



## Impacts of a Comprehensive Early Literacy Curriculum on the Reading and Language Growth of Students with Intellectual and Developmental Disabilities

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# Agenda

- Why
- Study
- Intervention
- Results
- Case Studies
- Discussion
- Questions



# Current Project Intensity Team



# Friends on the Block Research and Development



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# Why



# Literature Review:

## Recent research on comprehensive programs

- Historically, research on reading for students with IDD (intellectual and developmental disabilities) has been limited
- Research in recent years has shown students with IDD respond favorably to more **comprehensive programs** of reading instruction (e.g., Allor, et al., 2014; Allor, et al., 2013; Browder, Mims, Spooner, Ahlgrim-Dezell, & Lee 2008; Connor, Alberto, Compton, & O'Connor, 2014; Lemons, et al., 2015).



## Research with *Friends on the Block* (from IES development grant)

- Allor, J. H., Gifford, D. B., Jones, F. G., Al Otaiba, S., Yovanoff, P., Ortiz, M. B., & Cheatham, J. P. (2018). The effects of a text-centered literacy curriculum for students with intellectual disability. *American Journal for Intellectual and Developmental Disabilities*. [pilot study with 8 students]
- Jones, F. J., Gifford, D. B., Yovanoff, P., Al Otaiba, S., Levy, D., & Allor, J. (2018). Alternate assessment formats for progress monitoring students with intellectual disabilities and below average intellectual quotients: An exploratory study. *Focus on Autism and Developmental Disabilities*. [assessment study]
- Allor, J. H., Yovanoff, P., Al Otaiba, S., Ortiz, M. B., & Conner, C. (2020). Literacy intervention for students with intellectual and developmental disabilities: A meta-analysis. [analysis of all 18 students from pilot studies]



# The Study





# Primary Research Questions

Do students who participate in FOTB demonstrate greater outcomes compared to students who participate in BAU reading instruction?

- Reading
- Language

# Overall Mean Average School Demographics

- Enrollment: 544 (Range: 316-770)
- Minority Enrollment: 76% (6-99%)
- Economically Disadvantaged: 79% (51-91%)
- Student/Teacher Ratio: 15.3:1 (12:1 to 18:1)



# Participant Mean Average IQ

- Composite Kaufman Brief Intelligence Test Second Edition (KBIT-2)
- 73.1 (Range: 40 to 106)



# Dosage

- Weeks of Instruction: 36.9
- Minutes of Instruction: 3150.9
- Average minutes per week: 86.1
- Level Completed: 12 (out of 14 FOTB levels)

# Participants

- 58 elementary-aged students
  - Control: 28
  - Treatment: 30
- Mean age at beginning of intervention:
  - Control: 7.6 (SD=1.5)
  - Treatment: 7.6 (SD=1.1)

# Participants

- Gender: 59% male, 41% female
- Race: 57% African American, 34% White, 9% Hispanic/other
- Disability labels:
  - 12% Intellectual Disability
  - 47% Developmental Delay
  - 14% Autism (IQ mean=64.4; SD=17.6)
  - 19% Specific Learning Disability
  - 2% Speech/ Language Disorder
  - 3% Other Health Impairment/ Attention Deficit Hyperactive Disorder
  - 3% Not Available



# Reading Variables & Measures

- Phonemic Awareness
  - *Comprehensive Test of Phonological Processing, 2<sup>nd</sup> Edition—Blending Words*
- Decoding
  - Non-words
    - *Wechsler Individual Achievement Test, Fourth Edition (WIAT-IV) Pseudoword Decoding*
  - Real words
    - *FOTB Word List*
    - *WIAT-IV Word Reading*
- Fluency
  - *WIAT-III Oral Reading Fluency*



# Language Variables & Measures

- Oral Expression
  - *WIAT-IV Oral Expression*
- Listening
  - *WIAT-IV Listening Comprehension*





# Think, Pair, Share

What is the biggest challenge you face in teaching students with IDD to read?



# Intervention



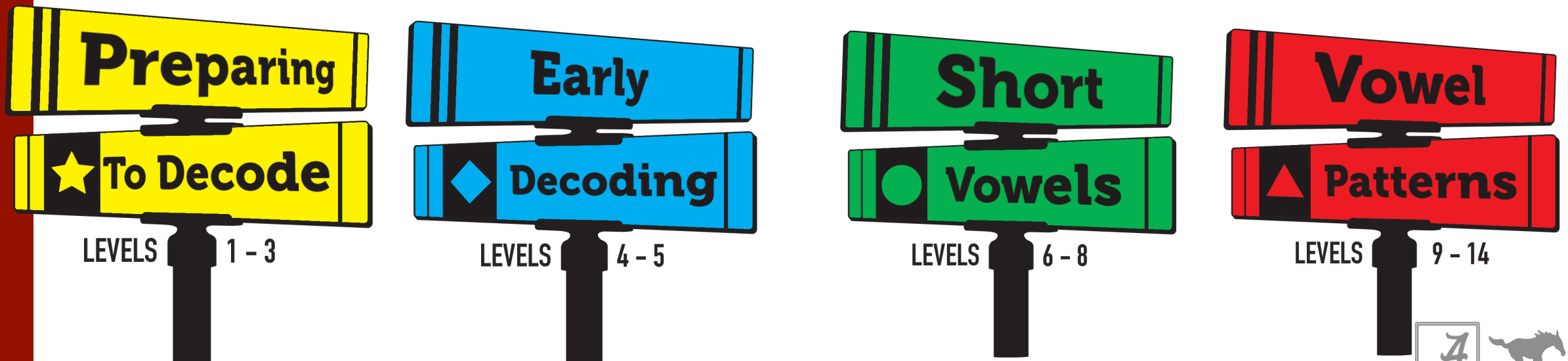
# What is Friends on the Block?

A comprehensive and intensive **early literacy program** (initial instruction or intervention) designed to be **customizable** and provide needed supports and practice so **all students** can attain early literacy skills, particularly those with **intensive needs** such as students with disabilities (e.g., dyslexia, learning disabilities, intellectual and developmental disabilities).



# What are the components of FOTB?

- 60 student books with carefully controlled, decodable text
- Each book has a detailed Teacher's Guide and materials
- Over 100 learning games that provide specific cumulative practice of skills
- Organized into 14 levels that span four stages of skill development



# What research supports it? Applies Existing Research

(Coyne et al., 2006; Kame'ennui et al., 2002; Coyne et al., 2011)

## Principles of Effective Instruction

Explicit step-by-step modeling with many examples and clear explanations

Systematic orderly, carefully sequenced and thorough; organized from simple to complex; skills are integrated

Scaffolding temporary support that is faded over time

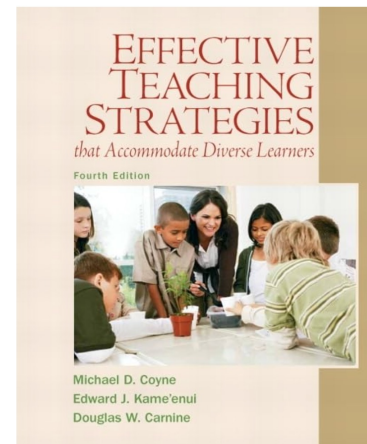
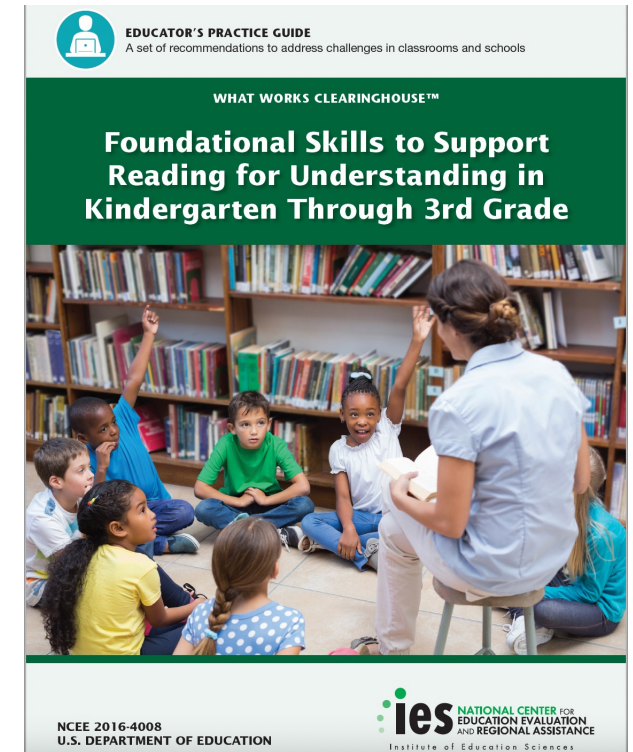
Ample Practice Opportunities intensive; organized flexibly to provide sufficient practice for students with varying needs

Immediate Corrective Feedback clear and positive; ensures students do not practice skills incorrectly

Ongoing Progress Monitoring informal measures included; aligns with instruments based upon scientific research

# Research: Evidence-based practices AND innovation

- National Reading Panel (2000)
- WWC Practice Guide (2016)
- Principles of Effective Instruction (Coyne et al., 2006; Kame'ennui et al., 2002; Coyne et al., 2011)



# What makes Friends on the Block Special? Multicriteria Student Books

- Natural sounding sentences that reflect spoken language to facilitate comprehension
- Includes only words that have been taught or that can be decoded based on the skills taught (decodable text)
- Extensive repetition of high-frequency and decodable words
- Culturally diverse
- Meaningful stories in common settings (familiar)
- Simple illustrations that enhance meaning and engagement
- Includes nonfiction books with photographs
- Features enable students to begin reading in a book, with support, in the very first lesson



# LEVEL 4 BOOK SAMPLE PAGES

A friend (teacher, tutor, family member, peer) reads **Helper Text** in gray boxes. Helper Text improves the story and supports comprehension and vocabulary.

The student reads **Student Text** in white.

Sam said, "I am sorry. Jazz won't hurt you. Are you mad at me?"

Are you mad?

No, I am not mad. I am scared.



**Sound It Out Target Words** are decodable words that are also high-frequency words.

**Read It Target Words** are irregular or temporarily irregular high-frequency words.

A few **Picture Words** improve the story and support meaning, as well as basic vocabulary.

Sam asked the girl if she wanted to play with Jazz.

Jazz can play. Do you want to play?

Yes, I like to play.


Yes, I want to play! I am happy. She is a good dog.

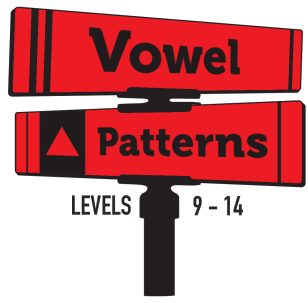




# Target Word List and Phonics Patterns

Friends on the Block Target Word List and Phonics Patterns

Letter Sounds	★ Preparing to Decode			◆ Early Decoding		● Short Vowels			▲ Vowel Patterns					
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 11	Level 12	Level 13	Level 14
	c, f, p, m, s, t	d, j, n	b, g, h, l, r	ck, k, a, z	u	ch, th, w, x, y	i, o, sh, qu, v	e	a-e, i-e, o-e	ai, ay, ol	al, ea, ee	ar, igh, er	oa, or, ow	ir, oo, ur
Sound It Out Words (Decodable)	In Levels 1-3 students are learning phonemic awareness blending and segmenting, letter-sounds, and a small number of irregular words. Students begin in the level in which they miss two or more target words (Levels 1-5) or four or more target words (Levels 6-14). As soon as the students learn most of the words in the starting level, move to the next level. (Note: Sound it Out words in Levels 4-5 are repeated in Level 6.)			am and at can dad mad sad	am and at can dad mad sad	am big bed fine five gave home hope like made make nine say same side tail told wait way	big did got him if in it mom not on sit stop this will with	bed best end get help let next red step tell them then went when yes	came cold day hold may old plain play rain roll say stay tail told wait way	all call clean each eat feel green neat need read see seem small tall wall	after better chapter different hard high light might never night number part right start together	before below door follow forget goal know more morning own road short show slow yellow	bird book burn cook disturb girl good hook hurt shirt stood third took turn wood	
Read It Words (Irregular)	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 11	Level 12	Level 13	Level 14
	a do I like not want	dad here is look mom see the where	are at happy in no she yes you	good help play there to was	big have little my please very what	be friend give go he her it me on so thank we who with your	because care come could feel first of how next said should take too why would	again away clothes cold eat food for from need oh out put ready some	about animal been day does down every many one or other push saw their they were	any ball both boy done family girl more most once room saw their warm young	another answer kind know our people question really second soon sure review thought word work	almost book bought break buy easy four learn money new probably review these two watch	above alone by eight find house idea often special talk through usually walk water worry	able along carry color full great heard instead live love move only over try world
	Note: Words in blue are made up of patterns taught in later levels so they are temporarily irregular. They are introduced prior to the pattern to facilitate meaning and may facilitate learning of the phonics pattern.													



# A Typical Lesson (Flexible: About 30 minutes)

## Level 4 Example

Part 1: Warm-Ups  
5-8 minutes

Part 2: Book Reading  
10-15 minutes

Part 3: Learning Games  
5-10 minutes

### Lesson A Warm-Up

#### Say the Word: Sam, dog, mad, Jazz

1. Teacher: I will say the sounds in a word. Then you will say the word. I'll do the first one. Listen. /s/ /a/ /m/ /m/ Stretch the word by connecting the sounds as you say it slowly. Hold continuous sounds 2-3 seconds. Say the stop sounds quickly. Allow think time. That word is Sam. Say the word.

Students: (Sam)

2. Teacher: Listen. /d/ /o/ /g/ Say the word.

Students: (dog)

3. Teacher: Listen. /m/ /a/ /d/ /d/ Say the word.

Students: (mad)

4. Teacher: Listen. /j/ /a/ /z/ /z/ Say the word.

Students: (Jazz)

5. Teacher: Listen. /s/ /a/ /m/ /d/ /o/ /g/ /m/ /a/ /d/ /j/ /a/ /z/ /z/ Say the words.

Students: (Sam, dog, mad, Jazz)

6. Teacher: Listen. /s/ /a/ /m/ /d/ /o/ /g/ /m/ /a/ /d/ /j/ /a/ /z/ /z/ Say the words.

Students: (Sam, dog, mad, Jazz)

7. Teacher: Listen. /s/ /a/ /m/ /d/ /o/ /g/ /m/ /a/ /d/ /j/ /a/ /z/ /z/ Say the words.

Students: (Sam, dog, mad, Jazz)

#### Say the Letter-Sound

1. Teacher: When I touch the letter(s), say the letter-sound. Remember to say the sound for as long as I touch it.

2. Teacher: Say the letter-sound. Touch the letter(s), holding your finger on the letter(s) for 2-3 seconds for a continuous sound or tapping the letter(s) quickly for a stop sound.

3. Teacher: Say the sound, stretching continuous sounds for 2-3 seconds and saying stop sounds quickly.

4. Teacher: Repeat step 2 with all of the letters.

5. Teacher: Repeat step 2 with all of the letters.

6. Teacher: Repeat step 2 with all of the letters.

7. Teacher: Repeat step 2 with all of the letters.

8. Teacher: Repeat step 2 with all of the letters.

9. Teacher: Repeat step 2 with all of the letters.

10. Teacher: Repeat step 2 with all of the letters.

11. Teacher: Repeat step 2 with all of the letters.

12. Teacher: Repeat step 2 with all of the letters.

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49. Teacher: Repeat step 2 with all of the letters.

50. Teacher: Repeat step 2 with all of the letters.

### Lesson B Book: Read and Discuss

Use the guide to direct discussion and enhance student engagement. Use 1-2 questions per page based on student ability. Questions increase in difficulty as the reader's "step" and numbers increase, with the highest at the most difficult.

1. Teacher: Echo Read with the student for the student text.

2. Teacher: Read the title.

3. Teacher: Read the word list to the student and ask the questions.

4. Teacher: Read the word list to the student and ask the questions.

5. Teacher: Read the word list to the student and ask the questions.

6. Teacher: Read the word list to the student and ask the questions.

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50. Teacher: Read the word list to the student and ask the questions.

### Sam and Jazz Take a Walk Scavenger Hunt

Materials: Sam and Jazz Take a Walk student book.  
Teacher: Make sure your book is closed and it is on due. Then you look through your book to find as you can.

Read each clue one at a time.  
If you have 1 student, encourage the student to read the clue.  
If you have 2 students, encourage the student to read the clue and the other student to find the answer.

1. What color is the sky? (blue)

2. What color is the grass? (green)

3. Why does Sam ask the girl if she is mad? What are some things that make you mad/angry? (Sam says he is... (sorry) Why do you think Sam is mad?)

4. Why did Sam want to help the girl or mad? (The girl looks... (mad/angry) What do you think Sam should do next?)

5. Why do you try to help people when they are in need? (What's Sam wearing? (green shirt and blue shorts)

6. Why was the girl sorry she had yellow hair? (Why was the girl sorry she had yellow hair?)

7. Why was the girl happy she had yellow hair? (Why was the girl happy she had yellow hair?)

8. Why was the girl sad she had yellow hair? (Why was the girl sad she had yellow hair?)

9. Why was the girl angry she had yellow hair? (Why was the girl angry she had yellow hair?)

10. Why was the girl surprised she had yellow hair? (Why was the girl surprised she had yellow hair?)

### Super Sentences

Materials: student chart (sentences), Super Sentence (optional)  
Set out the necessary word and picture cards for chart.

1. Teacher: We will use the word cards to make a sentence.  
2. Teacher: Let's make this special to the top.  
3. Teacher: Now let's read our sentence together.



I was not

mad

at you.

### Warm-Up

Say the Letter-Sound

r	a	z	k	l
---	---	---	---	---

Sound It Out

mad	Jazz	can	at	am
-----	------	-----	----	----

Read It

was	to	good	there	are
-----	----	------	-------	-----

### Sam and Jazz Take a Walk

Written by Jill Allor, Francesca Jones, and Ashley Sandoval  
Illustrated by Jennifer Cheatham

### Amazing Words

finish					
there	good		here	in	you
	no	where	like		yes
was	help			play	to
the		is	help	there	
good	here	do			where
see		play		want	look
are	to	was	she	not	happy
					start



# A Typical Lesson (Flexible: About 30 minutes)

## Level 10 Example

Part 1: Warm-Ups  
5-8 minutes

Part 2: Book Reading  
10-15 minutes

Part 3: Learning Games  
5-10 minutes

**Lesson A Warm-Up**

**Say and Write:** cold, dry, may, hold

1. Teacher: Today we will say and write words that are spelled with the letters "ar" and the letters "ay." (Write the patterns where the students can see them.) You will say the word. Then you will say each sound in the word, one at a time. Then you will write the word. The first word is cold. Listen to me say the sounds. /k/ /o/ /l/ /d/. (Model saying the word slowly, stretching continuous sounds 2-3 seconds and saying stop sounds quickly.) Say the sounds with me. Teacher and students: (Say each sound, holding up one finger at a time.)

**Teacher:** Now, watch me write the letters! Now, you write the word.

**Students:** (Write the word.)

2. Teacher: Listen, Day. Say the sounds and write the word.

**Students:** (Say the sounds and write the word.)

**Corrective Feedback & Scaffolding**

If students make an error, follow the I, We, You feedback procedure.

If students are saying sounds:

I. Listen. Say the sounds, stop raised sound. Repeat the sounds quickly.

We: Say it with me. Students say the sounds with you.

You: Your turn. Students say the sounds independently.

If students are writing letters:

I. Listen. Say the sounds, stop raised sound. Repeat the sounds quickly.

We: Say it with me. Students say the sounds with you (We'll, student).

You: Your turn. Student.

**Sound It Out**

1. Teacher: You're going to say the underlined part of a word and then the whole word. Listen as I say the underlined part of the word on the chart and say the underlined part of the word.

2. Teacher: (Point to the underlined part and then the word.)

**Students:** (Say the underlined part and then the word.)

Repeat Step 2 with remaining words.

**Corrective Feedback & Scaffolding**

If students make an error, follow the I, We, You feedback procedure.

If students are saying sounds:

I. Listen. Say the sounds.

We: Say it with me. Students say the sounds with you.

You: Your turn. Student.

**Read Each Word**

1. Teacher: Look at each word when I point to it. Read it when I tap it.

2. Teacher: (Point to the first word.) Read it. (Tap the first word.)

**Students:** (Read word.)

Repeat Step 2 with remaining words.

**Corrective Feedback & Scaffolding**

If students make an error, follow the I, We, You feedback procedure.

We: Read it with me. Students read the word with you.

You: Your turn. Students read the word independently.

Repeat the row.

**Read Each Part**

1. Teacher: To read these big words, you will first read each part. You will read each part and then read the whole word. (If possible, model the first row.)

2. Teacher: (Read parts and then the word.)

**Students:** (Read parts and then the word.)

Repeat Step 2 with remaining words.

**Corrective Feedback & Scaffolding**

If students make an error, follow the I, We, You feedback procedure.

We: Read it with me. Students read the word with you.

You: Your turn. Students read the word independently.

Repeat the row.

**Lesson B Book: Read and Discuss**

Teacher: Today we are going to read some more of our book. (Review the list at the front of the book, or reread.) Let's start reading on page 7. (Point page 7 to students.) I'll read my part. You will read your part. (Read page 7.)

**Corrective Feedback & Scaffolding:** Follow the I, We, You feedback procedure. If students connect the error without assistance, have them repeat the word and start the sentence again. If students struggle, continue providing feedback and scaffolding.

**Sound It Out Words**

I. Listen. Sound out the word for the students and/or provide raised sound.

We: Sound it out with me. Students sound out the word with you and/or repeat sounds.

You: Your turn. Students sound out the word independently.

Repeat the sentence.

**Read It Words**

I. Listen. Read the word for the students.

We: Read it with me. Student word with you.

You: Your turn. Student independently.

Repeat the sentence.

**Questions for Pages 7-9**

Level 3

What do you think is special about elephants? (What do you use to hold things? (hands/arms, bags, etc.)

Do you like hippos? What do you like about hippos? Can you think of anything that reminds you of a pig, cartoon characters, etc.)

If you could have an elephant, a hippo, or a giraffe, which one would you want? Why?

Level 2

What is a word that describes elephants? (various: big, strong, opinion words)

Do boys or girls have tusks? (both)

Elephants wash their \_\_\_\_\_. (tails)

Can hippos run fast? (yes)

Are giraffes tall or short? (tall) Are giraffes spotted or plain? (spotted)

Level 1

What is this? (an elephant)

Point to the tusk.

Point to the baby elephant.

Are elephants big or small?

Page 8: Point to the hippo.

**Word Bingo**

Materials: Bingo gameboard for each player. We will use list below.

Teacher: We are going to play bingo. We will play then you will read the word out loud, if you have cover it with a bingo marker.

Note: Words are also provided in the word list on your own word cards or call out the words in a game.

1. Student says the word on the card.

2. Teacher or student picks up a small word assistance if needed.

3. Students find the word on the board.

The first player to cover 5 words in a row wins the game.

**Corrective Feedback & Scaffolding**

If students make an error, follow the I, We, You feedback procedure.

We: Say it with me. Student.

You: Your turn. Student.

Words: any, ball, rain, ran, roll, saw, were, young, boy, does, where, put, from, most, young, old, girl, roll, saw, family, where, way, done, may, young, joy.

**Warm-Up**

Sound It Out: rain, told, boy, more ro

Read It: done, boy, more ro

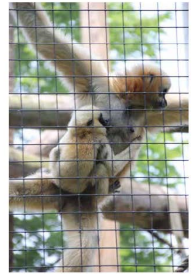
**Warm-Up**

Read Each Word: drink, see, can not, tall est

drinks, sees, cannot, tallest

drinking, seeing, cannot, tallest

There are different types of animals: mammals, birds, reptiles, and amphibians. Mammals have fur. Baby mammals drink milk from their moms.



The moms make warm milk for their young. Once the baby is old and is done drinking milk, the mom does not make any more milk.

**READ THROUGH THE SEASONS**

START FINISH

hold, plain, boy, warm, any, of, their, play, rain, ball, tail, told, wait, day, for, most, cold, more, girl, roll, saw, family, where, way, done, may, young, joy.

START FINISH

about, done, they, have, saw, does, where, put, from, most, young, old, boy, does, where, put, from, most, young, old, boy, does, where, put, from, most, young, old.

# Scope and Sequence

- Focuses on key skills within all strands of word recognition and language
- Facilitates integration of skills across strands and apply as they read books

Strand	Objective/Skill	Activity <i>Learning Game</i>	★ 1-3	◇ 4-5	● 6-8	▲ 9-14
Language: Comprehension & Vocabulary	Make oral predictions about a text	Predict	Yellow	Blue	Green	Red
	Develop language and comprehension	Discuss	Yellow	Blue	Green	Red
	Discuss and summarize a text using a graphic organizer	Review/ Get the Gist (Level 12+)	Yellow	Blue	Green	Red
	Develop oral language by sorting words based on meaning	<i>Think and Sort</i>	Yellow			
Phonemic Awareness	Orally blend the first sound and rime into a spoken word	Say the Word	Yellow			
		<i>Sounds Bingo</i>	Yellow			
	Say the first sound of spoken words	Say the First Sound	Yellow			
		<i>Sounds Bingo</i>	Yellow			
	Orally blend sounds (phonemes) into a word	Say the Word	Yellow	Blue		
Say the sounds (phonemes) in spoken words	Say the Sounds	Yellow	Blue			
Word Recognition	Fluently pronounce taught irregular (or temporarily irregular) words	<i>Read It</i>	Yellow	Blue	Green	Red
		<i>Amazing Words</i>	Yellow	Blue	Green	Red
		<i>Word Bingo</i>	Yellow			
		<i>Word Play</i>	Yellow			
	Fluently say the most common sound for taught letters	Say the Letter-Sound	Yellow	Blue	Green	
		<i>Climb and Slide</i>	Yellow			
	Sound out and read short vowel words with taught letters/patterns	Sound It Out		Blue	Green	
		<i>I Got It</i>		Blue	Green	
	Sound out and fluently read words with taught letters/patterns	Sound It Out				Red
		<i>Speed Reader</i>			Green	Red
		<i>I Got It</i>				Red
	Fluently read target words, including taught irregular words and words with taught letters/patterns	<i>Read through the Seasons</i>			Green	Red
		<i>Word Bingo</i>		Blue	Green	Red
		<i>Word Play</i>		Blue	Green	Red
Pronounce words with taught patterns with <i>s, ed, and ing</i>	Read the Groups				Red	
Pronounce words with taught spelling patterns and syllable types	Read the Parts				Red	
Fluency	Read target words and sentences fluently	<i>Super Sentences</i>	Yellow	Blue		
	Read text with increasing fluency	Read	Yellow	Blue	Green	Red
Writing	Say the sounds in spoken words; spell words with taught letters/patterns	<i>I Got It</i>		Blue	Green	Red
		Say and Write			Green	Red
	Write sentences fluently	<i>Writing Super Sentences</i>			Green	Red
Apply	Apply various skills in the context of a book	<i>Scavenger Hunt</i>	Yellow	Blue	Green	Red

# Lessons can be easily customized by...

- Selecting the appropriate starting level with our simple placement test
- Deciding when to move from one level to the next
  - Students do not need to read all the books and complete all the lessons in each level
  - They move to the next level as soon as they know most of the target words in that level
  - Students with intensive needs will need to read more of the books and complete more of the lessons before moving to the next level; other students may move through the levels more quickly
- Selecting games to practice specific skills based on student need
- Adjust amount of time spent on book reading and games (we recommend doing ALL 3 parts of every lesson – warmup, book, game)





# Group Huddle

How could Friends on the Block benefit your students?

# Results



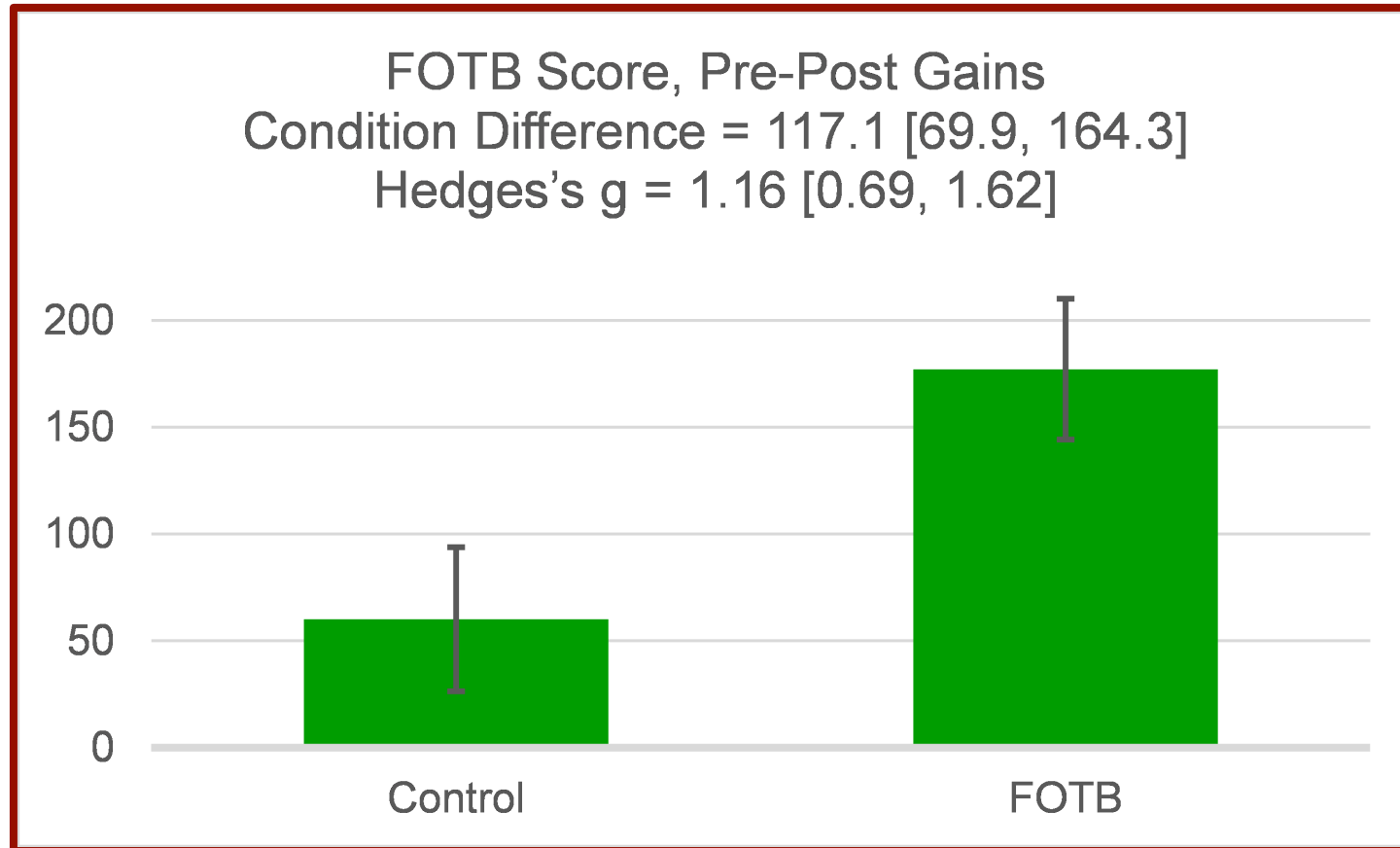
# Results Overview

- Preliminary results—first cohort of two cohorts of students
- Analyzed 22 measures—reported a representative summary
  - Proximal measure for FOTB
  - Phonemic Awareness
  - Pseudoword Decoding
  - Word Reading
  - Reading Fluency
  - Listening Comprehension
  - Oral Expression
  - Reading Comprehension

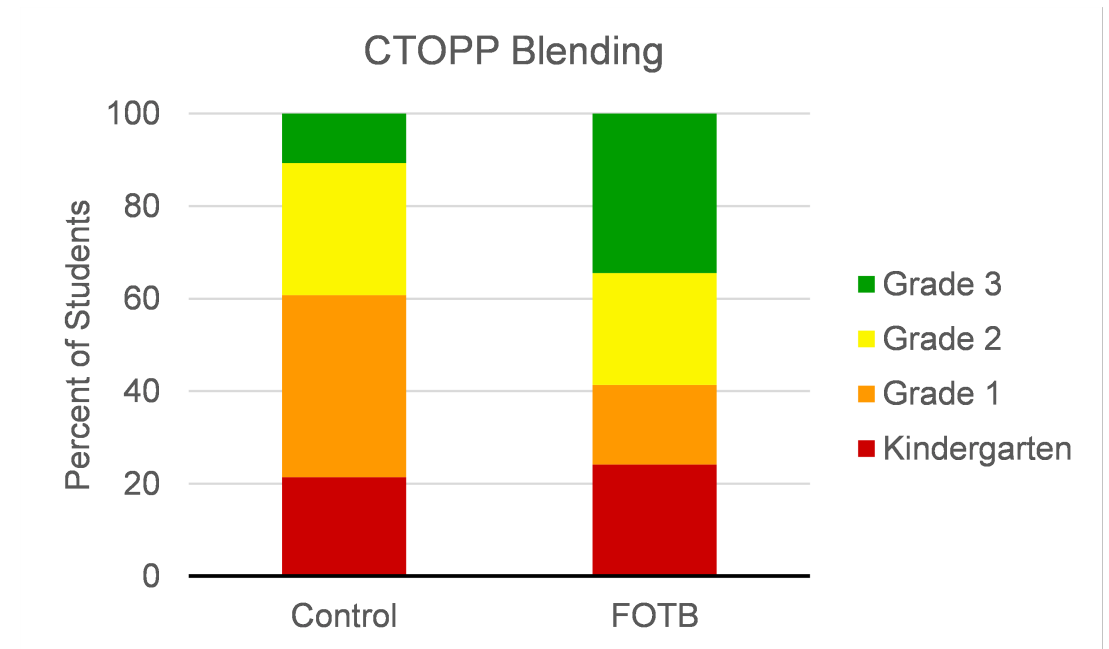
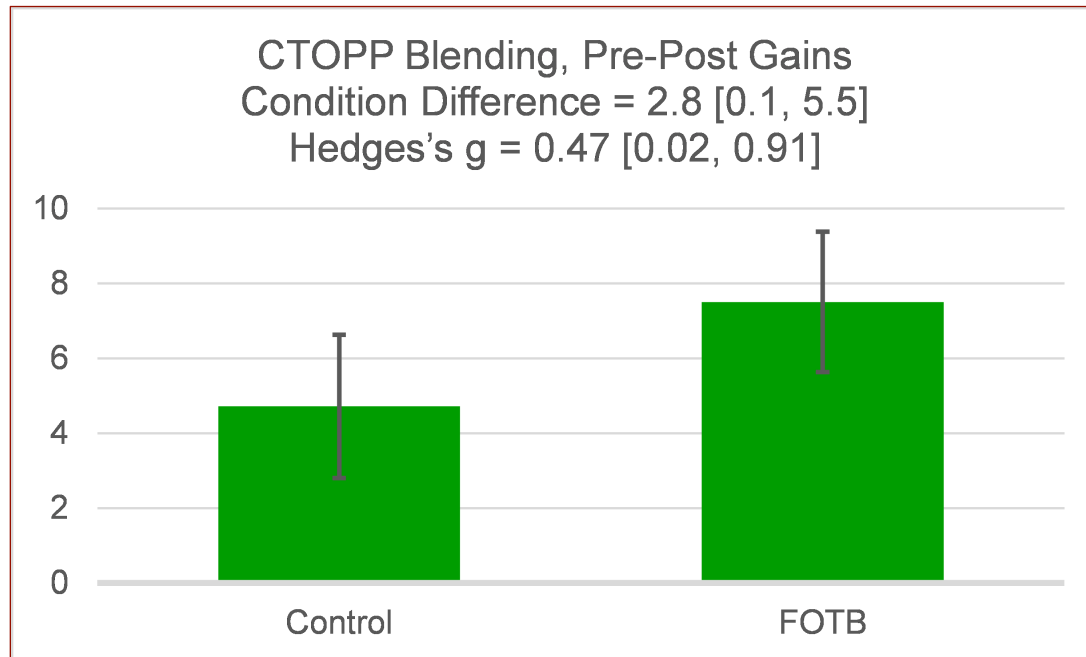




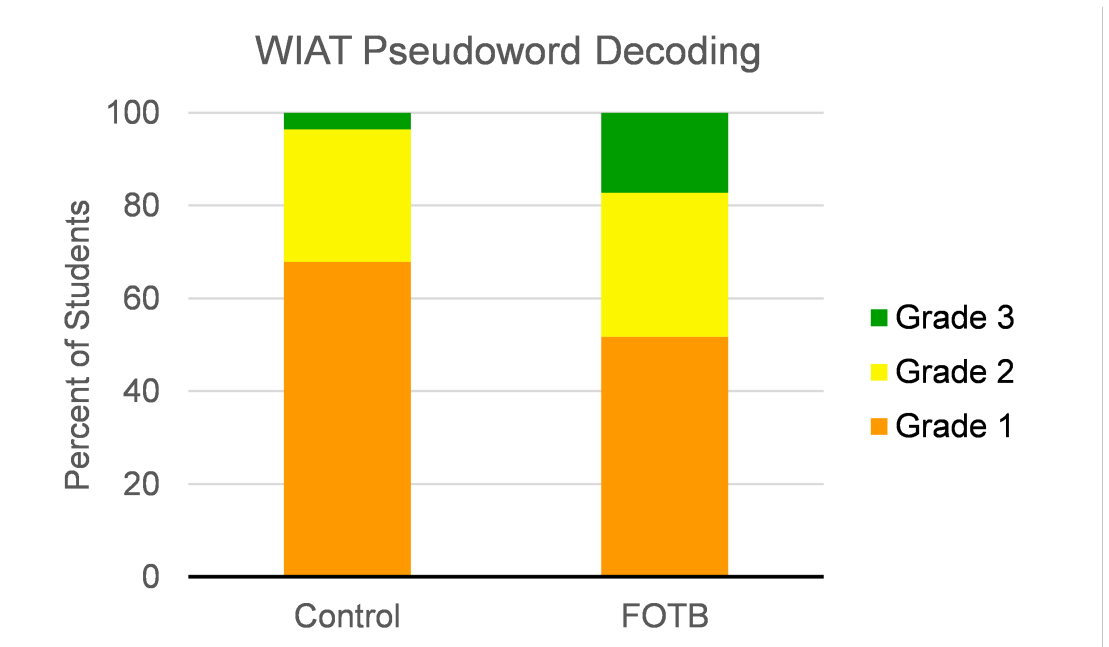
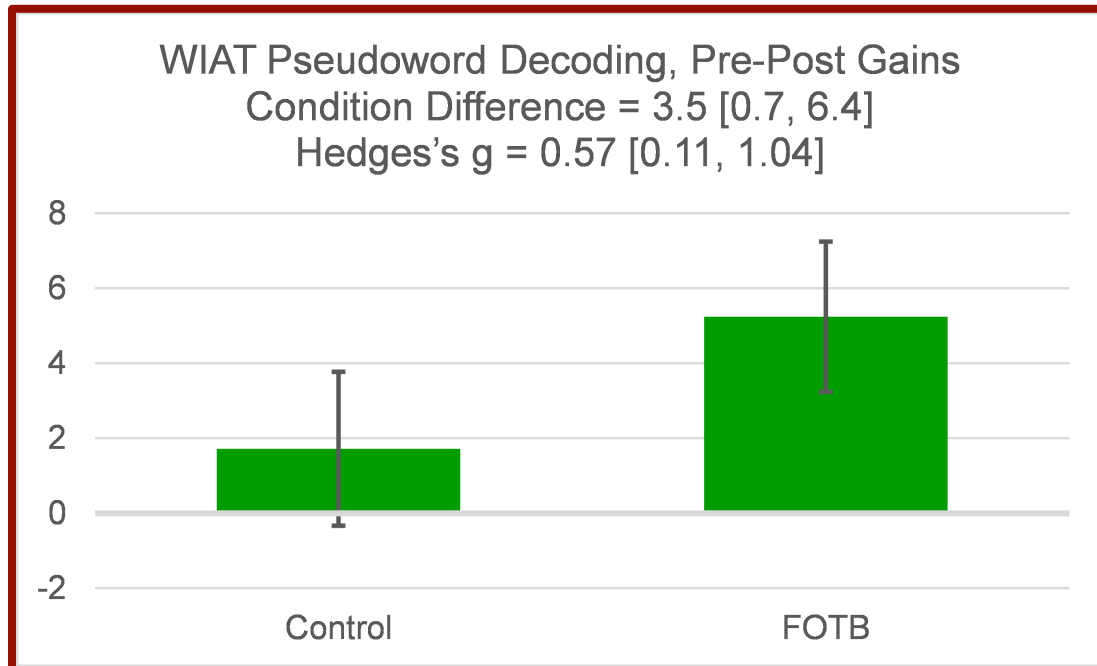
# Proximal measure for FOTB



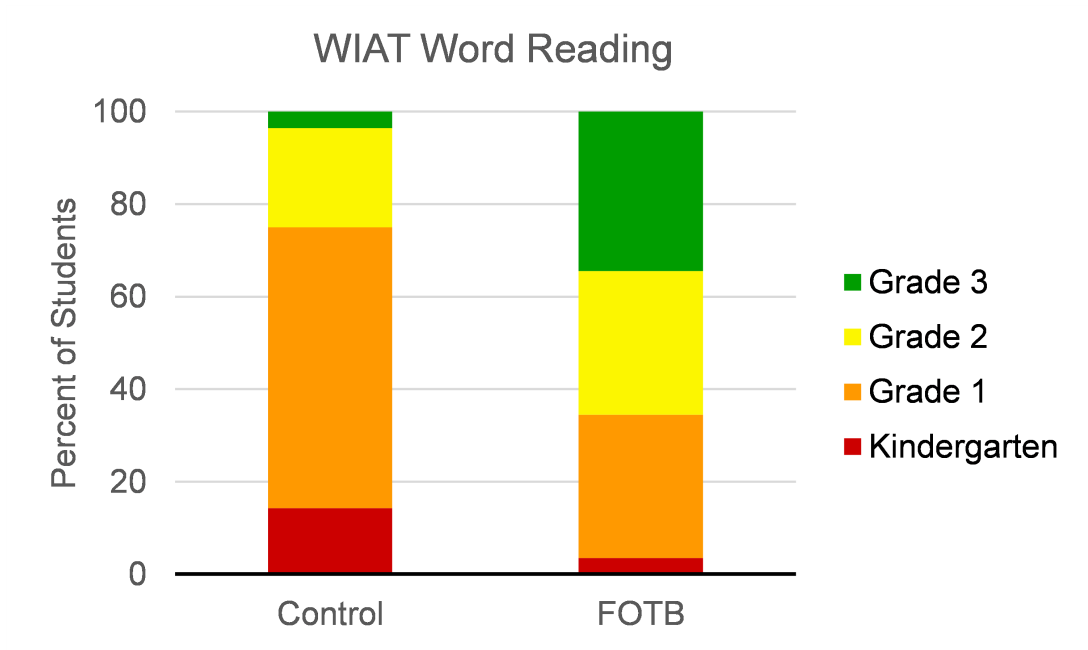
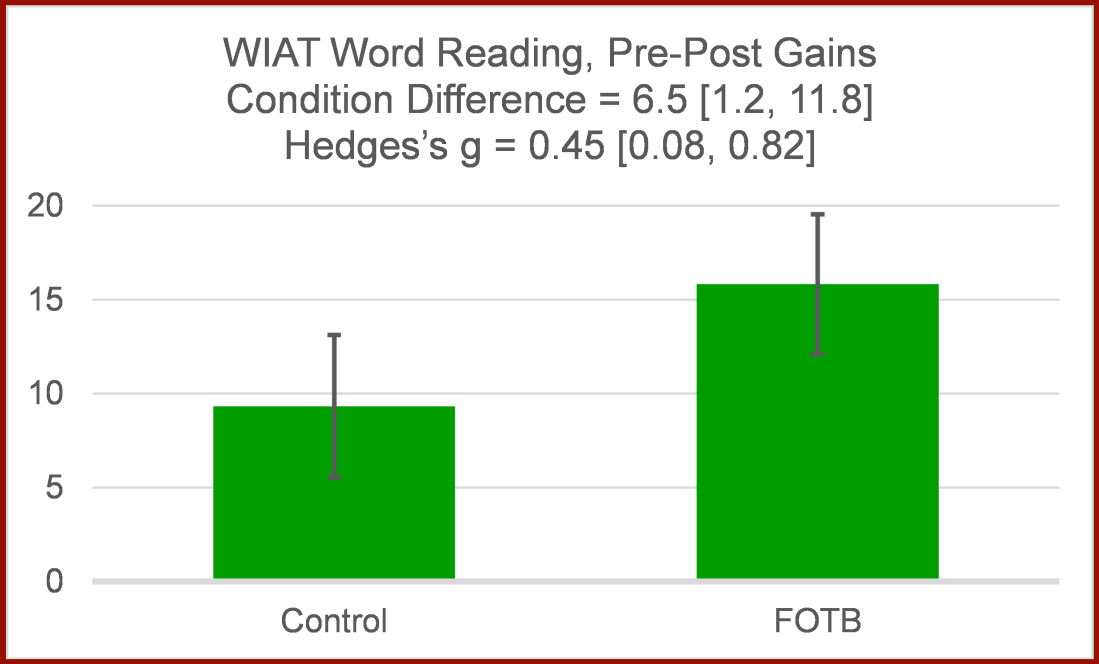
# Phonemic Awareness



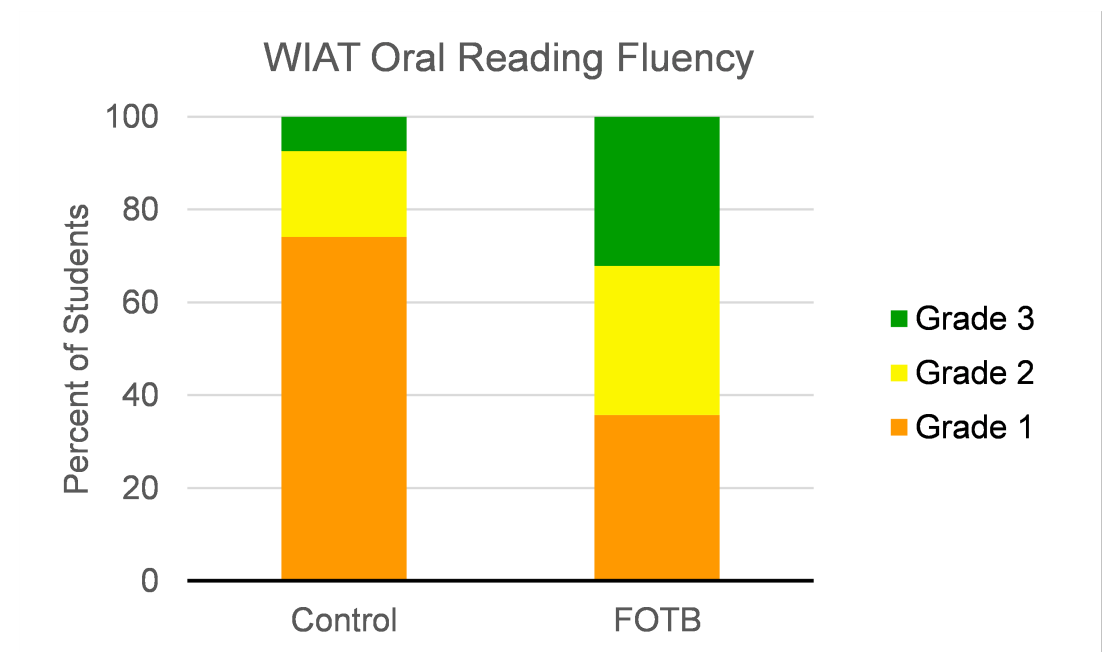
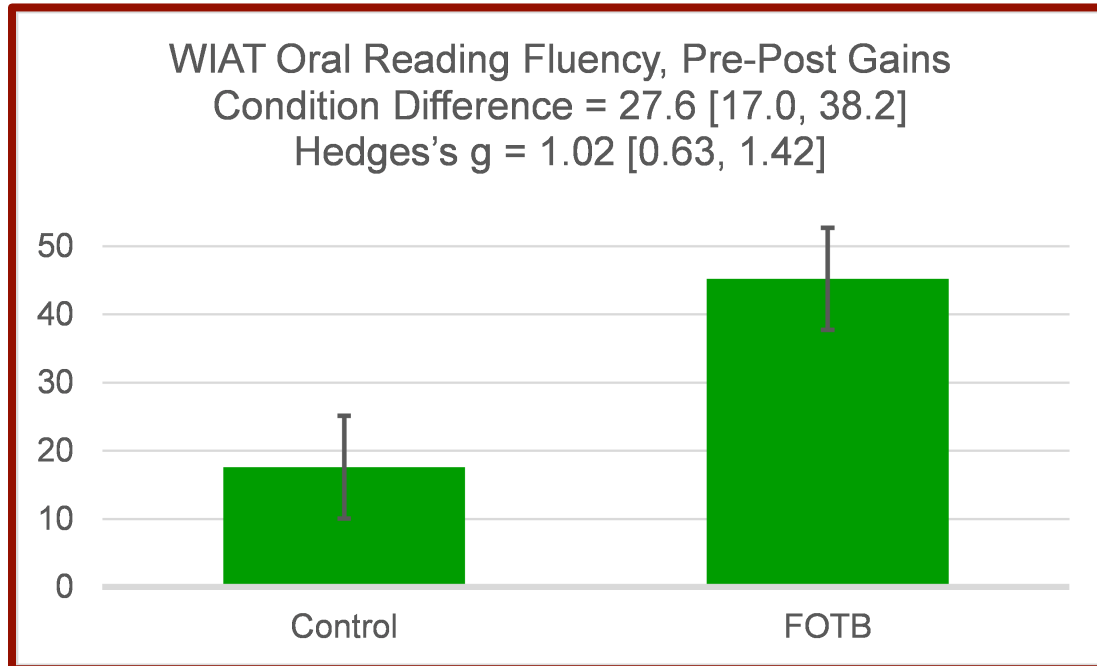
# Pseudoword Decoding



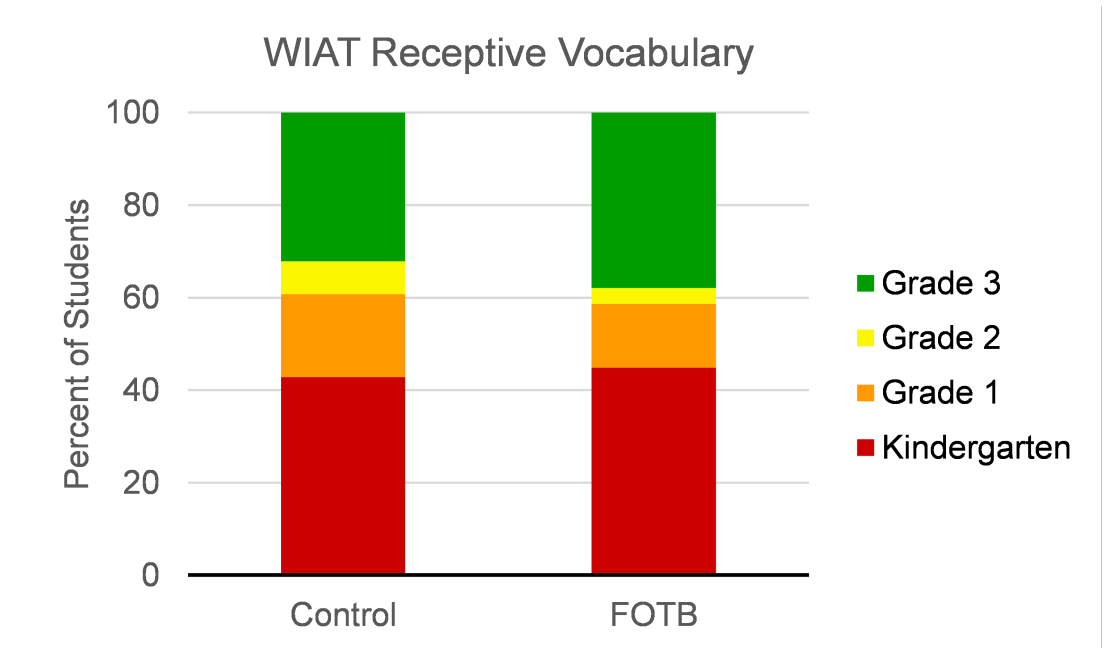
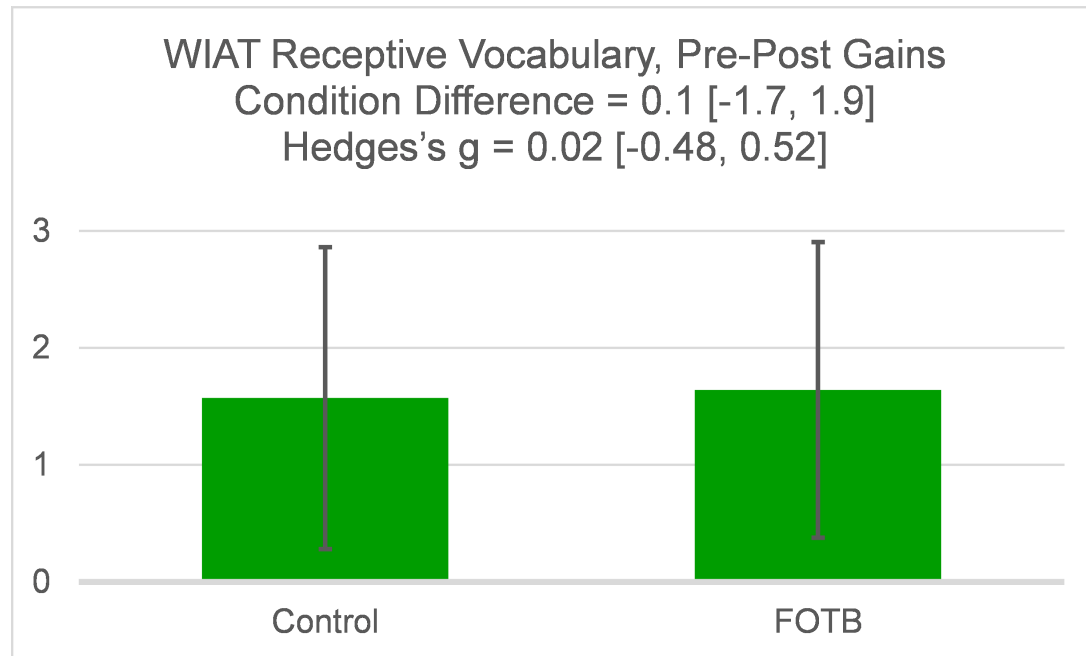
# Word Reading



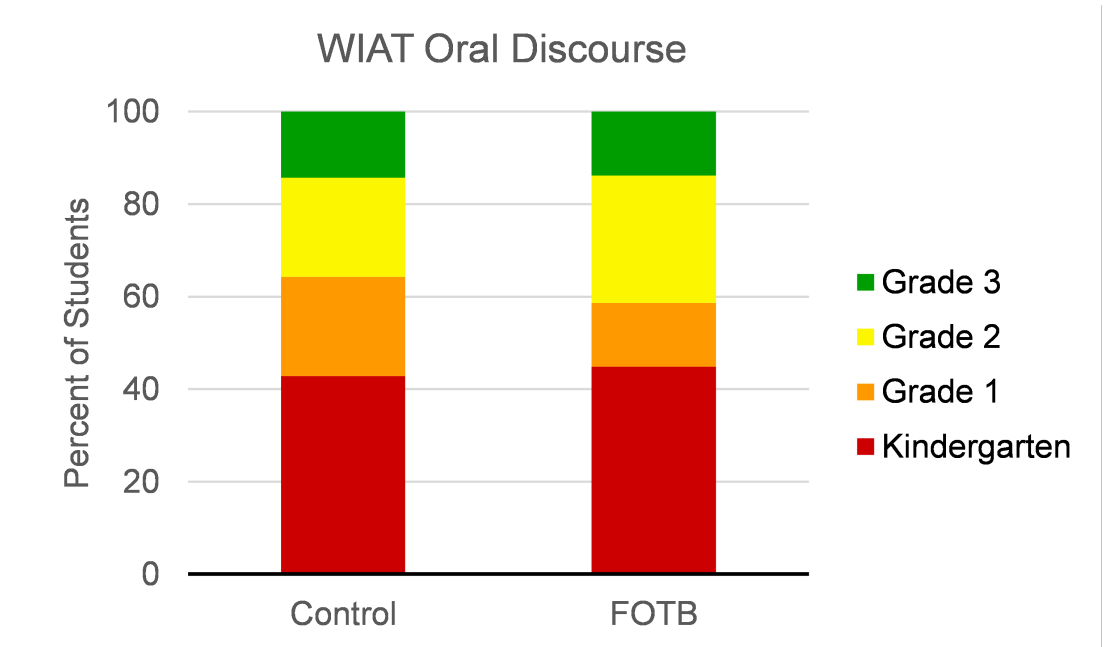
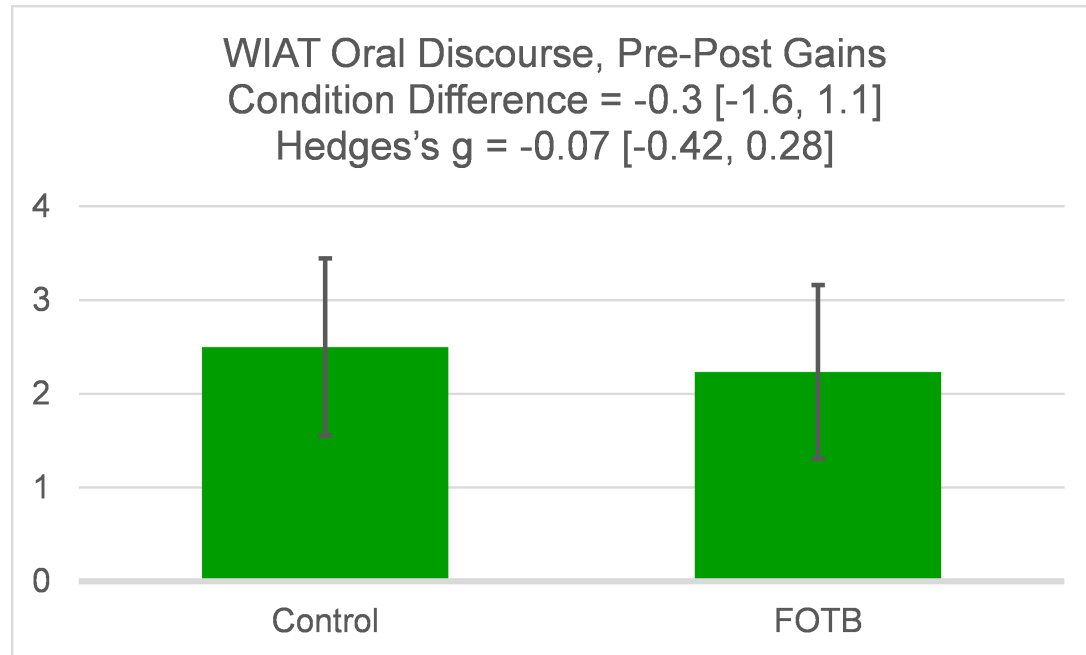
# Oral Reading Fluency



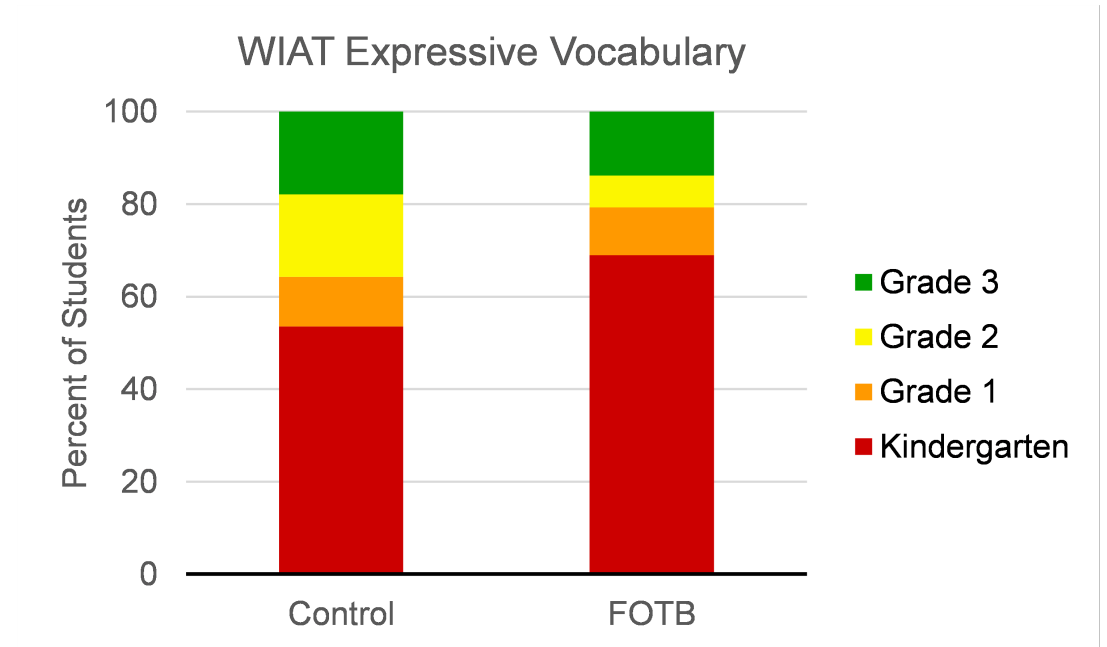
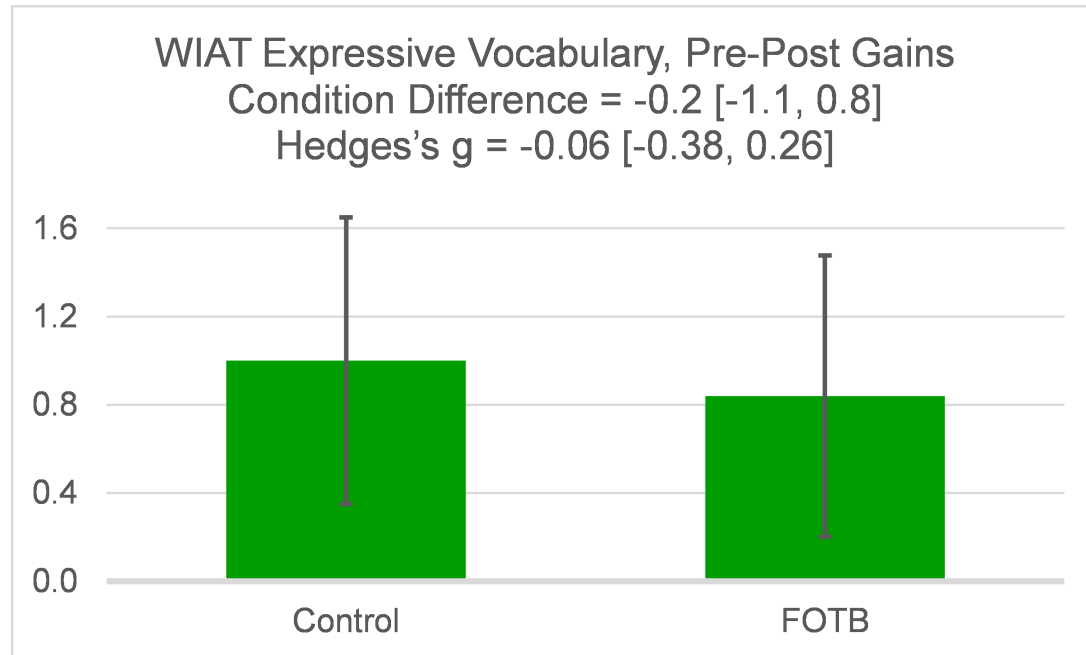
# Listening Comprehension



# Listening Comprehension

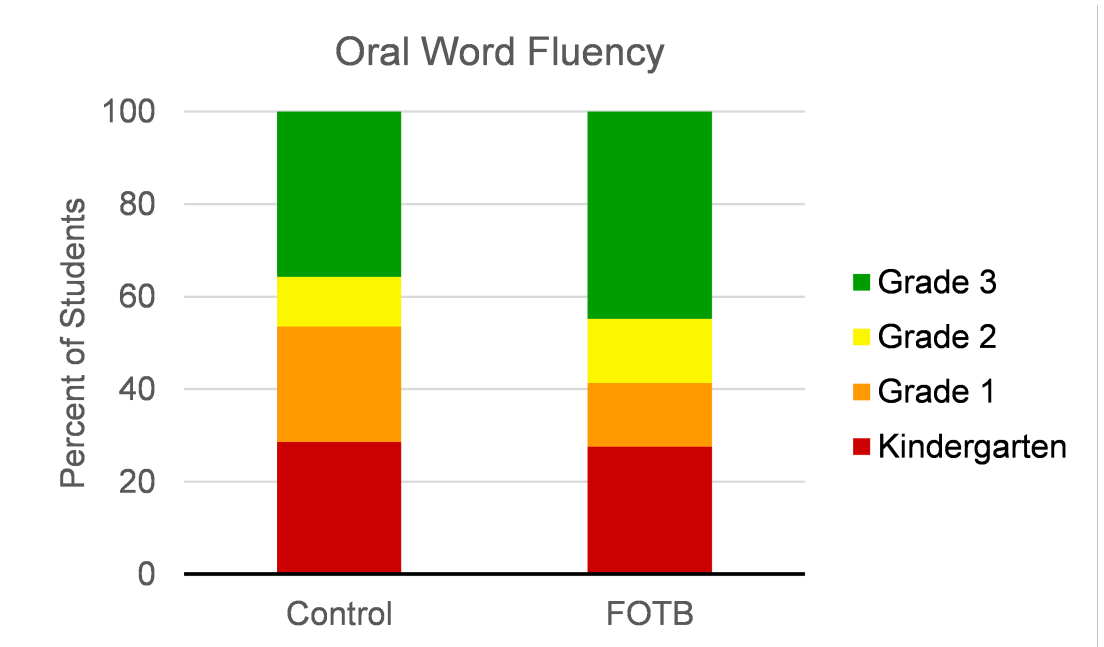
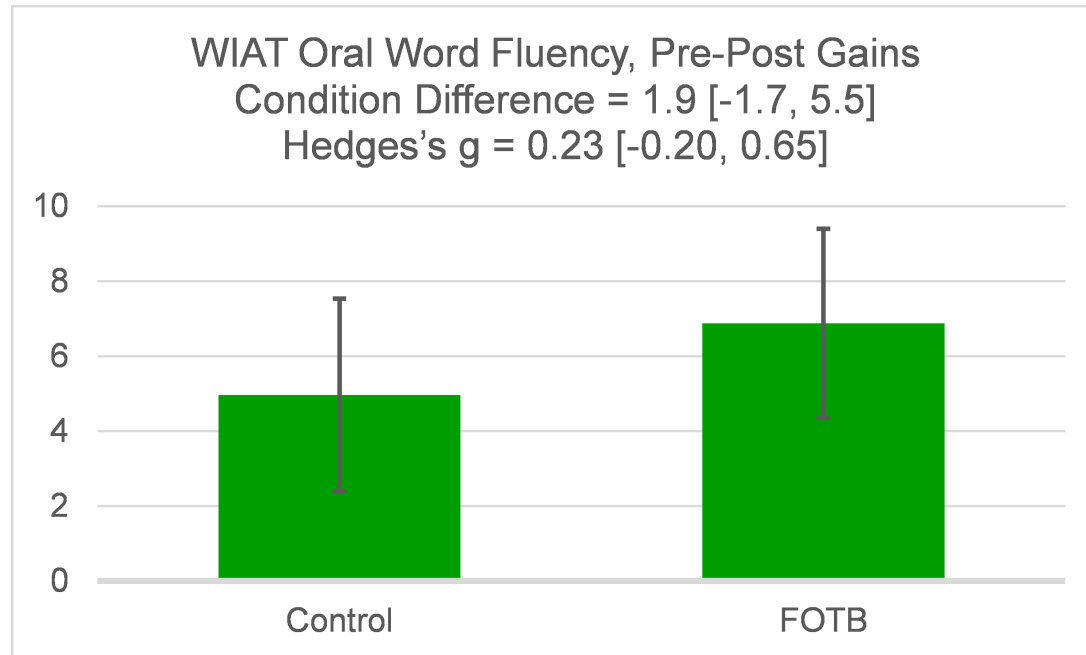


# Oral Expression

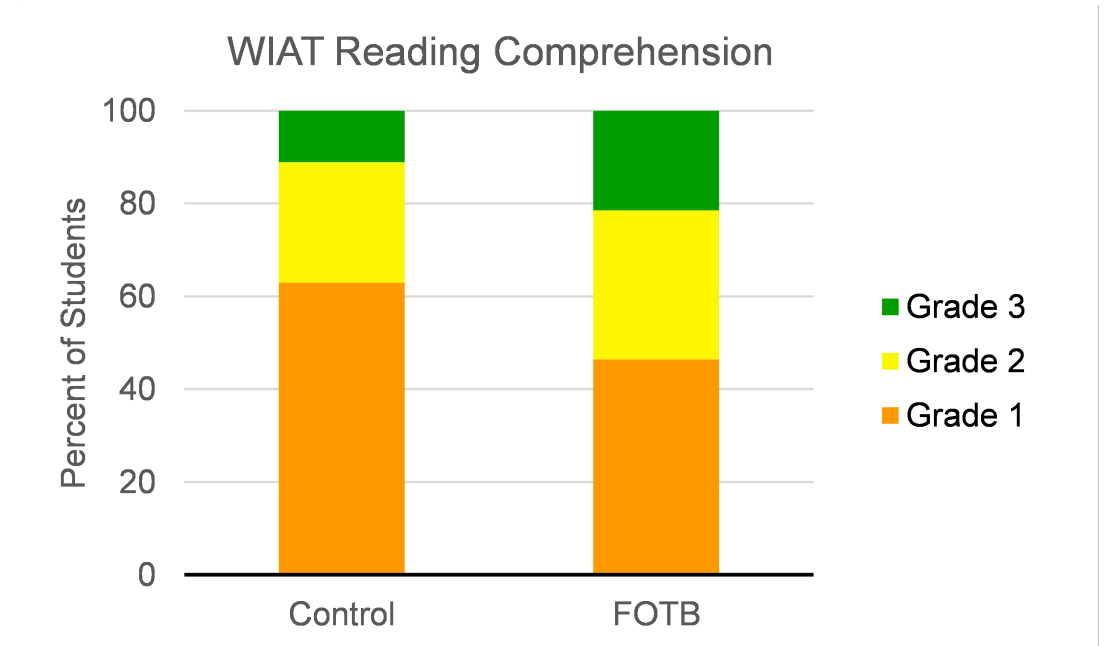
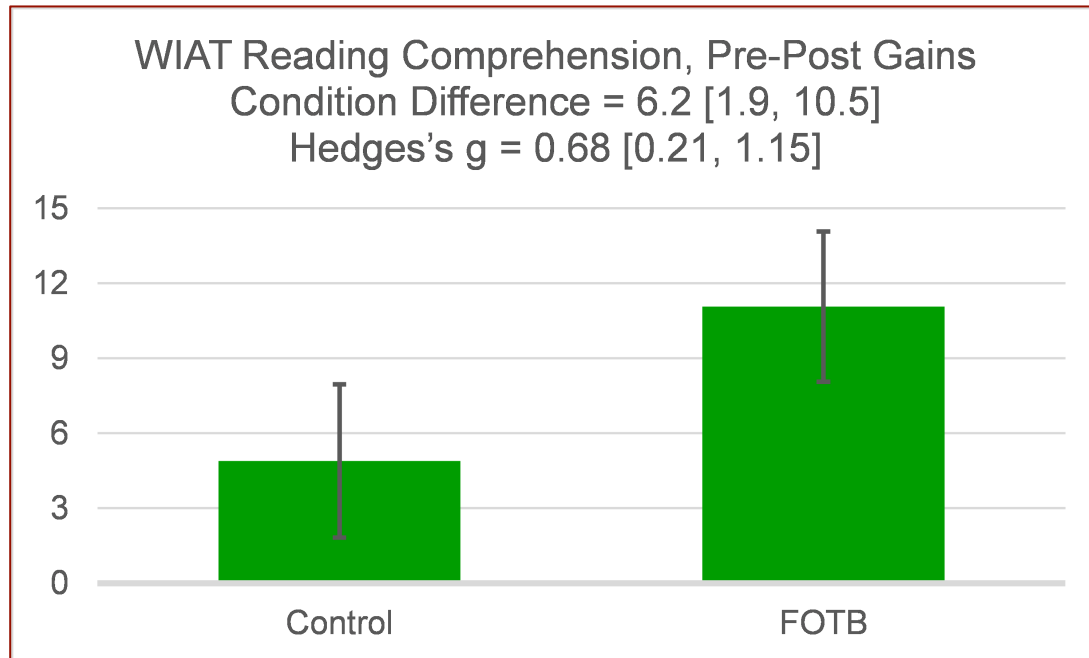




# Oral Expression



# Reading Comprehension



# Results Summary

## Measures Reported Today

Measure	<i>p</i>	<i>g</i>
<b>FOTB</b>	<b>.0006</b>	<b>1.2</b>
<b>CTOPP Blending</b>	<b>.0702</b>	<b>0.5</b>
<b>WIAT Pseudoword Decoding</b>	<b>.0326</b>	<b>0.6</b>
<b>WIAT Word Reading</b>	<b>.0326</b>	<b>0.4</b>
<b>WIAT Oral Reading Fluency</b>	<b>.0006</b>	<b>1.0</b>
WIAT Receptive Vocabulary	.9388	0.0
WIAT Oral Discourse	.7561	-0.1
WIAT Expressive Vocabulary	.7606	-0.1
WIAT Oral Word Fluency	.4026	0.2
<b>WIAT Reading Comprehension</b>	<b>.0176</b>	<b>0.7</b>

## Additional 12 Measures

Measure	<i>p</i>	<i>g</i>
WIAT Sentence Repetition	.5565	0.1
Peabody Picture Vocabulary Test	.5482	-0.1
Expressive Vocabulary	.4658	0.1
CUBED Phonological Awareness	.2208	0.3
<b>CUBED Word ID</b>	<b>.0326</b>	<b>0.6</b>
<b>CUBED Decoding</b>	<b>.0006</b>	<b>0.9</b>
<b>CUBED Narrative Lang. Reading WPM</b>	<b>.0006</b>	<b>0.9</b>
<b>CUBED NL Reading Story Qs</b>	<b>.0310</b>	<b>0.6</b>
<b>CUBED NL Listening Story Qs</b>	<b>.0310</b>	<b>0.7</b>
<b>CTOPP Elision</b>	<b>.0018</b>	<b>0.8</b>
<b>CTOPP Sound Matching</b>	<b>.0136</b>	<b>0.9</b>
CTOPP Phoneme Isolation	.2313	0.4

*Note.* *p* values adjusted with Benjamini–Hochberg correction for 22 total tests



# Case Studies



First Name (pseud.)	IQ	Initial Age	Pre PPVT AE	Primary Disability	Hrs of Instruction	FOTB Starting & Ending Levels	Pre FOTB Words	Post FOTB Words	Pre WI GE	Post WI GE	Pre RC GE	Post RC GE	Post ORF GE
Aiden	50	5.83	3.17	DD	46	1/2	2	7	0.7	1	1.3	1.2	Low
Ava	60	6.92	4	DD	42	1/14	19	296	1.4	2.5	1.3	2.2	4.6
Benjamin	63	9.08	5.33	DD	65	1/14	3	265	0.9	3	1.4	2.2	4
Caleb	64	6.33	4.42	AU	38	5/14	100	294	1.5	3.4	1.5	1.8	2.9
Carter	67	6.58	3.83	DD	69	1/14	13	295	1.3	2.3	1.3	2.2	2.4
Emma	67	7.42	4.83	DD	63	1/13	11	241	1.3	1.9	1.3	1.7	Low
Isaac	70	10.92	6.5	AU	49	1/5	2	5	Low	0.1	1.7	N/A	N/A
Madelyn	70	6.83	3.42	DD	61	1/11	1	198	0.6	2.4	1.2	1.8	2.5
Michael	77	7.92	4.5	ID	46	1/7A	1	79	0.6	1.5	1.3	1.6	Low
Olivia	80	5.67	4.08	DD	49	1/8A	2	120	0.6	1.5	1.3	1.6	Low



First Name (pseud.)	IQ	Initial Age	Pre PPVT AE	Primary Disability	Hrs of Instruction	FOTB Starting & Ending Levels	Pre FOTB Words	Post FOTB Words	Pre WI GE	Post WI GE	Pre RC GE	Post RC GE	Post ORF GE
Aiden	50	5.83	3.17	DD	46	1/2	2	7	0.7	1	1.3	1.2	Low
<b>Ava</b>	<b>60</b>	<b>6.92</b>	<b>4</b>	<b>DD</b>	<b>42</b>	<b>1/14</b>	<b>19</b>	<b>296</b>	<b>1.4</b>	<b>2.5</b>	<b>1.3</b>	<b>2.2</b>	<b>4.6</b>
<b>Benjamin</b>	<b>63</b>	<b>9.08</b>	<b>5.33</b>	<b>DD</b>	<b>65</b>	<b>1/14</b>	<b>3</b>	<b>265</b>	<b>0.9</b>	<b>3</b>	<b>1.4</b>	<b>2.2</b>	<b>4</b>
Caleb	64	6.33	4.42	AU	38	5/14	100	294	1.5	3.4	1.5	1.8	2.9
Carter	67	6.58	3.83	DD	69	1/14	13	295	1.3	2.3	1.3	2.2	2.4
Emma	67	7.42	4.83	DD	63	1/13	11	241	1.3	1.9	1.3	1.7	Low
Isaac	70	10.92	6.5	AU	49	1/5	2	5	Low	0.1	1.7	N/A	N/A
Madelyn	70	6.83	3.42	DD	61	1/11	1	198	0.6	2.4	1.2	1.8	2.5
Michael	77	7.92	4.5	ID	46	1/7A	1	79	0.6	1.5	1.3	1.6	Low
Olivia	80	5.67	4.08	DD	49	1/8A	2	120	0.6	1.5	1.3	1.6	Low



First Name (pseud.)	IQ	Initial Age	Pre PPVT AE	Primary Disability	Hrs of Instruction	FOTB Starting & Ending Levels	Pre FOTB Words	Post FOTB Words	Pre WI GE	Post WI GE	Pre RC GE	Post RC GE	Post ORF GE
Aiden	50	5.83	3.17	DD	46	1/2	2	7	0.7	1	1.3	1.2	Low
Ava	60	6.92	4	DD	42	1/14	19	296	1.4	2.5	1.3	2.2	4.6
Benjamin	63	9.08	5.33	DD	65	1/14	3	265	0.9	3	1.4	2.2	4
<b>Caleb</b>	<b>64</b>	<b>6.33</b>	<b>4.42</b>	<b>AU</b>	<b>38</b>	<b>5/14</b>	<b>100</b>	<b>294</b>	<b>1.5</b>	<b>3.4</b>	<b>1.5</b>	<b>1.8</b>	<b>2.9</b>
Carter	67	6.58	3.83	DD	69	1/14	13	295	1.3	2.3	1.3	2.2	2.4
Emma	67	7.42	4.83	DD	63	1/13	11	241	1.3	1.9	1.3	1.7	Low
Isaac	70	10.92	6.5	AU	49	1/5	2	5	Low	0.1	1.7	N/A	N/A
<b>Madelyn</b>	<b>70</b>	<b>6.83</b>	<b>3.42</b>	<b>DD</b>	<b>61</b>	<b>1/11</b>	<b>1</b>	<b>198</b>	<b>0.6</b>	<b>2.4</b>	<b>1.2</b>	<b>1.8</b>	<b>2.5</b>
Michael	77	7.92	4.5	ID	46	1/7A	1	79	0.6	1.5	1.3	1.6	Low
Olivia	80	5.67	4.08	DD	49	1/8A	2	120	0.6	1.5	1.3	1.6	Low



First Name (pseud.)	IQ	Initial Age	Pre PPVT AE	Primary Disability	Hrs of Instruction	FOTB Starting & Ending Levels	Pre FOTB Words	Post FOTB Words	Pre WI GE	Post WI GE	Pre RC GE	Post RC GE	Post ORF GE
<b>Aiden</b>	<b>50</b>	<b>5.83</b>	<b>3.17</b>	<b>DD</b>	<b>46</b>	<b>1/2</b>	<b>2</b>	<b>7</b>	<b>0.7</b>	<b>1</b>	<b>1.3</b>	<b>1.2</b>	<b>Low</b>
Ava	60	6.92	4	DD	42	1/14	19	296	1.4	2.5	1.3	2.2	4.6
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<b>Isaac</b>	<b>70</b>	<b>10.92</b>	<b>6.5</b>	<b>AU</b>	<b>49</b>	<b>1/5</b>	<b>2</b>	<b>5</b>	<b>Low</b>	<b>0.1</b>	<b>1.7</b>	<b>N/A</b>	<b>N/A</b>
Madelyn	70	6.83	3.42	DD	61	1/11	1	198	0.6	2.4	1.2	1.8	2.5
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Olivia	80	5.67	4.08	DD	49	1/8A	2	120	0.6	1.5	1.3	1.6	Low





# Discussion



# Results Summary

## *Measures Reported Today*

- Statistically significant ( $p < .05$ )
  - FOTB
  - WIAT Pseudoword Decoding
  - WIAT Word Reading
  - WIAT Oral Reading Fluency
  - WIAT Reading Comprehension
- Marginally significant ( $p < .10$ )
  - CTOPP Blending
- Our effects for word reading are stronger than prior research, including our own.
- We did not find effects favoring FOTB for language measures.
- Anecdotally, students enjoyed reading the books and engaged with the characters and settings.

*Note.  $p$  values adjusted with Benjamini–Hochberg correction for 22 total tests*



# Limitations and Directions for Future Research

- A limitation is that our interventionists provided the intervention, rather than teachers.
- We have more data to analyze (other measures, observations of the BAU, formal evaluation of fidelity,).
- These results should be considered preliminary as we have another cohort.
- Given the limited language effects on WIAT, we will explore with additional analyses of other measures.
- In future, we will continue to refine the intervention, including bolstering or emphasizing the language instructional components.



# Additional Future Directions to Explore

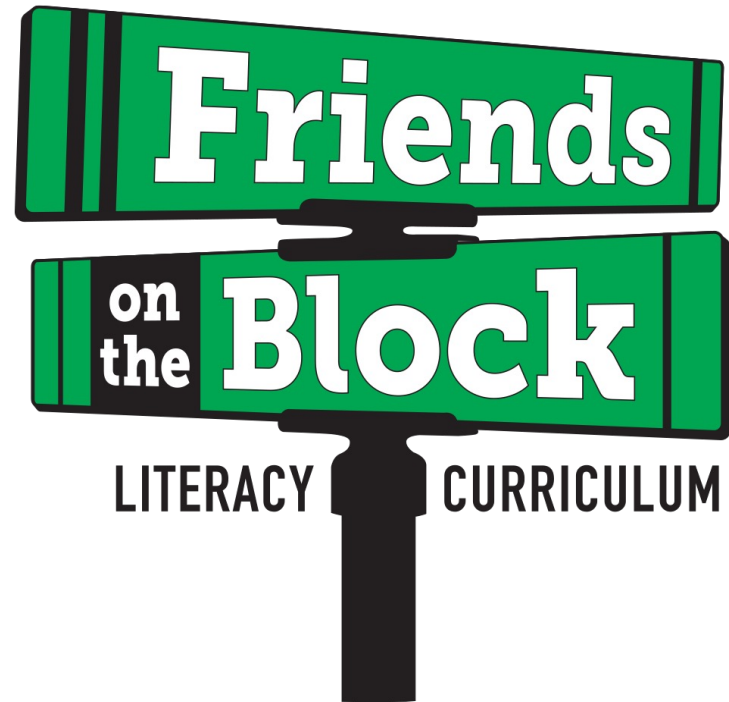
- Do individual student differences moderate improvements in students' reading outcomes? (i.e., IQ, language)
- Do individual family differences moderate improvements in students' reading or language outcomes? (i.e., home literacy environment, parent education, SES)
- Are differences on reading or language outcomes identified between conditions at the end-of-treatment maintained one or two years later?



# Questions



# For More Information on Friends on the Block



## Overview & Demonstration Videos

## FREE Materials



**Acknowledgements** Support for research and development provided by grants #H324K040011-05, R324A130102, and R324A200151 from the Institute of Education Sciences to Southern Methodist University. Jill Allor and Stephanie Al Otaiba acknowledge a financial interest in the Friends on the Block books and curriculum. The views expressed are those of the authors and have not been reviewed or approved by the granting agency.





Thank you!

Takeaway: FOTB is effective in boosting the early literacy skills of children with IDD.

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