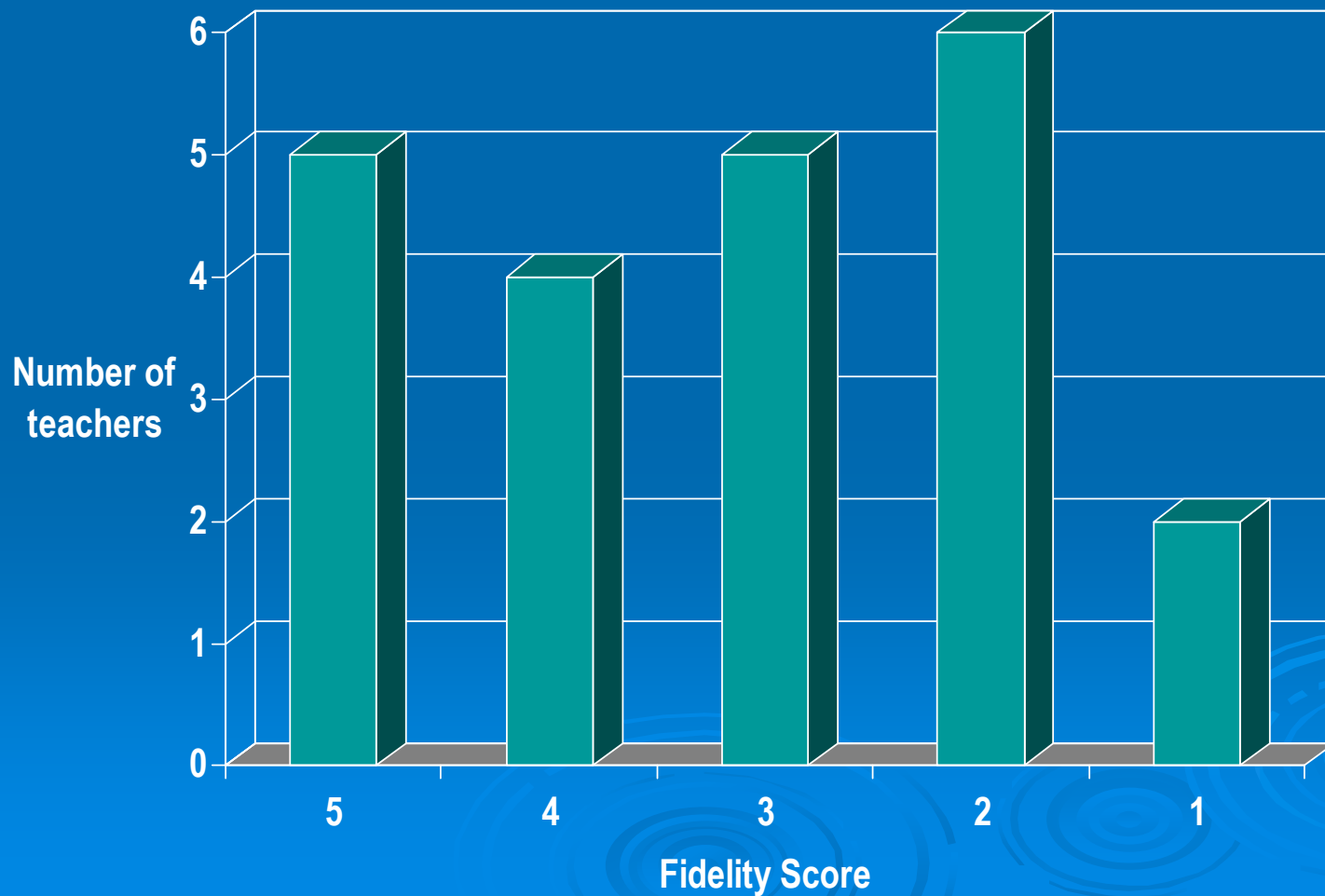
**Start Time:** 11:00 am

	<u>Instr.</u>					<u>Lesson</u>				
<u>Group</u>	<u>Type</u>	<u>Source</u>		<u>Activity</u>	<u>Unit</u>	<u>/Week</u>	<u>Page #</u>	<u>Dur.</u>	<u>Teacher</u>	
3	TM-CF	Open Court	Level 1	Phonics About Words and Sentences	3	1	T25	3	Al Demo	
3	TM-CF	Open Court	Level 1	Phonics Developing Oral Language	3	1	T26	3	Al Demo	
3	TM-CF	Open Court	Level 1	Blending	3	1	T24	3	Al Demo	

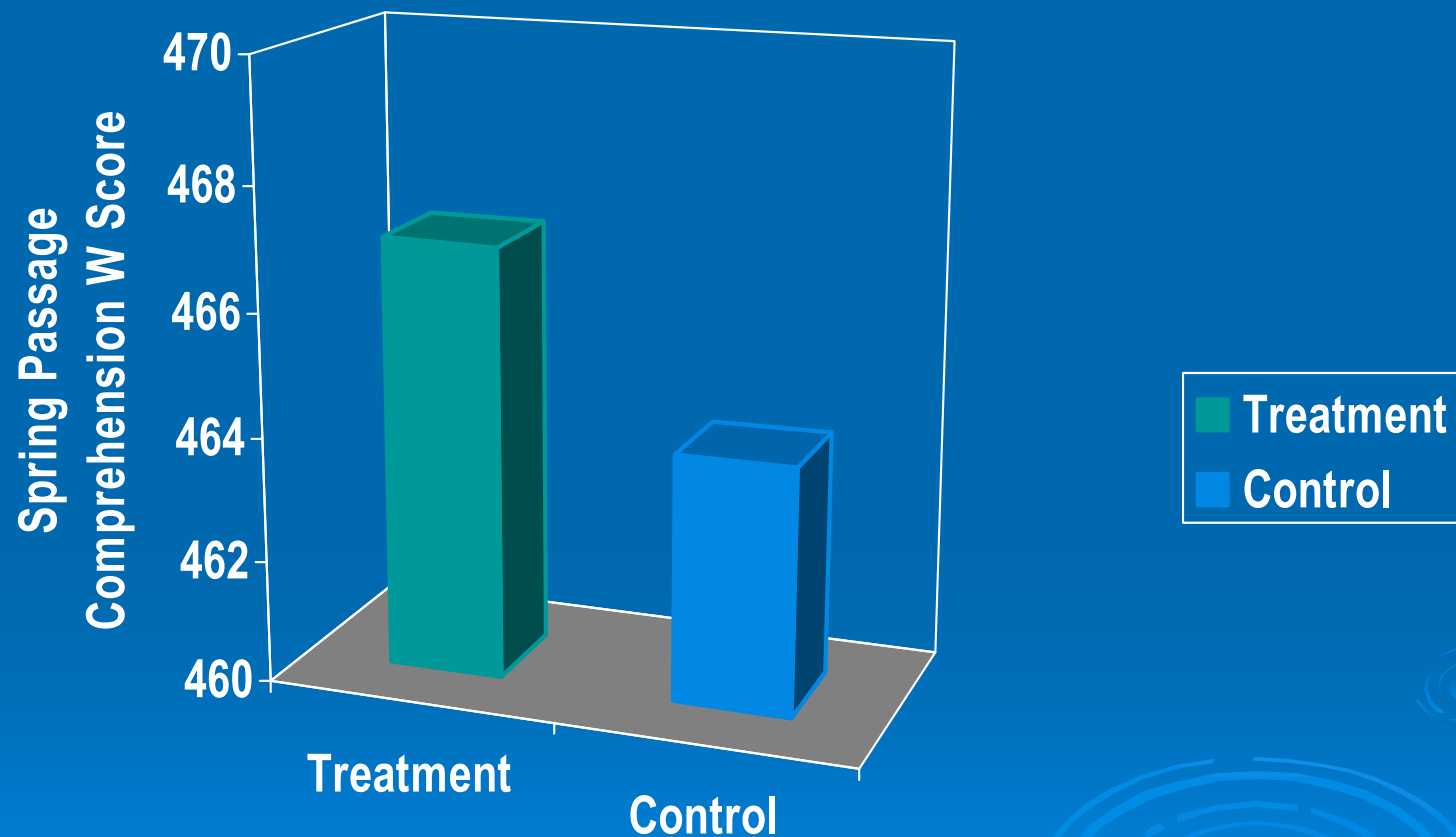
**Start Time:** 1:00 pm

<u>Group</u>	<u>Instr.</u> <u>Type</u>	<u>Source</u>	<u>Activity</u>	<u>Unit</u>	<u>Lesson</u> <u>/Week</u>	<u>Page #</u>	<u>Dur.</u>	<u>Teacher</u>
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# Fidelity of implementation



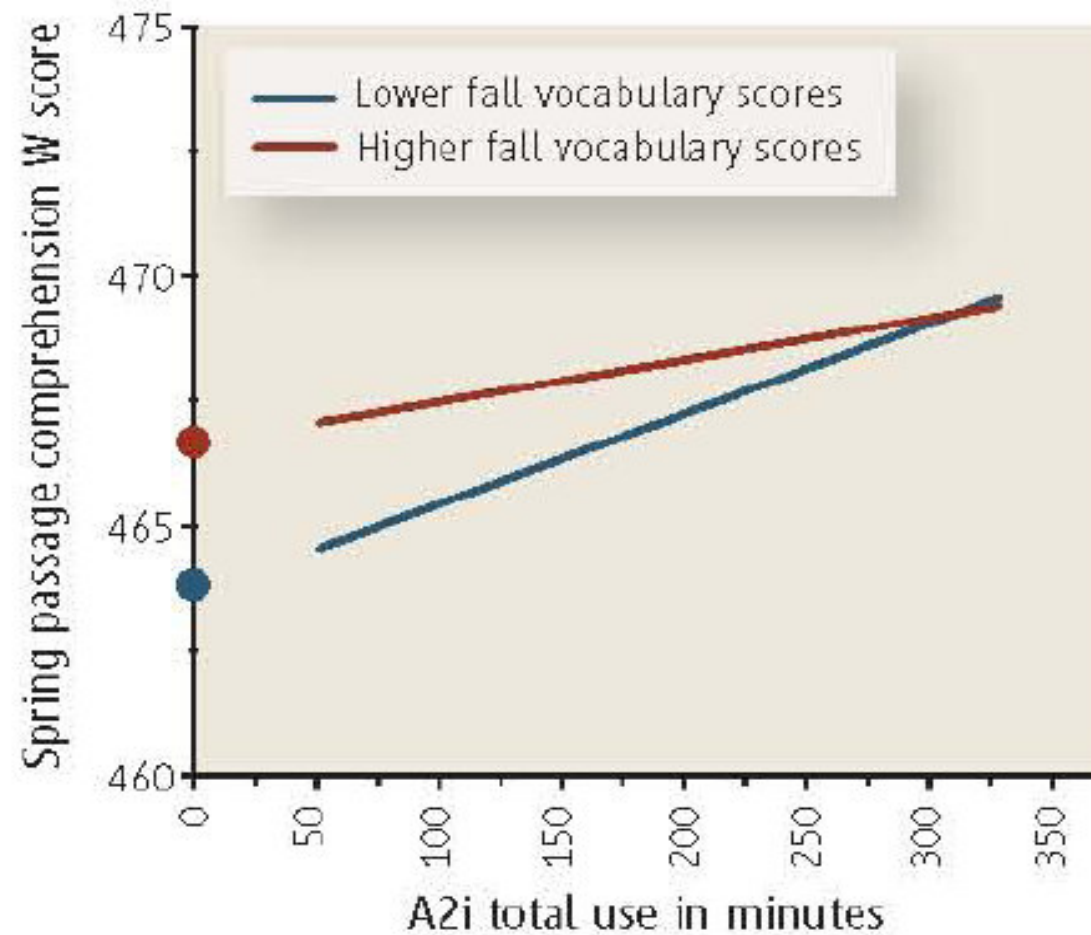
# HLM - Treatment versus Control Student Reading Comprehension Outcomes



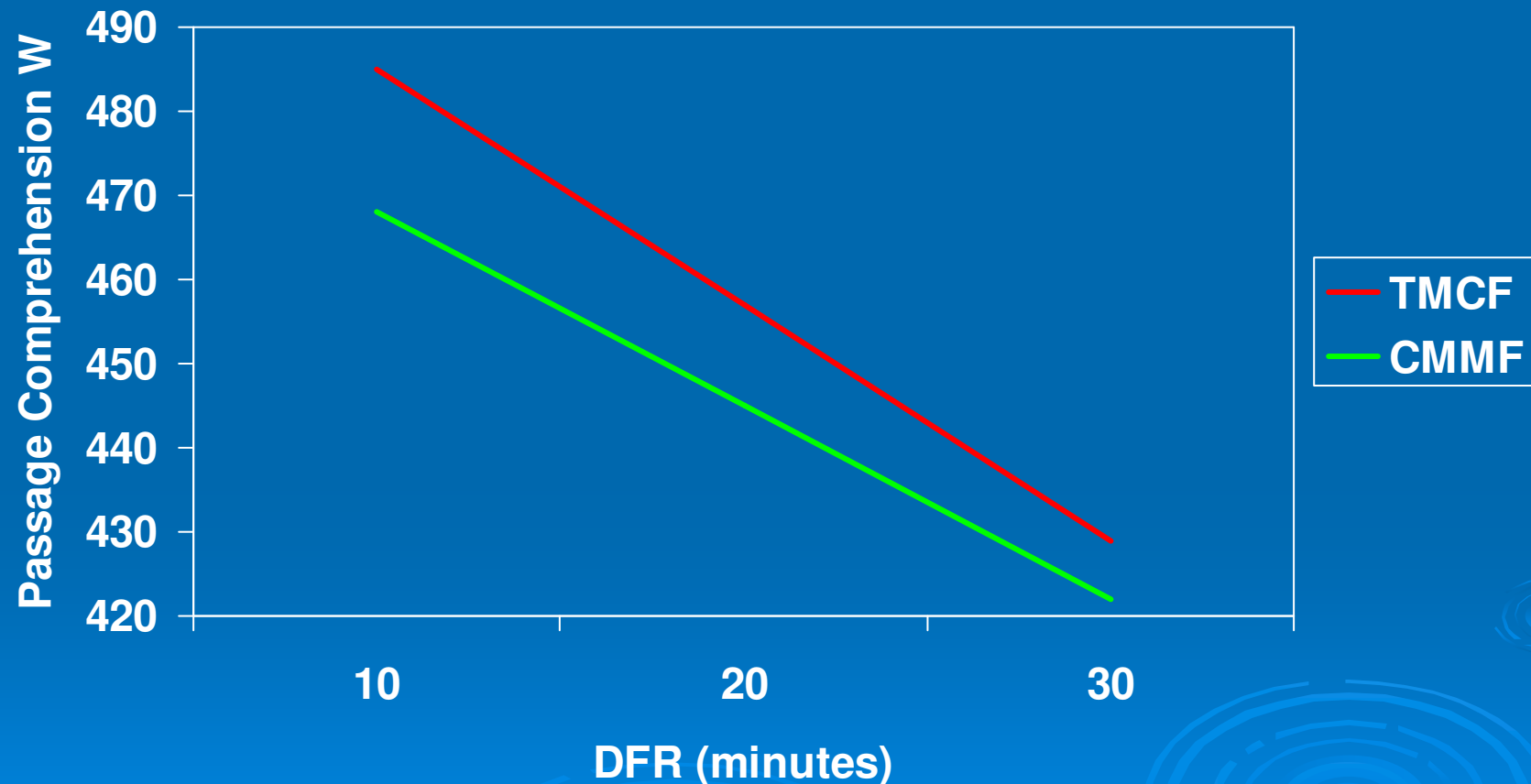
Mean scores controlling for fall vocabulary, passage comprehension, letter-word reading, curriculum, FARL, and Reading First status. 464 = GE 1.8, 468 = GE 2.0, n = 616 students



# Passage Comprehension




# DFR and Reading Comprehension



Holding school SES, child initial skills, and TCMF DFR slope constant at their means. Model explains 59% of total spring PC variance.

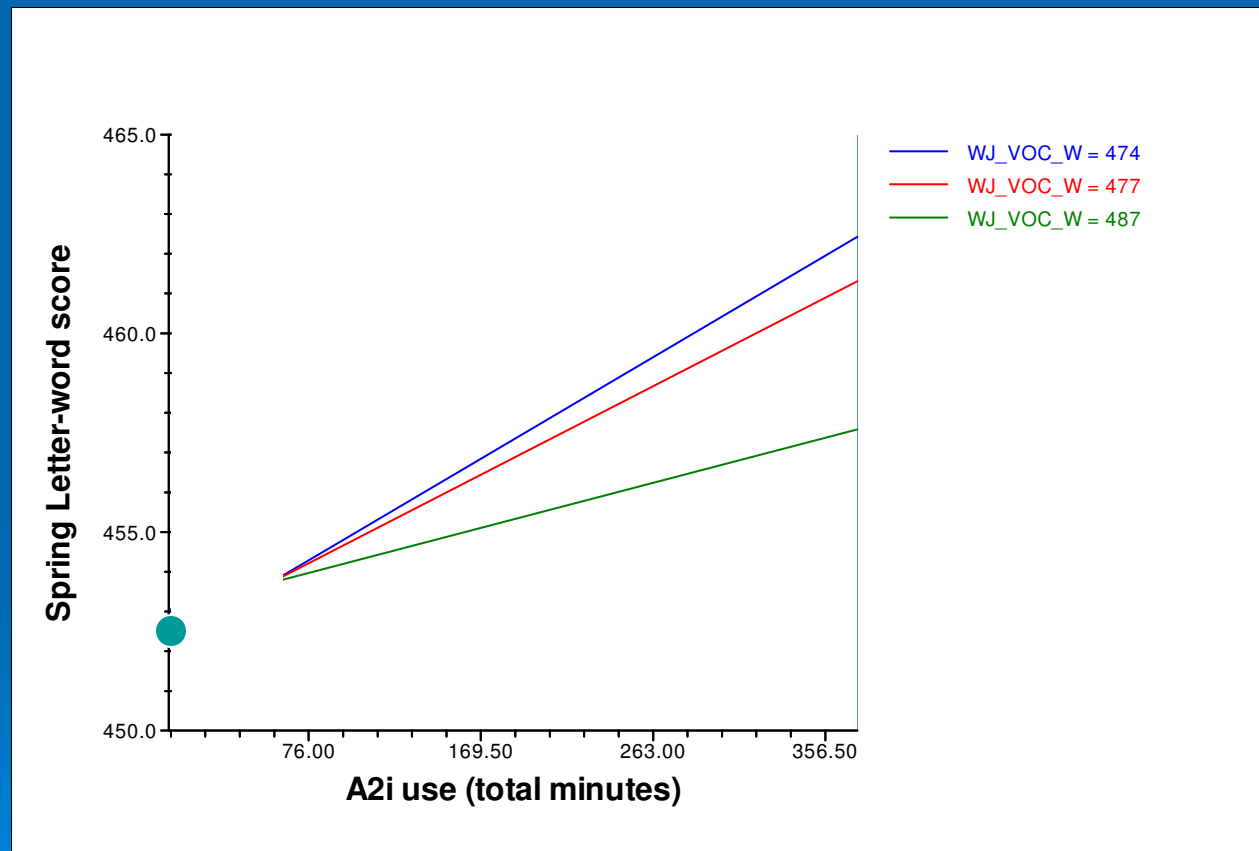
# Conclusions

- Strive to individualize
  - Early and on-going assessment
  - Cross-grade continuity: taking development seriously
  - Closing the gap? Tracking?
- 

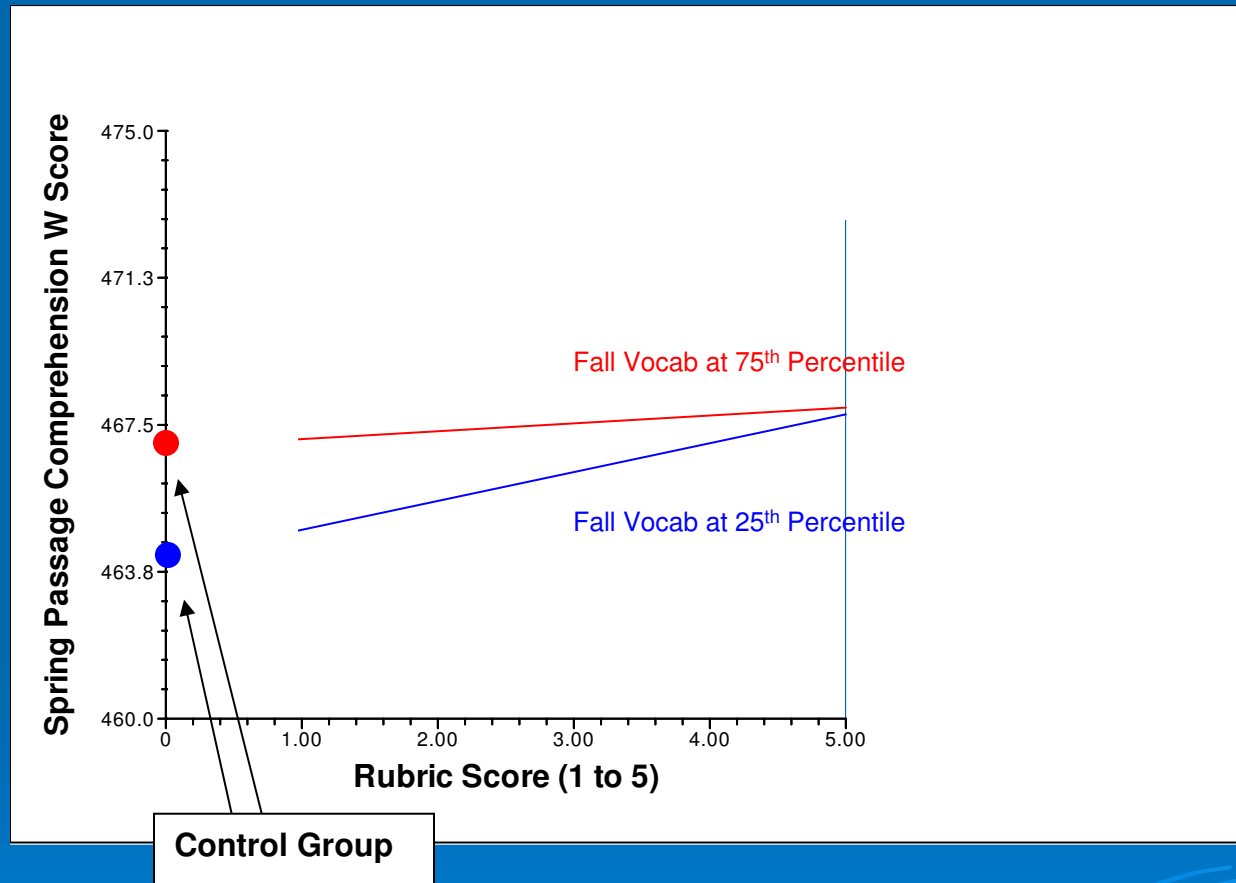
# Next Steps

- Replication and extension to other grades
- Finding the “active ingredients”
- Understanding professional development

# Letter-word Reading



# Passage Comprehension



**Vocabulary-by-Fidelity Score Interaction.** The points represent the fitted mean for first-graders in the control group whereas the lines represent fitted mean scores for children in the treatment group, which varied by fidelity score. The red point and line represent fitted mean scores for students who began first grade with fall vocabulary scores falling at the 75<sup>th</sup> percentile of the sample ( $W = 486$ , Age Equivalent = 8 years) whereas the blue point and line represent fitted scores for first graders with lower fall vocabulary scores falling at the 25<sup>th</sup> percentile of the sample ( $W = 474$ , Age Equivalent = 6 years). Graph created using HLM version 6.03.

# Preschool Dimensions of Instruction – Classroom Level

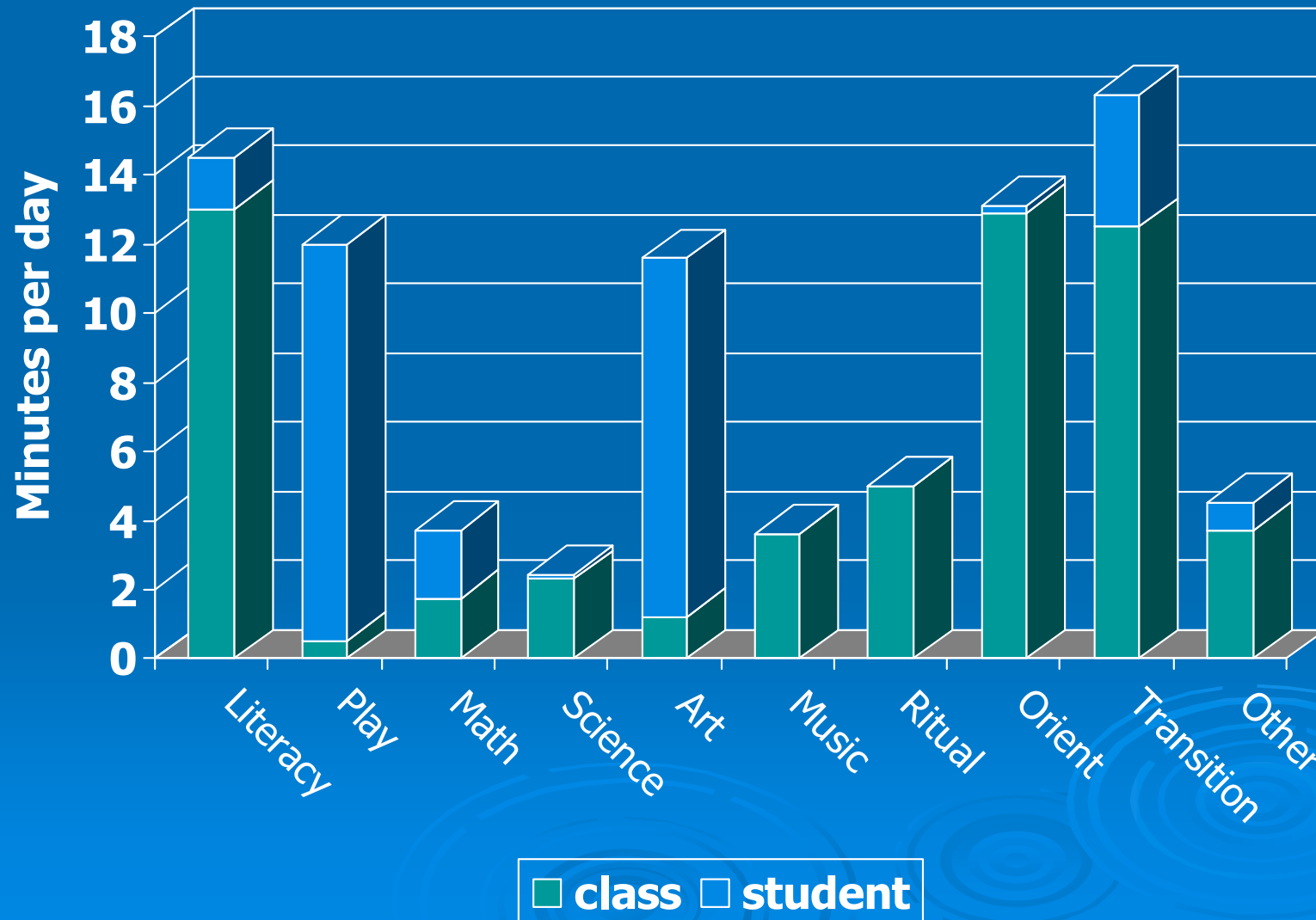
	Teacher Managed	Teacher-Child Managed	Child Managed
Explicit Decoding Code Focused or Implicit Language/Vocab Code Focused		TCM-MFcl ➤ Spelling ➤ Phonological Awareness ➤ Alphabet Activity ➤ Letter-Sound Correspondence ➤ Initial Consonant Stripping	
Implicit Decoding Code Focused or Explicit Language/Vocab Meaning Focused	TM-MFcl ➤ Teacher read-aloud	TCM-MFcl ➤ Chorale reading aloud ➤ Discussion ➤ Teacher Read- aloud/Discussion combined ➤ Conventions of Print ➤ Vocabulary activities ➤ Other language arts activities ➤ Sharing	CM-MFcl ➤ Sustained silent reading
Implicit Decoding and Implicit Language/Vocab Meaning Focused			CM-MF-play-cl ➤ Play

# Preschool Dimensions of Instruction – Student Level

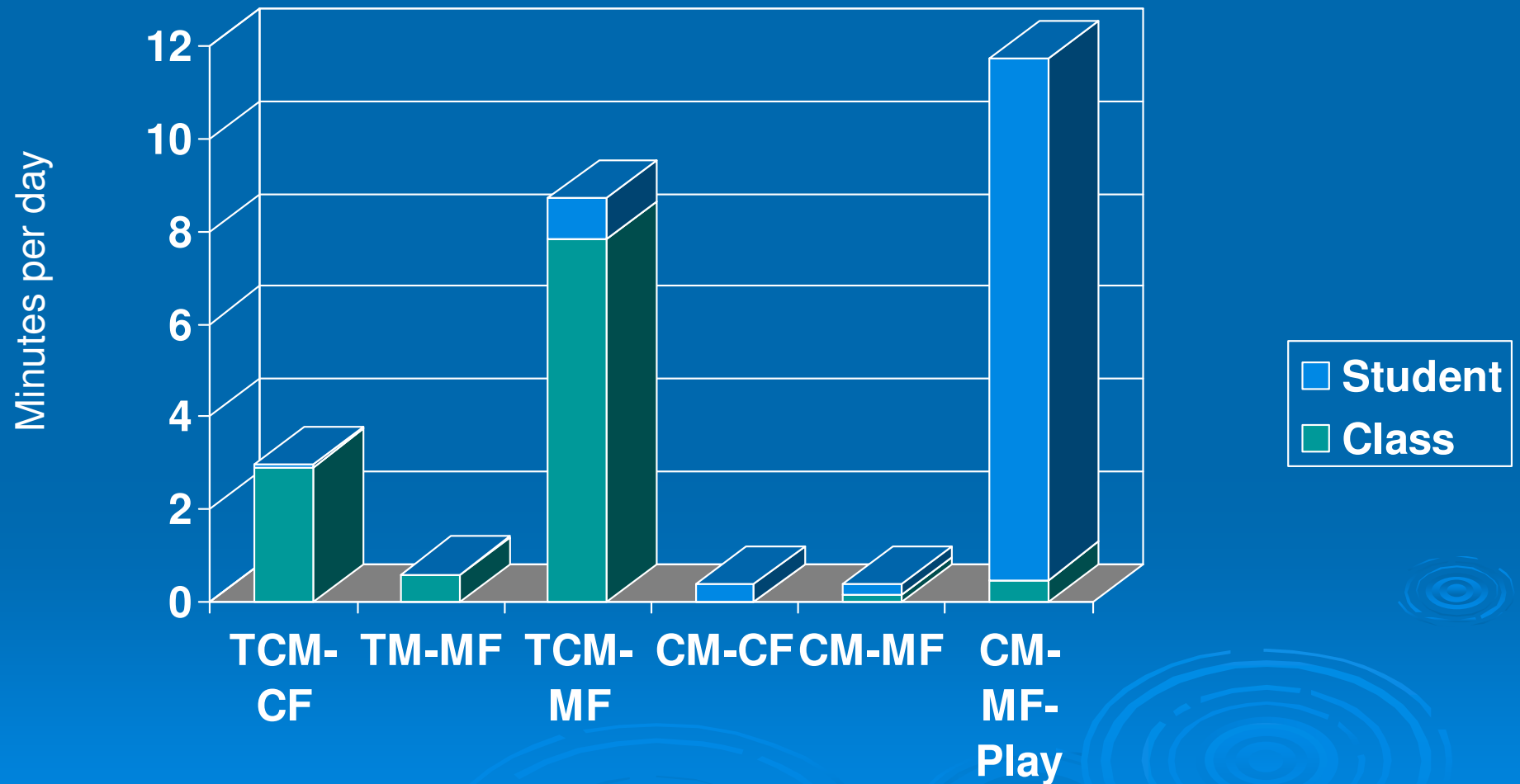
	Teacher Managed	Teacher-Child Managed	Child Managed
Explicit Decoding Code Focused or Implicit Language/Vocab Code Focused		TCM-CFst ➤ Alphabet Activity ➤ Handwriting practice	CM-CFst ➤ Handwriting ➤ Alphabet Activity
Implicit Decoding Code Focused or Explicit Language/Vocab Meaning Focused	TM-MFst ➤ Teacher read-aloud	TCM-CFst ➤ Teacher Read- aloud/Discussion combined ➤ Discussion ➤ Conventions of Print ➤ Vocabulary activities ➤ Other language arts activities ➤ Sharing ➤ Scaffolded Sustained silent reading	CM-MFst ➤ Writing (invented spelling) ➤ Small Group Sustained silent reading ➤ Individual Sustained silent reading
Implicit Decoding and Implicit Language/Vocab Meaning Focused			CMMFst-play ➤ Play

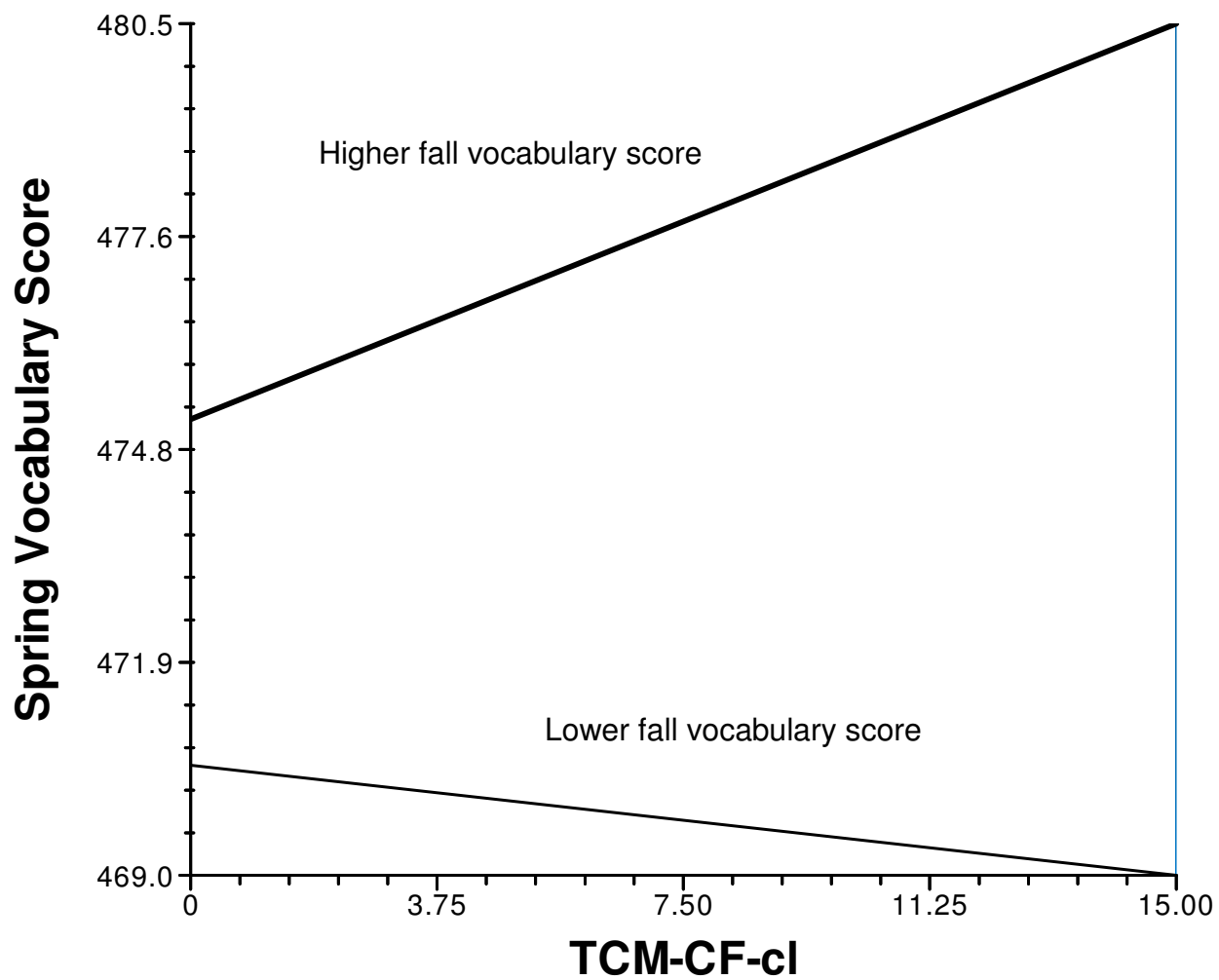


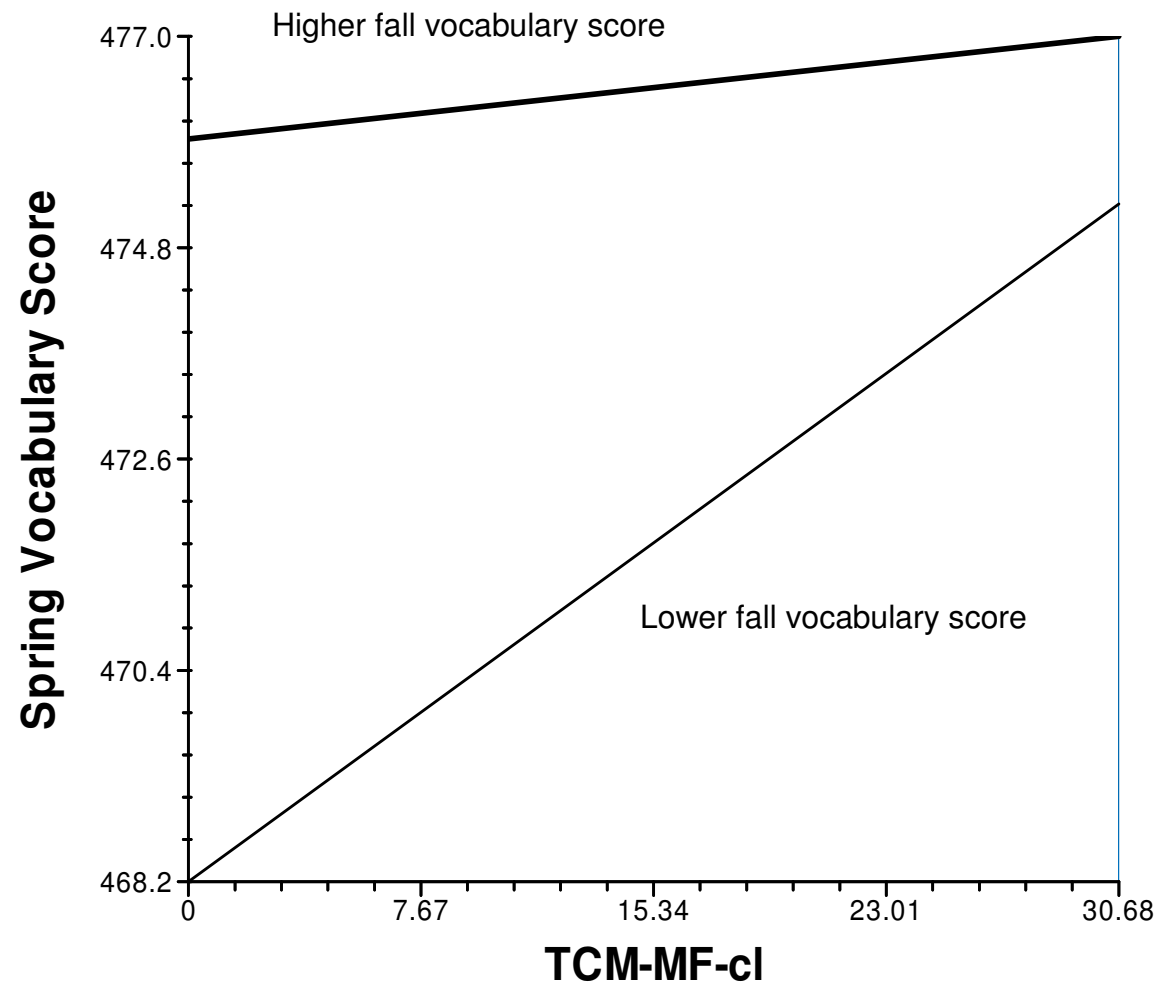
# Mean Minutes PS activities



# Mean Minutes PS Literacy Instruction







# Broadening the Scope

- Teacher-child dimension
- Whole class versus small group
- Non-instructional activities (e.g. play)

# Participants

- 156 student participants
  - 3-4 years of age in fall 2002
- 34 classrooms taught by 24 teachers
  - Lead teachers hold Early Childhood Credential
  - Head-Start, State supported and Fee-for-service licensed preschools/daycare
    - Typically developing children
  - Full and half day programs
- School District – Urban Fringe Transitioning

