Foundations for Reading Success: Research & Common Sense

Early Steps/Next Steps Seminar #1

Dr. Kathleen J. Brown
University of Utah Reading Clinic
brown@ed.utah.edu
801-265-3951
www.ed.utah.edu/uurc/

Site Coordinators: Please complete the following information and fax to Nikki Fellows at the UURC (801-265-3620)

- Seminar #1 Date Video Shown
- School Name(s) & District Name
- Participants' Names & whether they are taking Early or Next Steps at this time.
- Granite folks who report to Stacey Lowe, please send your information to her.
- Attendance at all 5 seminars is required for ES/NS certification and university credit.

Top Predictors of G1 Reading Success

- health
- IQ
- knowledge of letter names
- oral language ability
- socio-economic status (SES)
- phonemic awareness
- gender
- print awareness
- amount of time parents read to child

(see Adams, 1990, Moats, 2003 for extensive reviews)

What Does Research Suggest About:

- Modality Preferences/Learning Styles
- Perceptual Skills (e.g., visual discrimination)
- Motor Skills (e.g., marching, crawling, hopping on one foot)
- Mental Age/IQ
- Logical & Analytical Abilities
- Home Literacy Experiences

When Should Reading Instruction Begin?

- **Maturation Position:**
- Reading instruction in K is….
  - developmentally inappropriate (most kids aren't really ready)
  - confusing, boring
  - will "burn kids out" & "turn them off" to reading
- **"Reading is Natural" Position:**
- Reading instruction in K…
  - isn't necessary...just "immerse kids in print rich experiences" and they will learn to read just like they learned to talk

When Should Reading Instruction Begin?

- **Research-Based Position:**
- Reading instruction in K has…
  - a positive effect on students' achievement & attitude toward reading (see Hanson & Farrell, 1995)
- **Make a data-based argument!**
  - There is not a shred of empirical evidence to suggest that learning to read before entering G1 is harmful--cognitively or affectively
  - The probability of poor G1 readers remaining poor readers is .88 if they do not receive intervention (Juel, 1988)

For these children, there is not an instructional moment to waste!! --even and especially in Kindergarten

"Top 3" Predictor: Phonemic Awareness

- phonemic awareness = ability to attend to and manipulate the ***smallest*** sounds in ***speech*** e.g., /f/ /i/ /th/
- In particular, the ability to segment phonemes in words tells us a great deal about a child's chances for success as a G1 reader
- Approximately 1/3 of middle class children fail to develop this insight sufficiently during G1
- Problems here form the core deficit in dyslexia

(Bradley & Bryant, 1983; Juel, Griffith, & Gough, 1986; Lomax & McGee, 1987; Share, Jorm, MacLean, & Matthews, 1984, Tunmer & Nesdale, 1985; Troia, 1999; Yopp, 1992)

Understanding the "phon" (sound) terms

- "phonological" is a subcategory of auditory, referring specifically to speech sounds
- phonology = the rules of how speech sounds go together in a language (e.g., English vs. Swahili)
- phoneme = the ***smallest*** sounds in ***speech*** (e.g., /b/, /ch/, /a/; there are 40-44 phonemes in English)
- orthography = the ***writing system*** in a a language…in an alphabetic system, how letters represent sounds
- phonological awareness = one's ability to "penetrate" speech and do things w/sounds.

Why Do Some Children Have Difficulty Developing Phonemic Awareness?

- Children think about what words ***mean***. Phonemes carry no meaning on their own. Phonemes are merely sounds.
- Phonemes cannot truly be isolated. 'Cat' is not made up of /c/ - /a/ - /t/ unless you have learned that it is!
- Individuals differ in ability on all kinds of cognitive and linguistic tasks. Genetic and environmental factors can put some individuals at-risk for phonological difficulties.
- Children with low p.a. are unlikely to benefit fully from phonics instruction w/out simultaneous p.a. instruction.

Phonological Awareness: Easiest Levels

- **Rhyming Awareness**
  - example: bat, cat, scat, flat, mat, pat
  - activities: nursery rhymes, chants, raps
- **Syllable Awareness**
  - example: play-ground, hop, cal-li-o-pe
  - activities: clapping/stamping/dancing beats (add a puppet!)

Note: letter-name instruction needs to begin at this point! It seems to be a pre-requisite for the next level of phonological awareness.

Phonological Awareness: Mid-Levels

- **Onset-Rime Awareness**
  - example: b-at, sc-at, -at, ch-at
  - activities: What did Charlie Chicken forget?
- **First Phoneme Awareness**
  - example: Which word starts like 'leg?' fox, cup, lamb
  - activities: Picture Sorts

Phonological Awareness: Advanced Levels

Note: These tasks usually can be done only by children who can already read a little bit.

- **Blending phonemes**
  - example: /b/-/a/-/t/ = bat
  - activities: The Secret Language Game
- **Segmenting phonemes** (This is NOT stretching sounds, but rather segmenting/isolating sounds!)
  - example: bat = /b/-/a/-/t/
  - activities: Tap the Sounds, Elkonin boxes, Writing for sounds

Recommendations for Phonological Awareness Instruction

- Must involve **oral** production.
- Coincide alphabet instruction, and then word recognition instruction with p.a. instruction.
- Keep pacing brisk! Make activities motivating!
- Strive for "every student responds"
- Strive for 85% success rate for each task. Rachet up & down as indicated.
- Tell students "This helps us be good readers!" and gesture to skills during encounters with meaningful text (e.g., journal writing)

"Top 3" Predictor: Alphabet Knowledge

- All 26 upper and lower case, plus sounds
- need to over learned (accurate & fast)
- can't learn to blend or chunk w/o letter name & sound mastery

What Is Difficult About Learning Letter Names, Sounds, and Production?

- Minimal & abstract visual features-->highly confusable
- Multiple fonts & hands
- Learning requires:
  - time
  - attention
  - practice
  - motivation

Exposure via "letter-of-the-week" or immersion is not enough for at-risk children!

"Top 3" Predictor: Print Awareness

- understand that print has meaning
- directionality (front to back, left to right, top to bottom, return sweep)
- develop working knowledge of concepts of **letter**, **word**, page, sentence, upper case, lower case, and punctuation
- Note: **concept of word = most critical** for reading development

Print Awareness Activities

- Explicit instruction & immersion with:
  - predictable big and little books
  - looking at book while listening to an adult who reads aloud and tracks print with finger (story time)
  - wall rhymes
  - dictating LEA stories
  - echo reading
  - re-arrange cut-up, familiar sentence

Using Predicable Text to Develop Concept of Word

- What aspects of the text are present in the child's mind? What does he see when he looks at text?

- Xxx xxx xxxx xxx xxxxxX
- Cxx xxx fxxx txx cxxxx?
- Cxn yxx fxxd the cxxxl?
- Can you fxxd the camxl?
- Can you find the camel?

(Morris, 1981, 1999)

Why is Concept of Word So Important for Reading Development?

- Children who can point accurately have a "rudder" by which they can steer through a "sea of text."
- When they know where they are in text, they can use 1st sound + picture + memory
- This is the most rudimentary of decoding strategies. It sends the message: "I need to look closely at the words!"
- Children who don't point, or don't point precisely, aren't sure where they are in that sea of text.
- Thus, opportunities to look closely at words are lost.
- pictures + repetition + memory + 1st sound--> recite reading

Final Conclusions

- Print Awareness
- Alphabet Knowledge
- Phonological Awareness
- Word Knowledge
- Oral Language……all "bootstrap" on each other. That is, growth in one area stimulates growth in the other and vice versa. They are "reciprocally causal."

(Barron, 1991; Perfetti, Beck, Bell, & Hughes, 1987; Stahl & Murray, 1994)

Final Conclusions

- Specifically, it is not clear how either letter recognition or phonemic segmentation skills could be acquired except through their instruction and exercise. When, then, do they tell us about reading readiness? One irrepressible interpretation is that the likelihood that a child will succeed in first grade depends most of all on how much she or he has already learned about reading before getting there--and this interpretation seems soberingly correct (p. 82).
- In the end, the great value of research on prereaders may lie in the clues it gives us toward determining what the less prepared prereader needs most to learn. For these children, we have not a classroom moment to waste (p. 90).

(Adams, 1990)

Leading Reading Development: Text & Word Study Instruction

Early Steps/Next Steps Seminar #2

Dr. Kathleen J. Brown
University of Utah Reading Clinic
brown@ed.utah.edu
801-265-3951
www.ed.utah.edu/uurc/

Site Coordinators: Please complete the following information and fax to Nikki Fellows at the UURC (801-265-3620)

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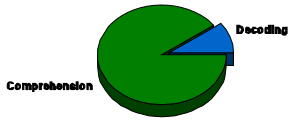
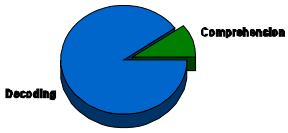
Reading = Decoding X Comprehension

- Decoding for Expert Readers is **Automatic**
  - accurate
  - fast
  - effortless
- Comprehension for Expert Readers is both **Automatic** & **Strategic**
  - knowledgeable
  - flexible
  - persistent

Expert Reader



Novice Reader



What is Effective Beginning Reading Instruction?

- Phonological awareness
- Word Recognition (high frequency & decoding) a.k.a. phonics
- Comprehension (reading & listening)
- Print Appreciation
- Print Awareness
- Oral Language Development
- Process Writing

How Important is Word Recognition Instruction?

- For most beginning readers—critical!!
- Many struggle to "break the code" w/out explicit/direct instruction
- Lack of success→negative spiral (Stanovich, 1986)
- The goal is not "balance" a.k.a "equal time"
- The goal is give children what they need at different points in reading development

How Important is Word Recognition Instruction?

- For beginners, the challenge is to "access the print," thus, word rec needs to be a big part of the curriculum.
- This means other components get less.
- As automaticity w/words increases, other components get more.
- Word rec instruction requires careful crafting (preparation & practice)
- Wing it? → slipshod → at-risk kids suffer

Misconception:

Learning to read is "natural," just like learning to speak. We should immerse readers in authentic text, just like we immerse babies in authentic speech.

WRONG!!!

Rebuttal:

- Speech is biologically hard-wired; written language is a cultural invention (Liberman & Liberman, 1992).
- Learning to speak is natural; all non-disabled humans learn to speak.
- Learning to read is not natural; many people who learn to speak do not learn to read—even when instructed and/or immersed.
- This especially true for at-risk children.
- Research supports explicits phonics

Who is At-Risk? Children Who:

- are from Low SES backgrounds
- are English Language Learners
- have cognitive limitations
- have hearing impairments
- have delays in language development
- have limited experiences with literacy

Misconception:

Good readers "sample the print" and predict the **identity** of words from context (Goodman, 1976, 1986; Smith, 1980).

WRONG!!!

Rebuttal:

- Good readers visually and cognitively take in almost every word on the page. They recognize most words automatically at sight. When they encounter an unfamiliar word, they use their knowledge of spelling patterns to quickly chunk the word.
- Poor readers rely on context.

Adams, 1990, Perfetti & Lesgold, 1979; Rayner & Pollatsek, 1987; Stanovich & Stanovich, 1995

He had never seen dogs fight as these wxxxish cxxxxxxxx fxxxxt, and his first exxxxxxxxx txxxxt him an unfxxxxxxxble lxxxxx. It is true, it was a vixxxxxxx exxxxxxxxx, else he would not have lived to prxxit by it. Cxxxx was the vxxxxx. They were camped near the log store, where she, in her friendxx way, made adxxxxxx to a husky dog the size of a full-xxxxx wolf, thxxxx not half so large as xhe. Thxxx was no wxxxing, only a leap in like a flash, a metxx clip of teeth, a leap out exxxxly swift, and Cxxxx's face was ripped open from eye to jaw.

When I walked into the Hall of Mirrors, I saw **phantasmagoria** happen with my own body.

"Kathleen," my husband said, "No one would ever accuse you of being **breviloquent**!"

When discussing the use of context, we need to consider these issues ***separately***:

1. What do good readers do to ***identify*** the word?
2. What do good readers do to ***figure out the meaning*** of the word?

black	green	black
green	red	green
black	black	red
red	red	blue
blue	blue	
red	black	
black	green	
green	blue	
red	green	

Word Recognition Goals for Young Readers:

- 1. Identify an increasing number of words automatically—at sight.
- 2. Decode unfamiliar words by analogy (using “chunks” and “chunks with meaning”) from words and patterns they know automatically.
- 3. Check to see if the word they generated makes sense. Adjust if necessary.

Leading Reading Development: Text & Word Study Instruction

Early Steps/Next Steps Seminar #3

Dr. Kathleen J. Brown
University of Utah Reading Clinic
brown@ed.utah.edu
801-265-3951
www.ed.utah.edu/uurc/

Site Coordinators: Please complete the following information and fax to Nikki Fellows at the UURC (801-265-3620)

- Seminar #3 Date Video Shown
- School Name(s) & District Name
- Participants' Names & whether they are taking Early or Next Steps at this time.
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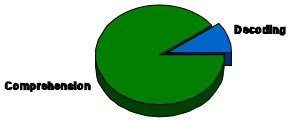
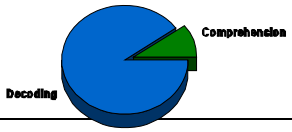


Novice Reader



30 Years of Empirical Research

- Chall, 1967, 1983
- Biemiller, 1970
- Masonheimer, Drum, & Ehri, 1984
- Ehri & Wilce, 1985
- Bryne & Fielding-Barnsley, 1989, 1990
- Adams, 1990
- Gough, Juel, & Griffith, 1992
- Ehri, 1999

Focus: The Nature of Word Representation in Memory and How It Develops

Also known as:

What is in the child's head and how does it change as the child learns to read?

Representation = A Card in the File Box

- Phonological representation = sound
- Semantic representation = meaning
- Orthographic representation = spelling

What Is In the Pre-Alphabetic Reader's Memory?

Can you find the camel?
Xxx xxx xxxx xxx xxxxxX

Phase 1: Pre-Alphabetic (Try Anything!)

-there are no representations—even alphabet

-so, uses word or letter shape and environment

camel
home camp some smell

NOT RELIABLE!!!

How Can We Move Them Toward Partial Alphabetic?

- Predictable text to develop concept of word (voice-to-print, 1-to-1 match via finger)
- To help i.d. unfamiliar words, uses initial consonant

- Picture sorts
- Sentence word
- ES levels 1-3 = predictable w/ lots of echo reading
- Push for "first sound"

What Is In the Partial-Alphabetic Reader's Memory?

Can you find the camel?
Cxx xxx fxxx xxx cxxxxX
Cxx xxx fxxx the cxxxlX

Phase 2: Partial-Alphabetic (It's a Start!)

-uses *some* letter-sound connections, then guesses

-vowels usually ignored because reps aren't there

boat
boot beat beast boast

BETTER! BUT STILL NOT RELIABLE!

How Can We Move Them Toward Full Alphabetic?

- text with slightly diminished predictability - still memory support
- BUT! some easy "cold reading" to reinforce:
- high frequency words (the, you, said)
- short vowels, blends, digraphs
- blending strategy for short vowel words
- use of initial phoneme for big words

- rhyming short vowel word study
- ES levels 4-6 = less predictable/lots of high freq.
- word bank for high frequency words

What Is In the Full Alphabetic Reader's Memory?

Can you find the camel?
Can you fxxd the caxxx?
Can you find the caxxx?

Phase 3: Full Alphabetic (Moving Across a Whole Word)

- has all individual letters and sounds, even vowels!
- now can blend to form words /c/-/u/-/p/ → /cup/

-repetition –> better representations–> more sight words –> beginning of automaticity
-/c/-/up/ → /cup/

- result: sight word corpus grows

MORE RELIABLE! BUT SLOW!

What Is In the Consolidated Alphabetic Reader's Memory?

Can you find the camel?

How Can We Push Them Toward Consolidated Alphabetic?

- text with cold reading at instructional level (healthy amount of decodable words & high freq. words)
- text may/may not have some predictability
- encourage blending and/or chunking for new words

- mixed nonrhyming short vowel → vowel pattern word study
- ES levels 7-10 = instructional level cold reading
- Word bank includes more difficult high frequency words (could, they, because)

Phase 4: Consolidated Alphabetic

- more *spellings* amalgamated together with *pronunciations* in memory, so more and more words are true sight words (automaticity!)

school = /school/
But! transportation = transpxxtxxxxx

- larger and larger chunks available for chunking strategy

ALL THE PIECES ARE IN PLACE!
NOW, IT'S JUST A MATTER OF
TIME AND EXPERIENCE!

Phase	Partial Alphabetic	Full Alphabetic	Consolidated Alphabetic
Characterization	Learning about Print	Breaking the Code	Going For Fluency
Reading Goals	match 1:1 voice to print, 1st sound + picture for decoding, easiest high frequency in sight vocabulary, construction of meaning	additional high frequency in sight vocabulary, blend CVCs, some fluency but may sound "glued to print," construction of meaning	Increasing sight vocabulary, chunk unfamiliar words by pattern, begin to analyze syllable spelling & morphemic structure of big words, increasing fluency, construction of meaning
Text	Early Steps 1 – 4 (predictable)	Early Steps 4 – 9 (decodables, mixed text + high frequency text)	Early Steps 9 – 12+ (easy readers)
Word Study	picture sorts & alphabet review → onset + vowel (●)	Finish onset + vowel and move to mixed short vowels (●●)	Vowel patterns (●●●)

* Developmental progression above draws upon Ehri (1998), Morris (2005), and Brown (1999-2000)

Struggling Readers: Who Are They and What Do They Need?

Early Steps/Next Steps Seminar #4

Dr. Kathleen J. Brown
University of Utah Reading Clinic
brown@ed.utah.edu
801-265-3951
www.ed.utah.edu/uurc/

Site Coordinators: Please complete the following information and fax to Nikki Fellows at the UURC (801-265-3620)

- Seminar #4 Date Video Shown
- School Name(s) & District Name
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Growing Body of Research

- Scanlon & Velluntino, 1997; Velluntino et al., (1996). *Journal of Educational Psychology*.
- Shankweiler et al., (1999). *Scientific Studies of Reading.*

Disability Defined (Up To Now!)

- Specific reading disability = at least average intelligence - no physiological or emotional impairments but…..
- .....severe difficulty in learning to read
- identified by establishing a discrepancy: reading performance approx 1.5 s.d. below general cognitive ability (accounts for approx 9% of pop.)
- e.g., IQ = 100 WRMT = 78

What Causes This Discrepancy?

- Assumption: caused by constitutional limitation (genetic or organic) → difficulty learning to read.
- However, establishing discrepancy does not take into account the student's educational history!
- Intervention studies suggest many reading difficulties are not true disabilities, but rather indicative of a need for more/better instruction.

Some struggling readers are "curriculum casualties!"

Reading Difficulties on a Continuum

Reading Difficulties

<--->

Constitutional	Environmental
(in the kid)	(outside the kid)
-harder to fix	-easier to fix

Research Question:

Can we distinguish between children whose reading difficulties are **constitutional** in origin….

…from those whose difficulties are **environmental** in origin?

The answer has implications for type & duration of intervention!

Methods

- N = 1,407 students
- middle and upper-middle class schools
- measures = "kitchen sink"
- poor readers tutored in 1st grade
- Intervention = 30 minutes, 1-on-1, daily for 15 weeks; 8-10 additional weeks if needed

Results

- Phonological awareness, short term memory, and rapid naming deficits show up in K (and perhaps earlier)
- These abilities distinguish between:
  - normal and "harder to fix" kids
  - "easier to fix" kids and "harder to fix" kids

These are the ***constitutional*** deficits, and are often inherited!

Results

- Intervention can make a difference.
  - After 2 years of tutoring, only 1.5% of students fell below 15%ile and only 3% below the 30%ile on the WRMT
  - Note this is fewer than 9% estimates that don't take educational history into account

Environmental deficits (more & better curriculum) can be fixed!

Take-Home Message for Educators

- We can't assume a child has a" disability" w/out trying early, intensive intervention.
- Constitutional deficits show up early. Assess & intervene in Kindergarten!!
- The discrepancy formula is not enough. We also need more sensitive reading tests.
- Intervention can reduce the "LD" population!

Research Questions:

- Are there profiles of struggling readers?
  - Word Callers
  - BK Compensators
  - Both
- Are any profiles more prevalent than others?

Methods

- Call went out for “kids with learning problems”
- N = 361 students ages 7.5-9.5 w/IQ >80
- Measures = reading comp, word id, pseudo word id, listening comp, etc
- plotted composite reading scores on scattergram

Results

- n = 114 students = average or above readers
- n = 71 students = too close to call (buffer zone)
- Remaining students = poor readers
- n = 127 n = 32 n = 17

Where do they fit?

Results

- n = 127 = equally poor at decoding & comp
- n = 32 = better at comp than at decoding (BK Compensators)
- n = 17 = better at decoding than at comp (Word Callers)

Take-Home Message for Educators

- Most children are equally good or poor at both decoding & comp (n = 241 of 361 or 67%).
- Word skills correlate more strongly with reading comp than with listening comp; thus, word skills drive the reading process heavily at lower levels.

Take-Home Message for Educators

- There are a few "discrepant readers" (n = 49 of 361 or 14% of total population).
- There are very few Word Callers (n = 17 of 176 or 10% of total poor readers)
- It is a stretch to label these students Word Callers. Even though they are relatively better at decoding than at comp, they are still lower on average than good readers at either.

Take-Home Message for Educators

- The vast majority of poor readers demonstrate deficits in decoding skills (159 of 176 or 90% of poor readers)
- High quality decoding instruction is necessary in regular curriculum to prevent reading difficulties. It is necessary in interventions for struggling readers--even most of the so-called Word Callers.

The Virginia Intervention Model Expands in the West

What Have We Learned?
What Do We Still Need to Know?

University of Utah Reading Clinic
Appalachian State University

Kathleen Brown, Darrell Morris, Matt Fields,

Stacey Lowe, Julie Robertson, Veronica Reynolds, Debbie Skidmore,
Debra Van Gorder,Connie Weinstein

Theoretical Framework

- Virginia Model of Intervention:
  - **guided reading @ instructional level**
  - **systematic, isolated code instruction**
  - **fluency work**
  - **1-on-1 format**

(Brown, Morris, & Fields, 2004; Morris, Shaw, & Perney, 1990; Morris, Tyner, & Perney, 2000; Santa & Hoien, 1999)

Historical Background

- 1999 - creation of UURC
- 1999/2000 - Early Steps pilot (n=3)

- 2000/01 - Early Steps follow-up (n=9)
- - Next Steps pilot (n=3)

- 2001/02 - Early/Next Steps w/ ELL (n=18)
- 2002/03 – Early/Next Steps (n=28)
- 2004/05 - Early/Next Steps (n=35)
- 2005/06 - Early/Next Steps (n=41 and no end in sight!)

Research Questions

Is Virginia (Early-Next Steps) Intervention effective for

- at-risk and struggling readers

- who receive 90 minutes of an SBRR program daily?

Is it more effective than SBRR small group intervention?

Method

- Early/Next Steps Intervention (Tx)
  - 1-on-1 30/45 min. Daily/2x per week
  - guided reading at instructional level
  - word study/phonological awareness
  - fluency training

- Title 1 Intervention (Control)
  - 30-45 min. daily small group,
  - reinforce Open Court

Passage Reading Level Coding

Code #	Reading Level
1	Pre-Primer
2	Primer
3	1.2 **(late G1)**
4	2.1 **(early G2)**
5	2.2 **(late G2)**
6	3.0

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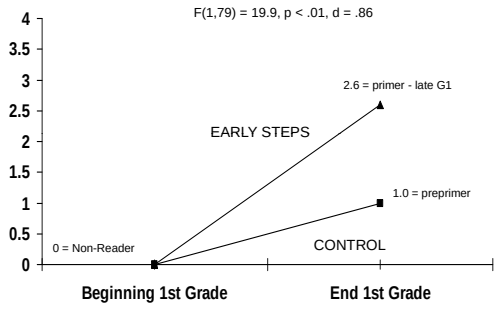
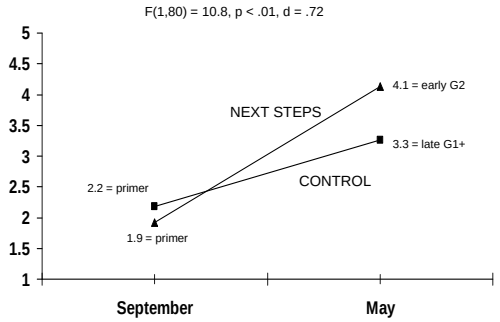
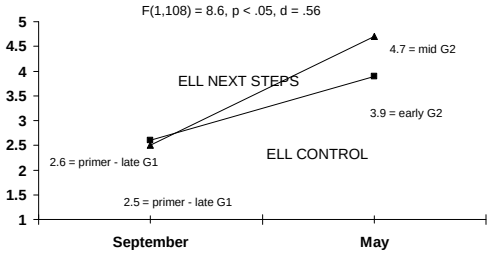
Early Steps Students vs. Controls: Year 1



Next Steps Students vs. Controls



ELL Next Steps Students vs. ELL Controls

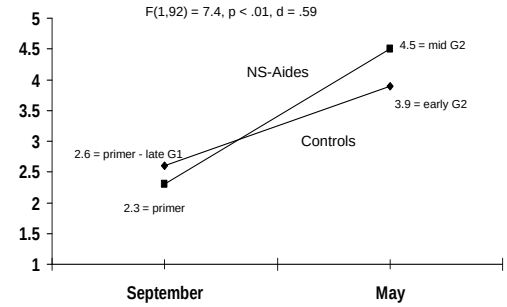


Research Question

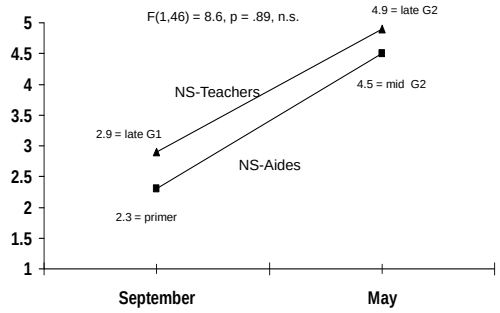
Can non-certified educators (i.e, teacher's aides) deliver Next Steps effectively?

- when supervised by an intervention specialist

Results: NS-Aides vs. Controls



Results: NS-Teachers vs. NS Aides



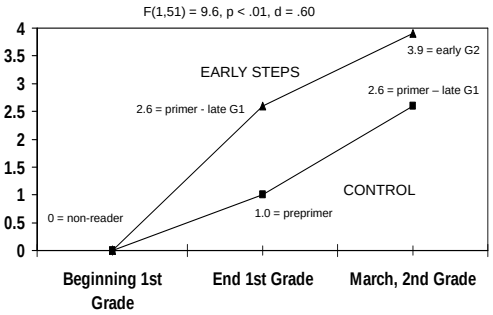
Research Question: Follow-up Study

What happens in 2nd grade when

- Virginia Model intervention is discontinued and

- both Early Steps & Control students receive Open Court intervention in a small group format?

Early Steps Students vs. Controls: Year 2



What We've Learned

- The Virginia Model is more effective at boosting at-risk ***and*** struggling readers' progress than small group Open Court intervention…
- …this finding extends to ELL readers
- Teachers' aides can deliver the Virginia Model effectively—with supervision from an intervention specialist

What We've Learned

- Early Steps will not be sufficient for some at-risk readers to reach grade level. To "finish the job," additional—albeit less intensive--tutoring may be necessary
- Some students who reach grade level after a year of the Early or Next Steps may need subsequent "booster shots" to continue the trajectory at desired levels (i.e.,maintain grade level performance).

What We Still Need to Know

- Does performance trajectory continue at desired levels when Early Steps is followed by Next Steps in grade 2?
- How does the "size of the group" impact the effectiveness of the Virginia Model? To what extent is it effective in pairs? small group?
- Does group size interact with severity of reading difficulty? Who ***really*** needs 1-on-1 and who can "make it" with pair or even small group instruction?

What We Still Need to Know

- How does the Virginia Model compare to other 1-on-1 intervention models (e.g., Reading Recovery, Success for All tutoring, America Reads)
- How does participation in a Virginia Model practicum affect educators' knowledge of reading development and instruction?
- What will it take to help teachers apply what they've learned from the practicum in their classroom small groups?
  - follow-up 1-to-1 with classroom practicum?

What We Still Need to Know

- Can cross-age peer tutors effectively implement a "modified" Virginia model when supervised by an intervention specialist?
- Can the Virginia Model be extended for students who can read at a 3rd grade level or above, but who are still below grade level?
  - pilot Upper Steps?