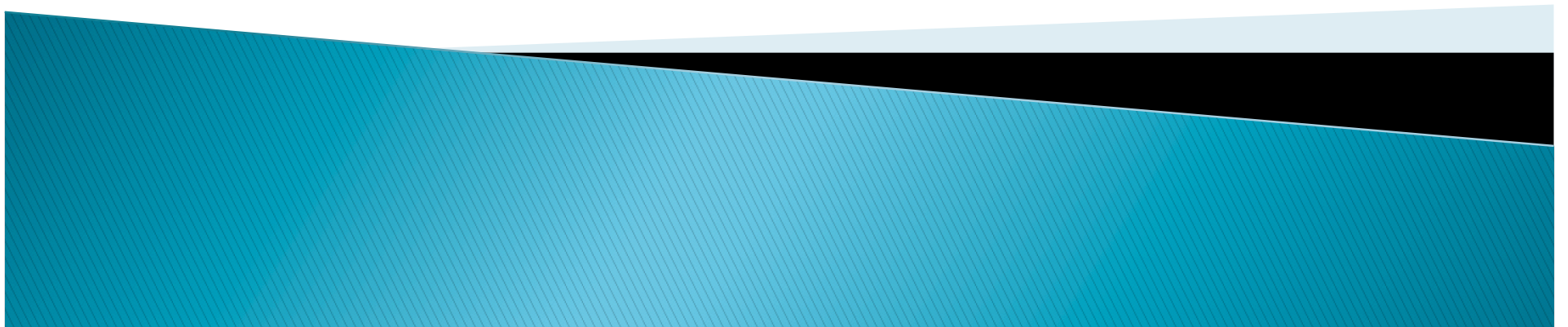


Teaching Students with Intellectual Disabilities to Transfer Early Reading Skills to Text

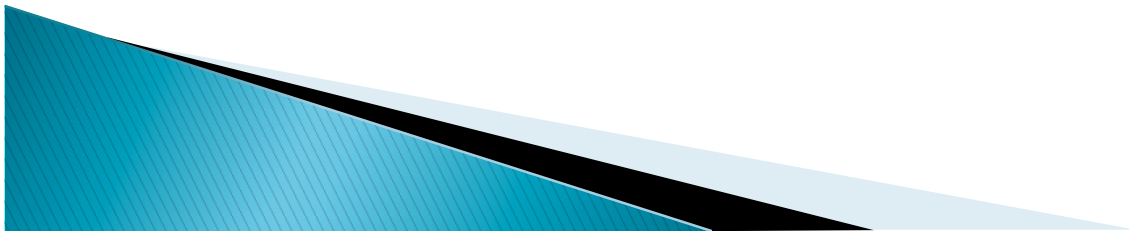
Dr. Jill H. Allor
Southern Methodist University
CEC, April 2011



Literature Review: Reading and Intellectual Disabilities (ID)

- ▶ Minimal amount of research
- ▶ Focused on mild ID, not moderate ID
- ▶ Focused on isolated subskills
 - Students with moderate to severe ID are able to learn to automatically recognize a fairly large number of words (sight words; memorizing whole words)
 - Phonics research is promising

*Browder, Wakeman, Spooner, Ahlgrim-Dezell, & Algozzine, 2006;
Conners, Rosenquist, Sligh, Atwell, & Kiser, 2006*



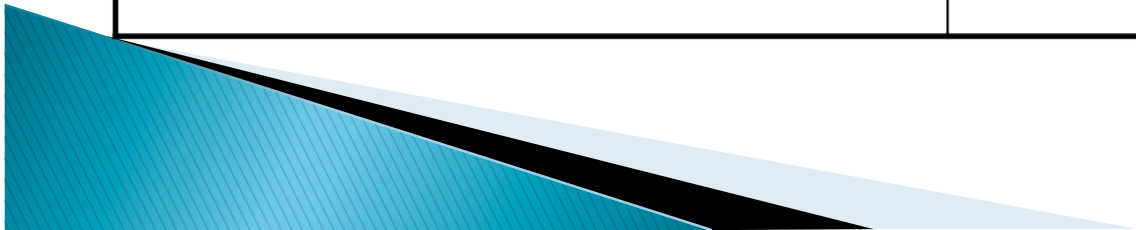
Recent Research on Comprehensive Reading Instruction

- ▶ Students with IDs respond favorably to comprehensive research-based reading instruction
 - If individualized and delivered with high fidelity
 - If intense
 - *Allor, Mathes, Roberts, Cheatham, and Champlin, 2010 (IQs ranging from 40–79; Report after year 3)*
 - *Browder, Ahlgrim-Delzell, Courtade, Gibbs, & Flowers, 2008 (IQs 55 or below, limited verbal skills)*



Context for this study: Longitudinal Study (Year 4)

<i>141 students participated at least one year</i>	Treatment	Contrast
Borderline IQ* (70-79) *WASI or school testing	$n = 35$	$n = 35$
Mild IQ (55-69)	$n = 21$	$n = 16$
Moderate IQ (40-54)	$n = 20$	$n = 14$
TOTAL	$n = 76$	$n = 65$

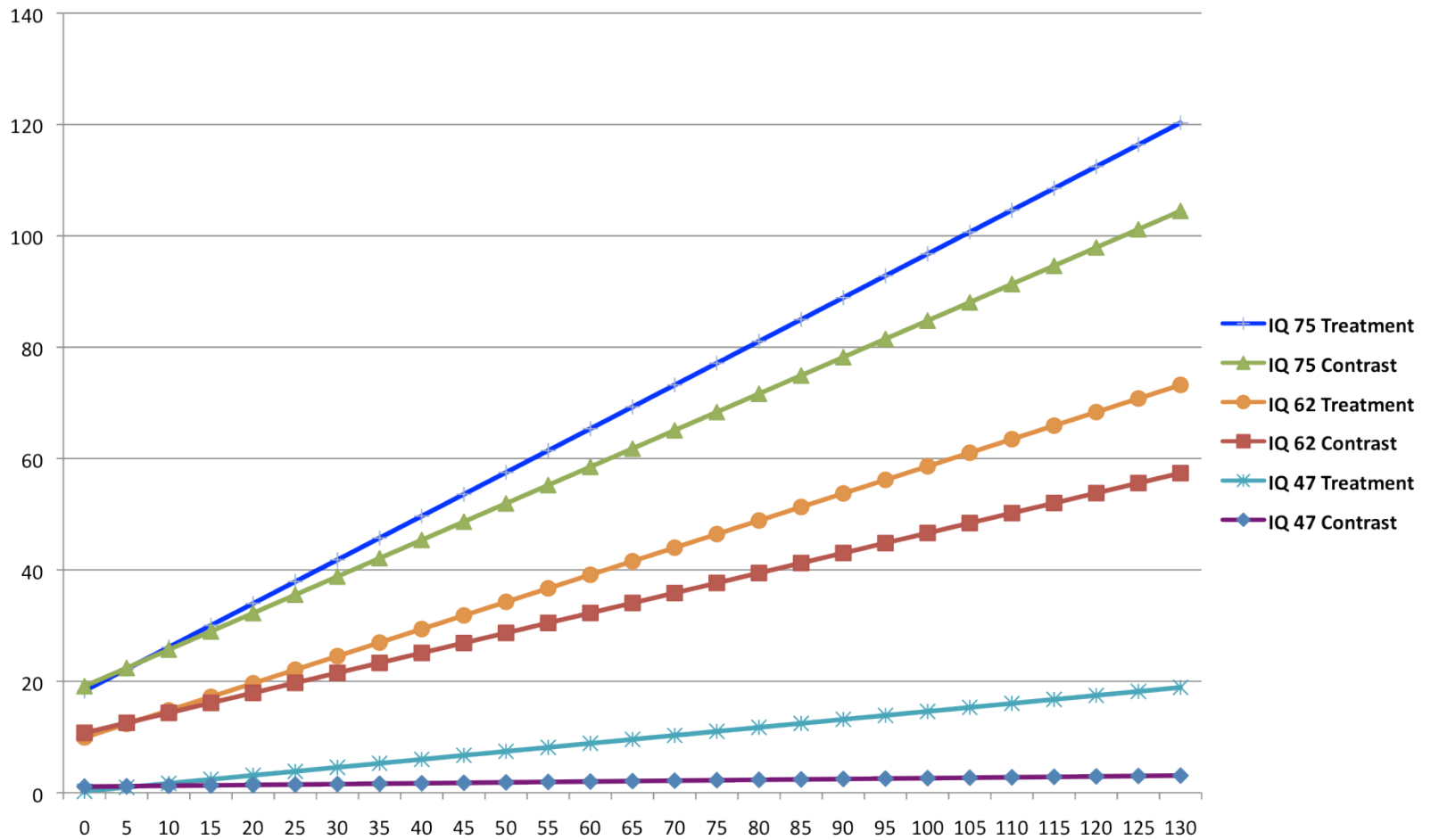


Findings

- ▶ Year 3 published – Allor, et al., 2010, *Psychology in the Schools*
- ▶ Year 4 not yet published
- ▶ Support for use of scientifically-based reading instruction for students with low IQs (including ID range)
- ▶ IF Individualized and with high degrees of fidelity
- ▶ IF provided intensive, comprehensive instruction over an extended period of time



Findings after Year 4



A small number of students...

- ▶ Experienced extreme difficulty with early word recognition skills
 - Irregular words (e.g. *was*)
 - Regular words (e.g. *sat*)
- ▶ Blended sounds together to form a few simple words (e.g. *fan*, *sat*), but often unable to decode same or similar words in connected text
- ▶ Experienced severe difficulty transferring skills to new activity/context
 - Lesson to text
 - Activity to activity (e.g. applying oral blending skills to sounding out printed words)



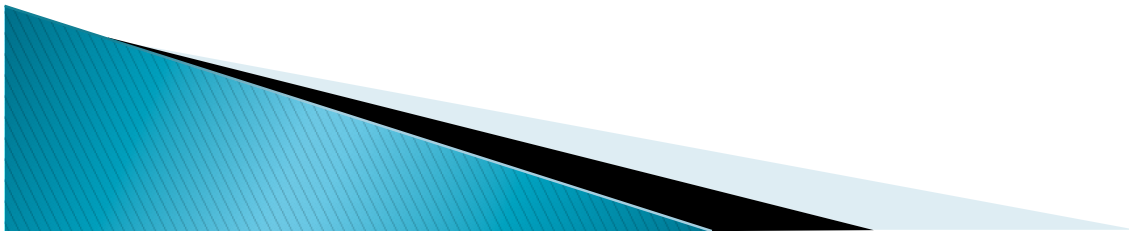
Transfer Skills Research

- ▶ National Research Council, 1999
 - Begins with knowledge and skills learners bring to a task (initial threshold is necessary)
 - Active engagement
 - Flexible understanding of when and how to use skill
- ▶ Students with ID
 - Katz (1962) – importance of meaning to transfer
 - Neville and Vandever (1976) – gradual development of increasingly more complex reading skills promotes transfer
 - Conners, Rosenquist, et al. (2006) transfer phonics skills to new words



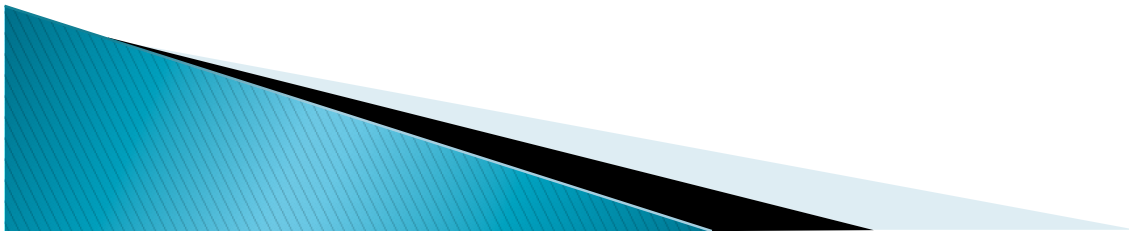
Purpose of Study

- ▶ Develop and test the effectiveness of “application” lessons specifically designed to strengthen early literacy skills and explicitly teach students to apply those skills to words both in and out of context
 - Were not transferring blending skills to same or similar words
 - Were not recognizing taught sight words in context
 - Number of words unitized (i.e. read within 2–4 seconds) very limited



Research Question

- ▶ Would application lessons designed to teach students to improve and transfer early reading skills to specific connected text result in improved student ability to quickly identify words (i.e. unitize) both in and out of context?



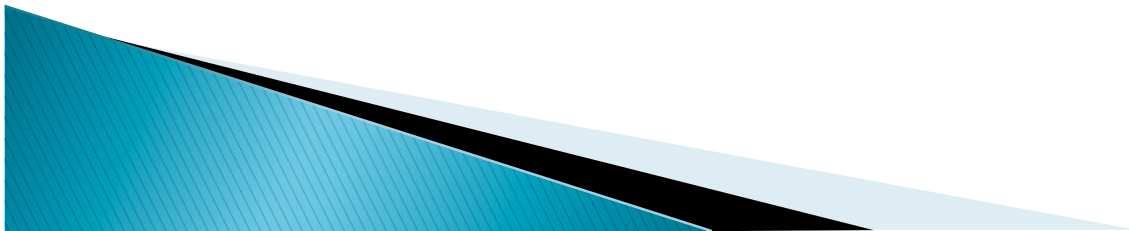
Participants for Present Study

- ▶ 3 students selected from the longitudinal study
- ▶ Identified with Intellectual Disabilities (i.e. mental retardation)
- ▶ Taught in self-contained setting
- ▶ Participated in intervention study for 1–3 years
- ▶ Experienced extreme difficulty with early word recognition skills and transfer of skills in and out of context



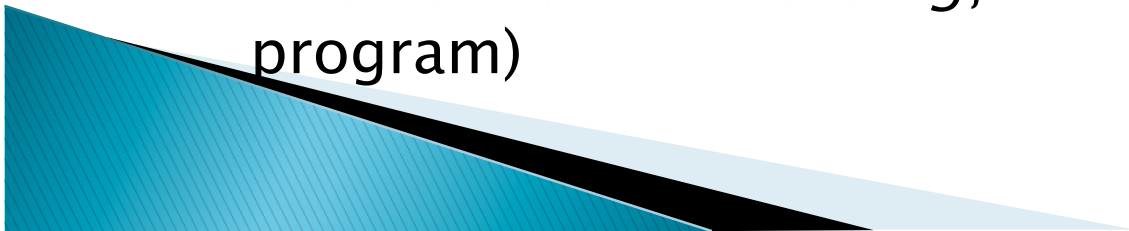
Participants (cont.)

- ▶ Justin
 - IQ 52, 3rd grade
 - English Language Learner
 - In second year of participation in longitudinal study
- ▶ Grace
 - IQ 59, 4th grade
 - In fourth year of participation
- ▶ Kristen
 - IQ 45, 6th grade
 - In third year of participation



Intervention: Developed Word List, Texts and Lessons

- ▶ **Word list**
 - high frequency regular and irregular words, as well as other regular words
 - tailored to the letter-sounds students had learned (i.e. 4 short vowels and many consonants)
- ▶ **4 books**
 - included predominately words from the list
- ▶ **Lessons**
 - taught the words in the new texts using the same formats as in the longitudinal study (*Early Interventions in Reading*, a direct instruction program)



New Words Introduced in Each Book

Irregular Words

Regular Words

Fun with Friends

a	back	not
come	but	on
do	can	run
I	dig	sand
is	fast	she
like	fun	sit
of	go	still
play	if	stop
see	in	sun
the	it	top
to	lot	up
very	me	will
want	must	
was	no	

40 new words introduced

40 total words on the word list assessment

Up at Bat

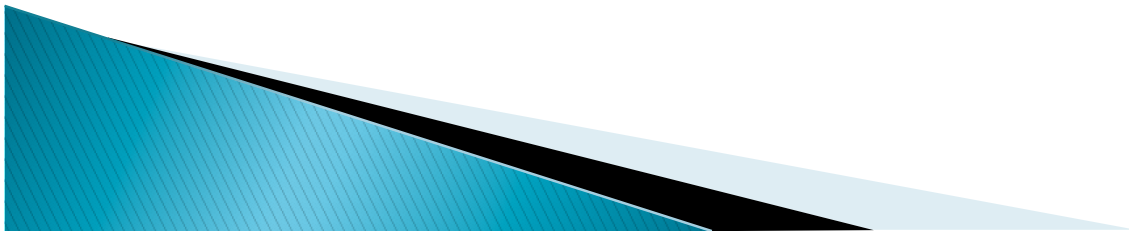
here
look
said
you

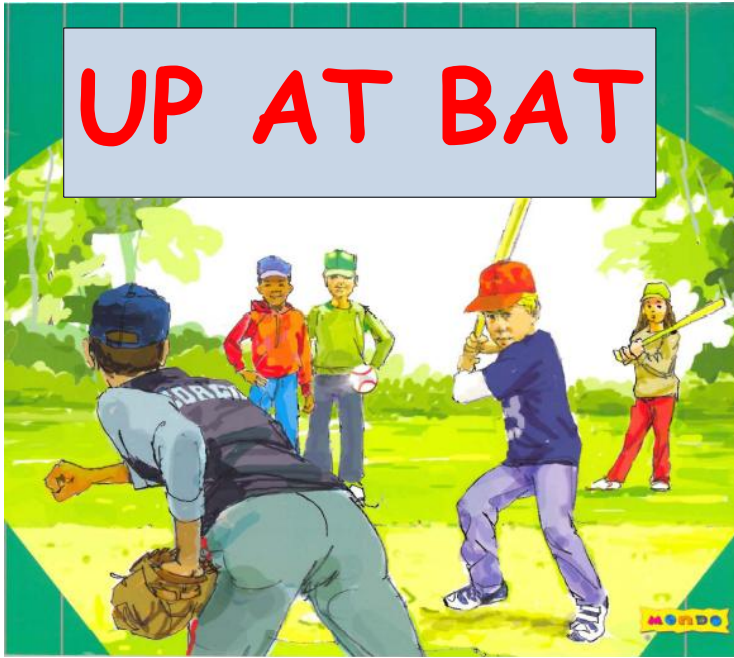
at
bam
bat
crack
did
ducks
glad
he
hit
Jack
land

miss
much
pick
pitch
Sam
splash
that
Tom
wish
with

25 new words introduced

65 total words on the word list assessment





By Joanna Guinther

Illustrated by Dick Smolinski

Adapted by Jill Allor



Crack! The bat hits the ball.



"I did it! I did it!" said Sam. "I hit the ball."



"Look at the ball!" said Tom. "Look at the ball go up,
up, up!"



Where will the ball go?





Crack! The bat hits the ball.

"I did it! I did it!" said Sam. "I hit the ball."

"Look at the ball!" said Tom. "Look at the ball go up,
up, up!"

Where will the ball go?

Crack! The bat hits the ball.

"I did it! I did it!" said Sam. "I hit the ball."

"Look at the ball!" said Tom. "Look at the
ball go up, up, up!"

Where will the ball go?

Irregular Words	Regular Words	
<i>The Lost Cat</i>		
for	am	mom
happy	and	nap
her	be	pan
likes	big	pot
little	blocks	Puff
my	box	soft
of	cat	stack
where	dad	stuff
	had	this
	jump	tub
	lost	

29 new words introduced
94 total words on the word list assessment

<i>Wake Up, Ginger</i>		
are	bit	mop
catch	can't	off
come	get	ran
his	got	rug
there	hid	soft
what	just	stuck

18 new words introduced
112 total words on the word list assessment



Activity C

i

t

o

m

h

a

k

i

w

a

n

d

b

o

th

Activity G

hit

with

will

Sam

land

fun

can

hits

bat

not

fast

bam

Tom

did

Jack

Activity F1.1

Will Sam hit the ball?



Bam! Sam hits the ball.



“I hit the ball!” said Sam.



“Look at the ball go!” said
Jack.

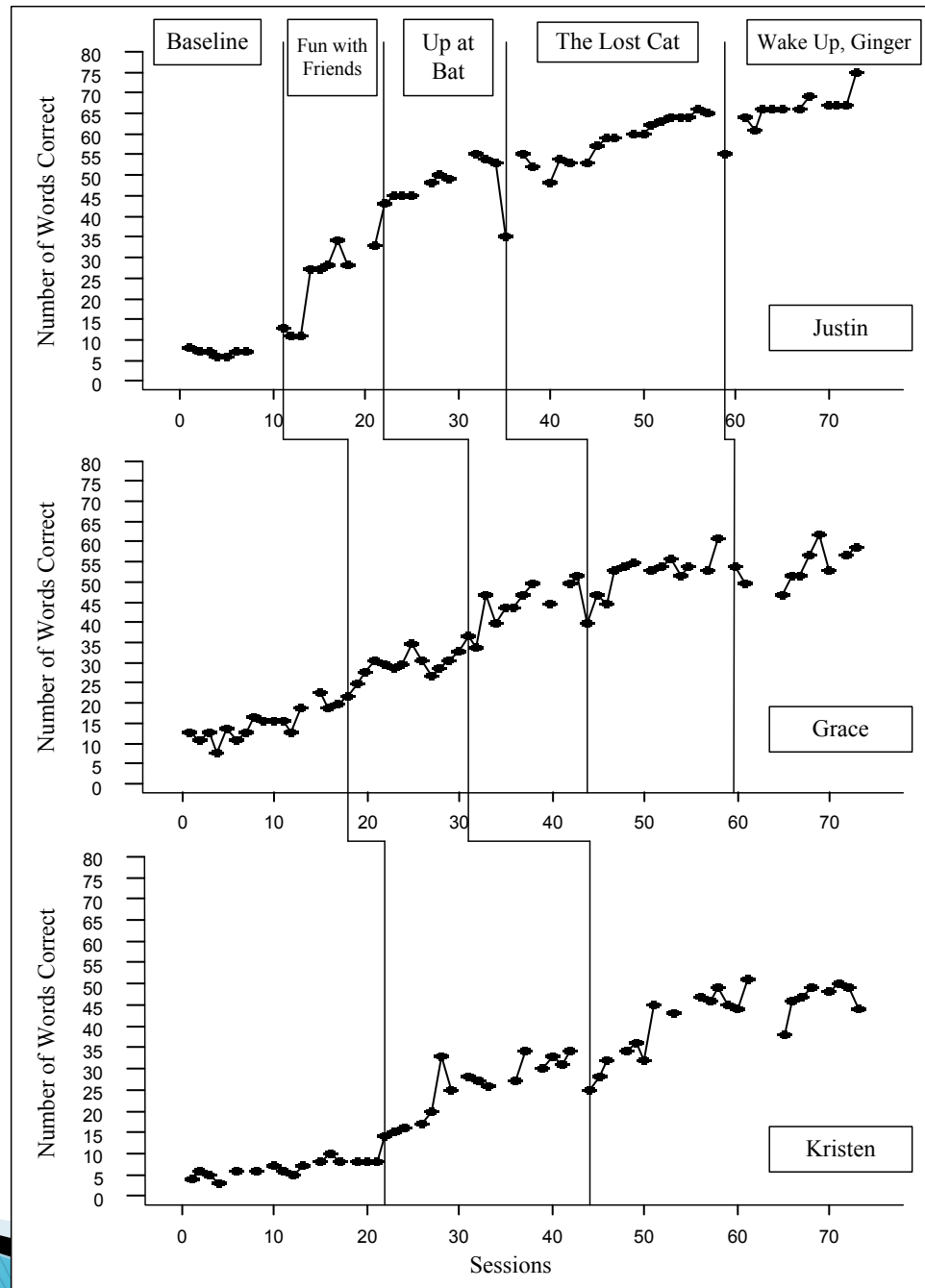


Baseline and Measurement

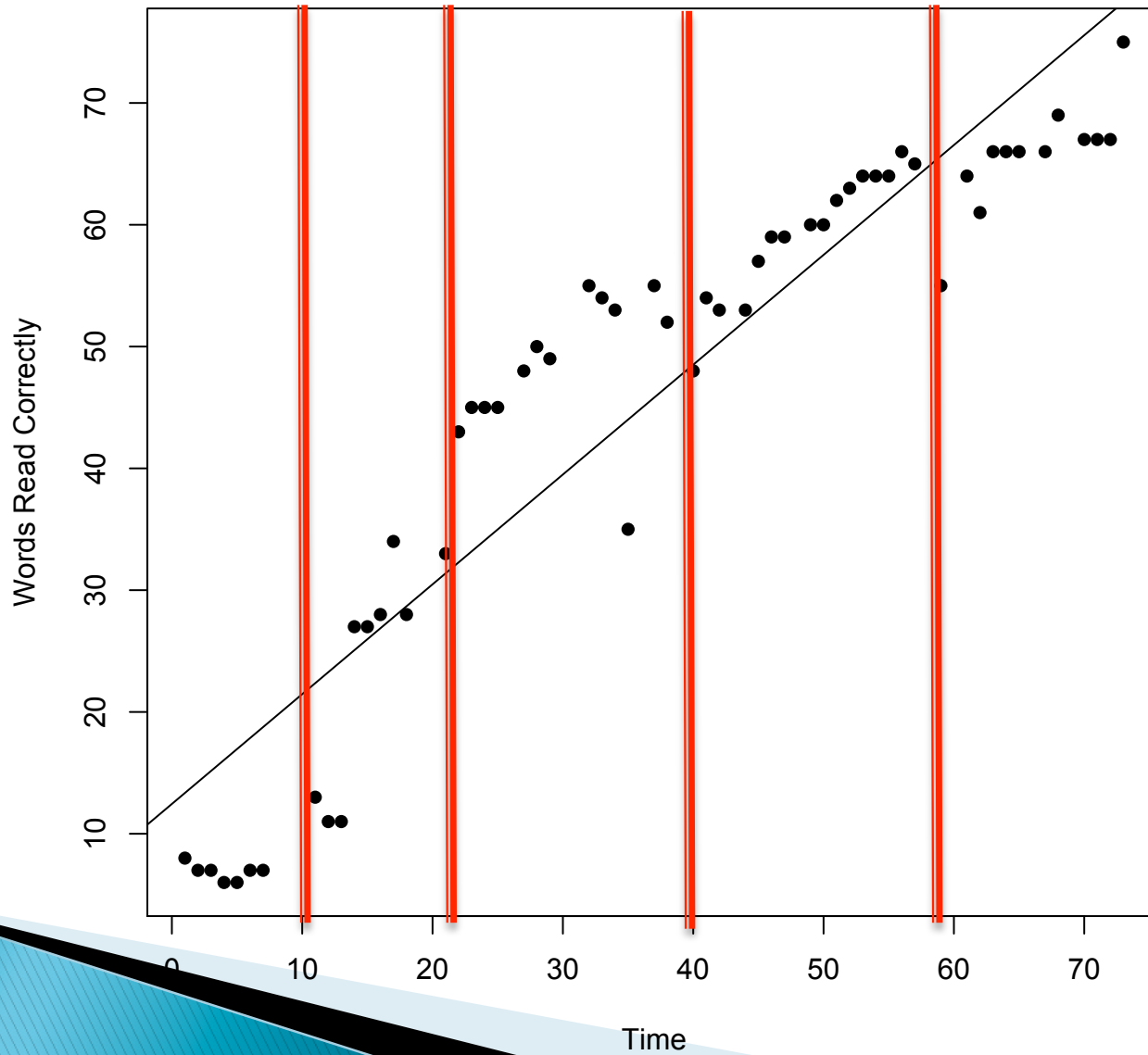
- ▶ During baseline, instruction focused on oral language development and did not include word recognition
- ▶ Cumulative word list
 - Book 1: 40 words on assessment
 - Book 2: 65 words on assessment
 - Book 3: 94 words on assessment
 - Book 4: 112 words on assessment
- ▶ Words presented in a random order
- ▶ Scored as correct if pronounced word within 3–4 seconds



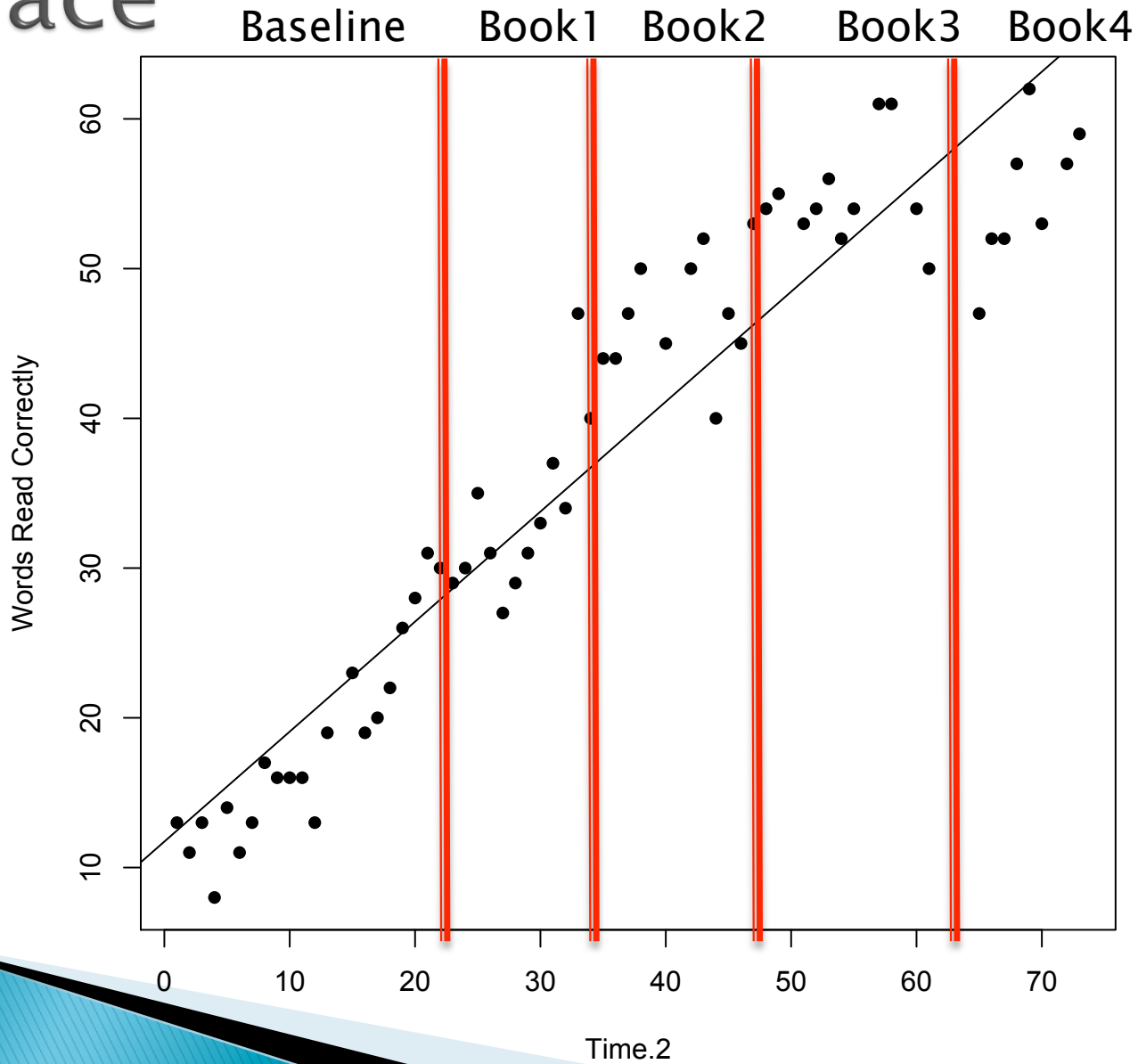
Figure X. Words read correct on proximal measure during baseline and intervention



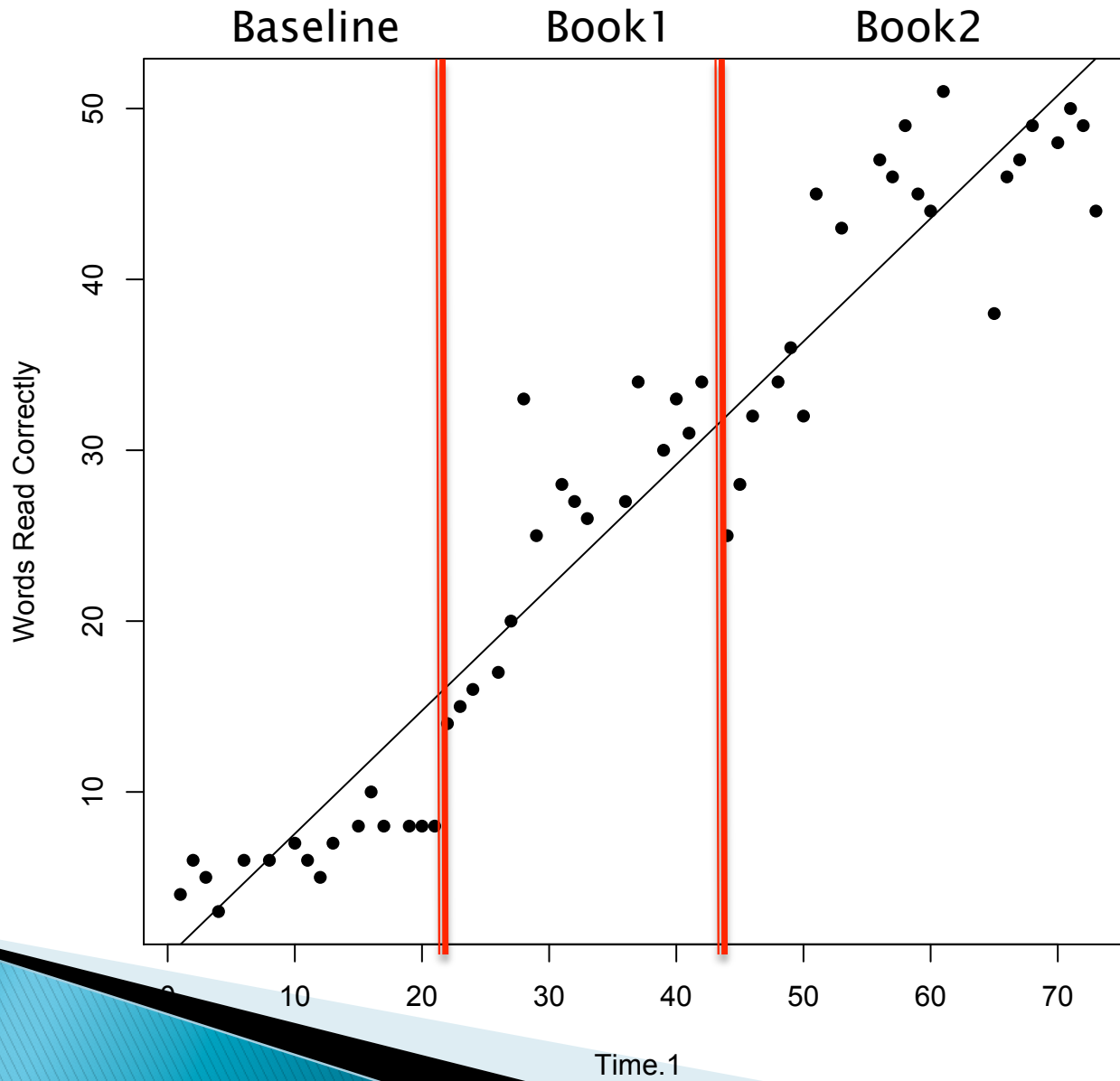
Justin - Words Read Correctly



Grace



Kristen



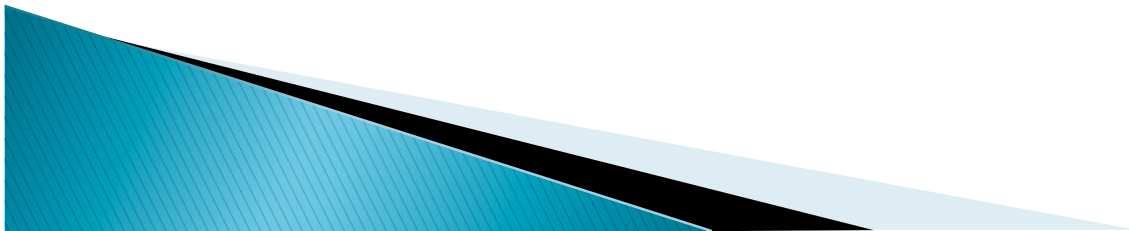
Descriptive Statistics: means and standard deviations by phase

Student	# of Lessons	Baseline	Book 1	Book 2	Book 3	Book 4
Justin	50	6.85 (0.69)	23.56 (9.28)	48.38 (5.77)	59.44 (5.21)	65.75 (4.69)
Grace	47	15.13 (3.88)	29.38 (3.25)	44.55 (5.63)	52.69 (5.86)	54.30 (4.47)
Kristen	38	6.56 (1.79)	25.63 (7.09)	42.18 (7.68)	---	---



Results

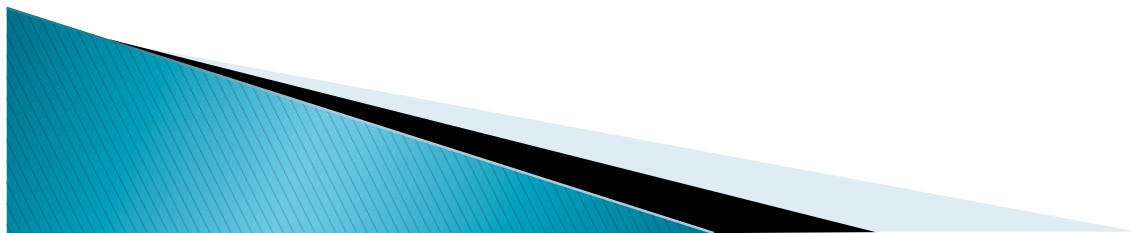
- ▶ Level baseline established in 2 of 3 participants
- ▶ Statistically significant slopes between and within phases
- ▶ Variability within phases shows a consistent pattern of treatment change (i.e. growth)
- ▶ The percentage of nonoverlapping data points was high



Other Data: DIBELS

Student	PSF	NWF	ORF
Justin	15	30	10
Grace	20	41	16
Kristen	20	23	15

- All students began longitudinal study at 0
- Scores are the highest score in the last few weeks of the study



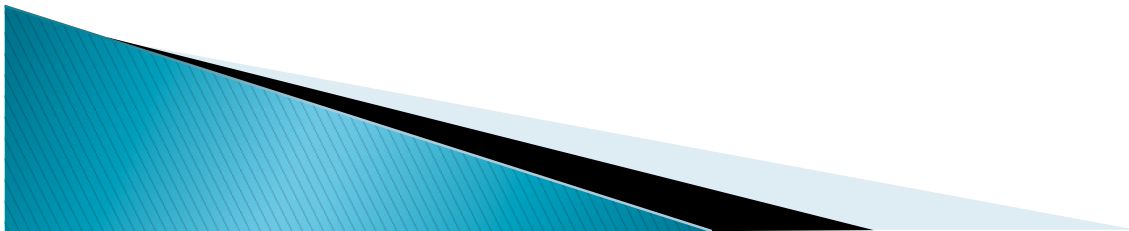
Findings

- ▶ Application lessons were effective in improving student ability to quickly identify words both in and out of context
- ▶ After participating in lessons, students unitized (pronounced within 3–4 seconds) words from books when presented in a random order
- ▶ Oral reading fluency measures (DIBELS) revealed some growth



Implications

- ▶ Need to teach word recognition skills in a meaningful manner
- ▶ Need to directly link lessons to text being read, particularly for most challenging students
- ▶ Need early text that is meaningful (i.e. more easily comprehended) than typical existing early reading text



References and Resources:

Study Articles

- ▶ (year 2) Allor, J.H., Mathes, P.G., Roberts J.K., Jones, F.G., & Champlin, T. (2010). Teaching students with moderate intellectual disabilities to read: An experimental examination of a comprehensive reading intervention. *Education and Training in Autism and Developmental Disabilities, 45*, 3–22.
- ▶ (year 3) Allor, J.H., Mathes, P.G., Roberts, J.K., Cheatham, J., & Champlin, T. (in press). Comprehensive reading instruction for students with intellectual disabilities: Findings from the first three years of a longitudinal study. *Psychology in the Schools*.
- ▶ Allor, J.H., Gifford, D.B., & Champlin, T. M. (manuscript in progress). Teaching students with intellectual disabilities to unitize words and transfer early reading skills to connected text.



References and Resources:

Practitioner Articles

- ▶ Allor, J.H., Champlin, T.M., Gifford, D.B., & Mathes, P.G. (in review). Methods for increasing the intensity of reading instruction for students with intellectual disabilities. *Education and Training in Autism and Developmental Disabilities*.
- ▶ Allor, J.H., Mathes, P.G., Champlin, T., & Cheatham, J.P. (2009). Research-based techniques for teaching early reading skills to students with intellectual disabilities. *Education and Training in Developmental Disabilities, 44*, 356–366.
- ▶ Allor, J.H., Mathes, P.G., Jones, F.G., Champlin, T., & Cheatham, J.P. (2010). Individualized research-based reading instruction for students with intellectual disabilities. *TEACHING Exceptional Children, 42*, 6–12.



References and Resources (cont.)

- ▶ Project Maximize at SMU

www.smu.edu/maximize

- ▶ Institute of Evidence-Based Education at SMU

www.smu.edu/evidencebasededucation

