

Individual Phonological Awareness Intervention for Children with

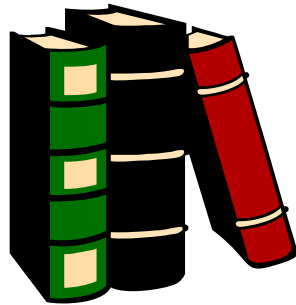


Phonetically Based Reading Difficulties

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Reading Development

- Reading: the process in which meaning is constructed from printed symbols
- Gough (1986 & 1990) proposed the reading ability is directly related to children's single word decoding and comprehension skills
- Decoding: word recognition process that transforms print to words- Phonological Awareness key aspect in learning to decode



Phonological Awareness:

- Phonological Awareness involves the ability to reflect on and manipulate the sounds without regard to meaning.
- Moats (1999) believes that reading is a language-based activity and some classroom teachers are “undertrained” to teach phonological awareness.
- Swank and Catts (1994) believe that speech language pathologists should be involved in teaching phonological awareness and reading (collaboratively or as a consultant to teachers) because of their education in language and phonetics.

Phonological Awareness relationship to Reading Ability

- phonological awareness skills of preschoolers predict elementary school reading abilities (Magnusson & Naucler, 1990; Swank & Catts; 1994)
- children in bottom 20% of phonological awareness skills in 1st grade were 2.5 grade levels behind their peers in 5th grade (Wagner, Torgesen, & Rashotte, 1994)
- poor readers and illiterate adults have poorly developed phonological awareness skills compared to proficient readers (Bradely & Bryant, 1985; Catts & Kamhi, 1986)
- 70% of poor readers have poor phonological awareness skills (Catts, Fey, Zhang, & Tomblin; 1998)



Teaching Phonological Awareness

- Numerous studies have proven that class means on reading scores improve when phonological awareness is taught to classes compared to control classes
- However, some children (6-15%) receive only minimal benefit from whole-class phonological awareness training. There is great debate on the best approach for individuals who do not learn with the classroom approach.
- Children with severe speech-sound disorders and language disorders often exhibit poor phonological awareness skills and are at high risk for difficulties learning to read.

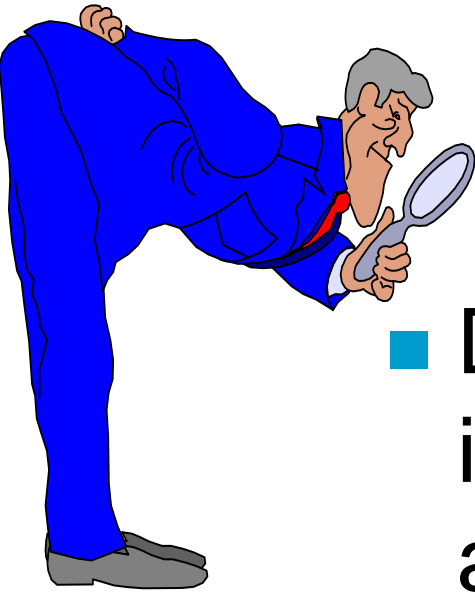
Role of SLP in Phonological Awareness

- Collaborative/Consultative for Classroom
 - Moats (1999) and others believe that classroom teachers are “woefully undertrained” to teach phonological awareness
 - ASHA (2000), Swank and Catts (1994) believe that speech-language pathologists (SLPs) should be involved
- Individual Instruction

PHONOLOGICAL TX. RESEARCH

- SLPs in classrooms
 - Haddley, Silverman, Luna and Long (2000)
 - Van Kleeck, Gillam, McFadden (1998)
- SLPs in small group or individual intervention
 - Gillon (2000)- Individual Expressive Phonology Tx
 - Warrick, Rubin, and Rowe-Walsh (1993)- Small group tx for language impaired

Purpose



- Determine the effects of individual phonological awareness training emphasizing both auditory and motoric properties of phonemes with three children whose scores were significantly lower than the class average following a year-long classroom phonological awareness program

Research Questions:

1. Does the correct production of individual sounds given the written letter significantly improve with individual phonological awareness training which emphasizes the acoustic and motoric properties of phonemes?
2. Does the accuracy of single word decoding and spelling significantly improve with individual blending and segmenting training?

Subjects

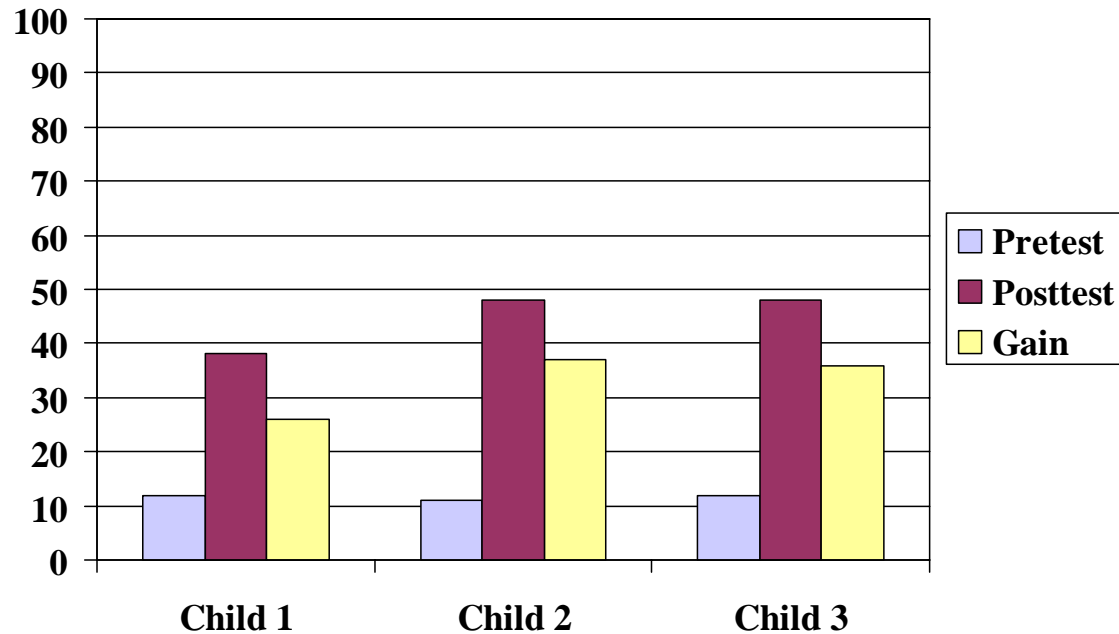
- 🖨️ Three speech/language impaired children
 - 🖨️ Subject A: Articulation disorder
 - 🖨️ Subject B: Language delay
 - 🖨️ Subject C: Language processing disorder
- 🖨️ Participated in a *classroom-based* phonological awareness training program during kindergarten
- 🖨️ Scored below 50 points on the six subtests of the (PALS) (class means were 80-90)



Class Means and Gain from Classroom-Based Phonological Awareness Training



3 Children who gained significantly less than class average during Classroom-Based Phonological Awareness Training

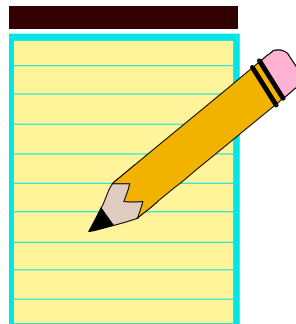


Design and Procedure

- 40 minutes sessions, 3 times weekly during summer between Kindergarten & 1st Grade
- Each session was divided into two 20 minute segments
- Data was taken after each segment (twice per session)
- Multiple Baseline Across Behaviors Research Design:
 - I. Phoneme awareness and sound/letter association
 - II. Phoneme blending and segmenting

Response Measure, Behavior I (Phoneme Awareness)

- Dependent variable: correct production of the sound when given the letter (12 letters)
- Each sound/letter was scored by correct place, manner, and voicing (total = 3 pts.)
- Percent correct calculated – points earned/total points possible



Experimental Conditions, Behavior I (Phoneme Awareness)

- Baseline measures
- Treatment phonemes: /b,f,h,k,m,p,r,s,t/ and vowels: a, i, u
- Two phonemes were introduced each session (one per segment)
- Same format of segments each day
 1. One letter/sound each 20 minutes
Introduced acoustic properties and description (lip popper /p/)
 2. Discussed articulatory postures for sound
 3. Read book with target sound
 4. Wrote letter while saying sound
 5. Auditory discrimination of sound in isolation
 6. Sorting pictures by first sounds
 7. Listening for sounds in words

Response Measurement, Behavior II

(Reading)

- Reading 10 pseudo words (randomly chosen daily from list of 50)
- Reading 10 real words (randomly chosen daily from list of 50)
- Each consonant=3 pts. (place, manner, voice)
vowel =2 pts.
- “pat” for bat= $2+2+3$ – Percent accuracy $8/9=89\%$

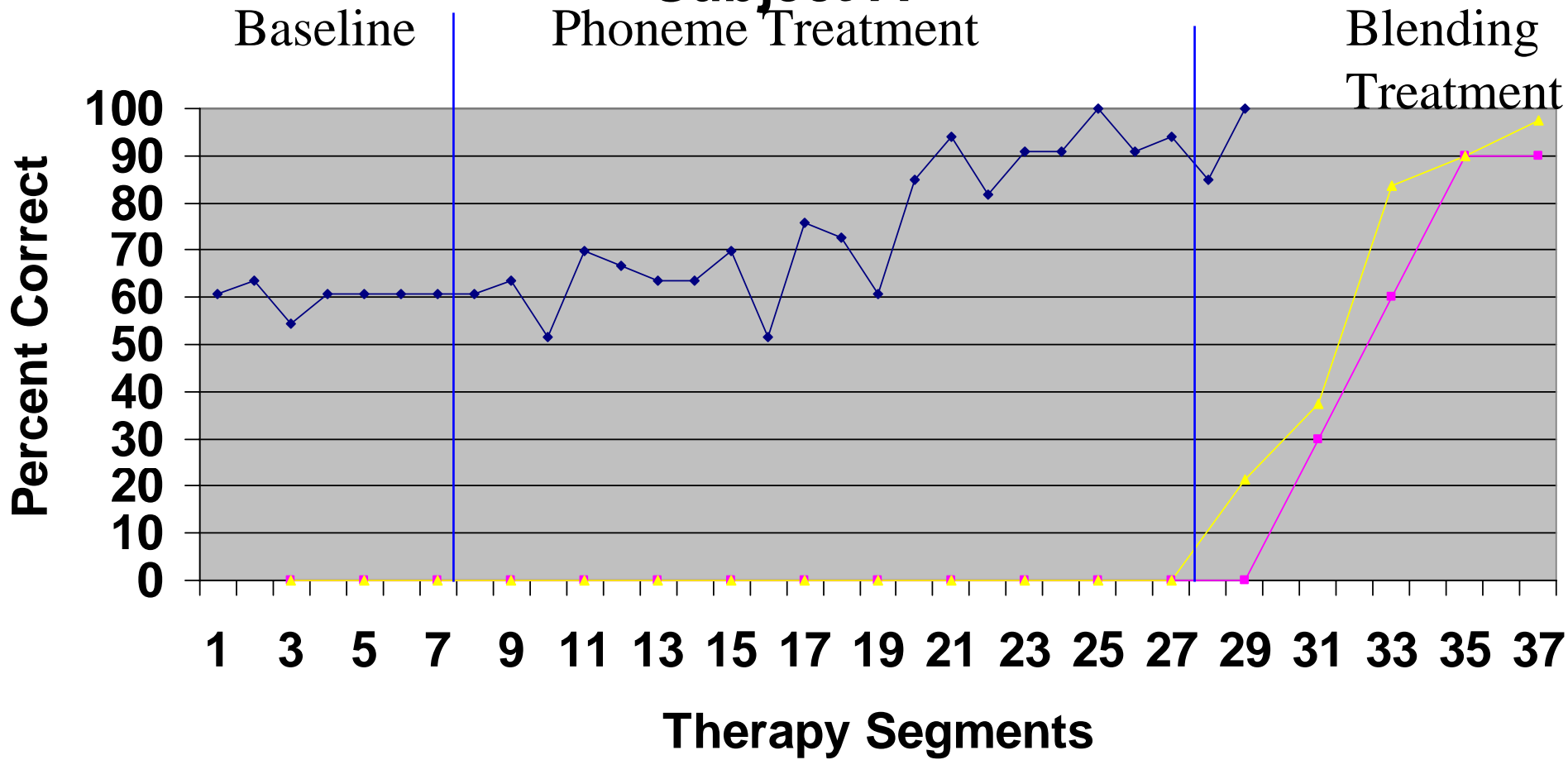


Experimental Conditions, Behavior II (Reading)

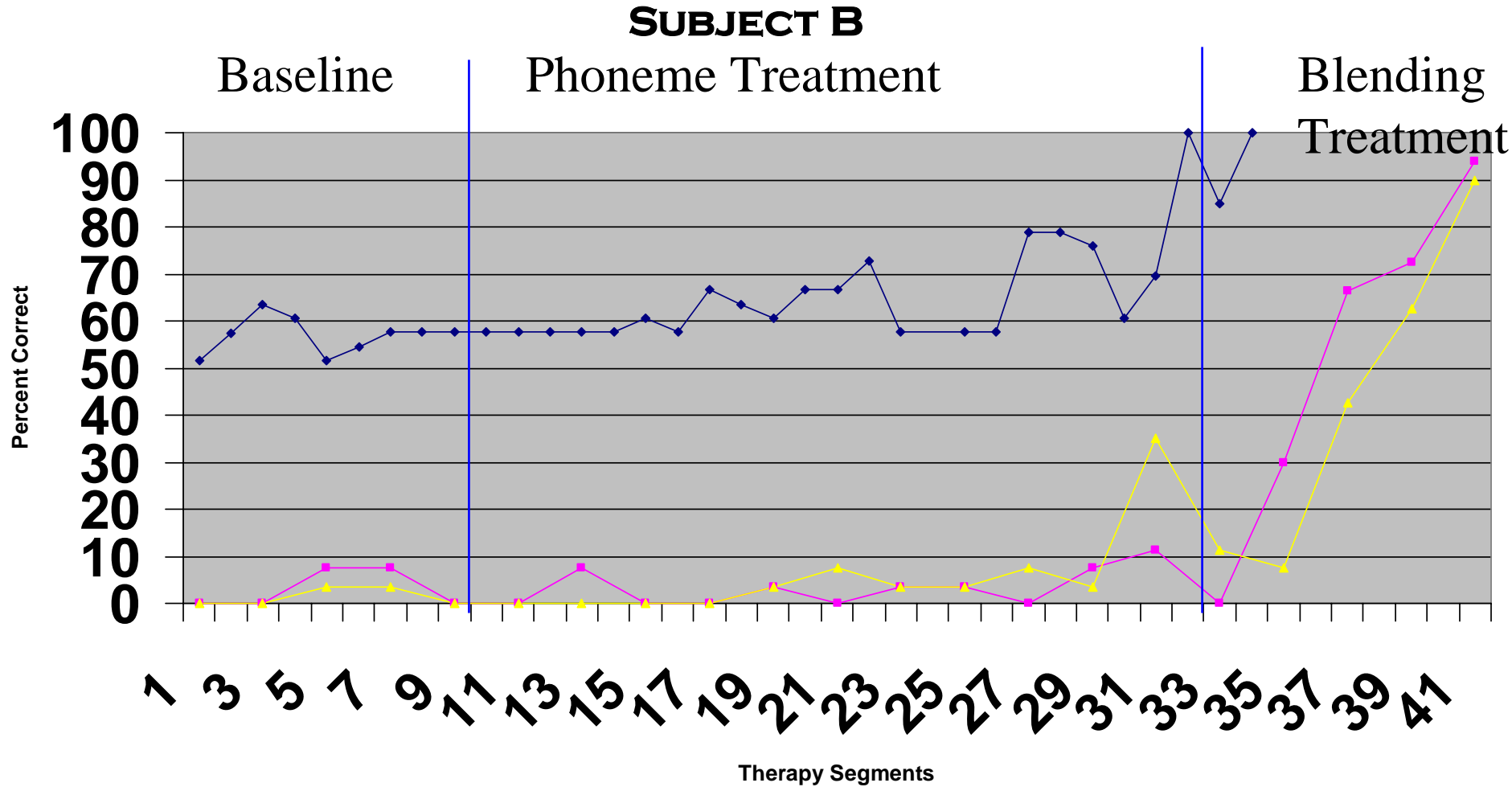
- Baseline
- Treatment: Blending
- Auditory blending, onset-rime
- Auditory phoneme blending
 - two phonemes
 - three phonemes
- Blending with letters
 - two letter tiles
 - three letter tiles

RESULTS Child 1

Subject A

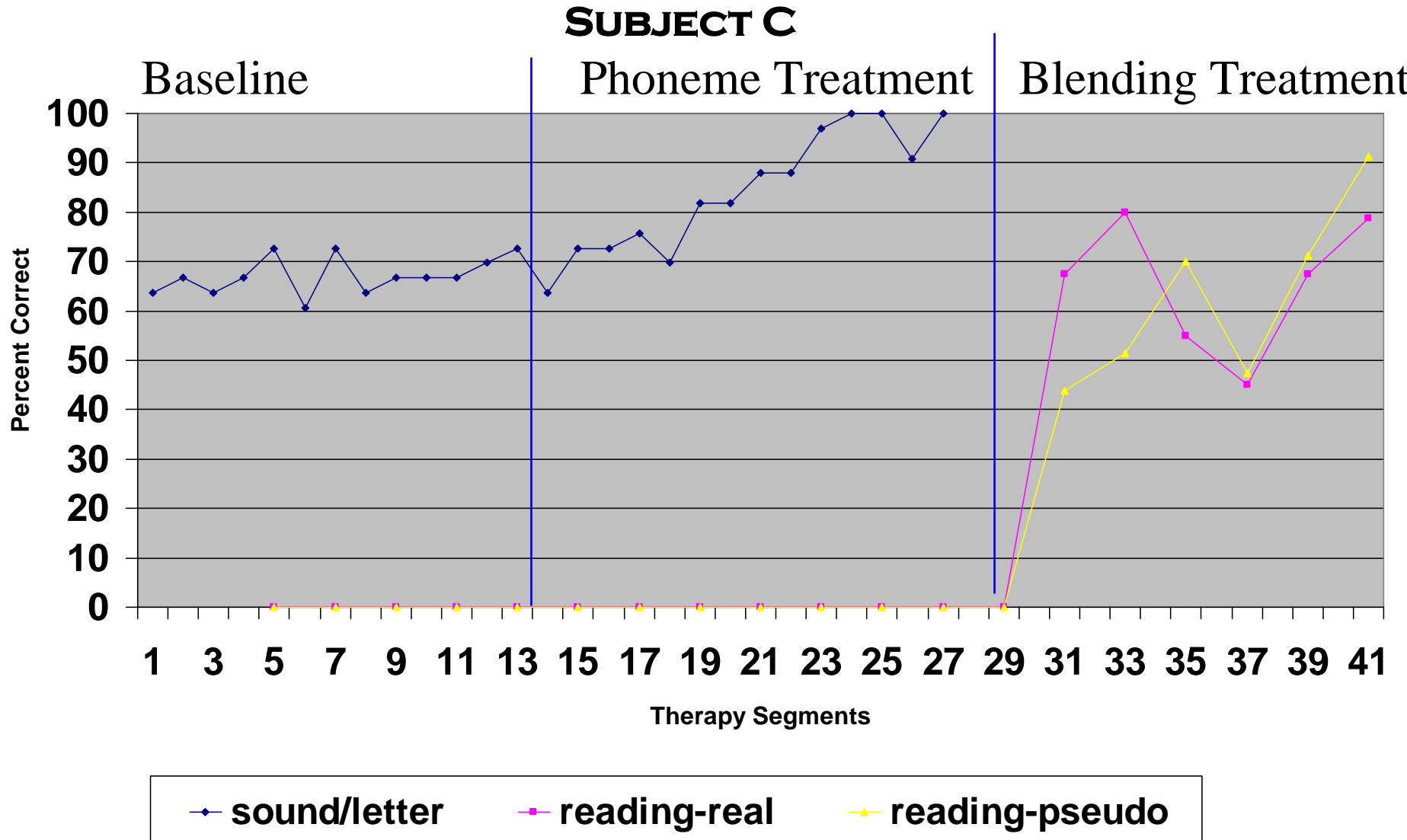


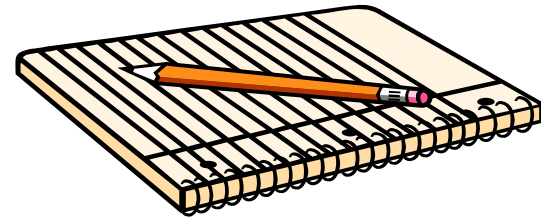
RESULTS Child 2



◆ sound/letter
 ■ reading-real
 ▲ reading-pseudo

RESULTS Child 3





Summary of Results:

- ☐ Phonological awareness skills, for most children, improved with classroom based training
- ☐ For three children, individual phonological awareness training (in addition to the classroom based) improved their skills
- ☐ Most of the therapy time spent on mastering sound/letter, once sound-letter was learned progress for blending for short decodable words was relatively quick for all three subjects

Interpretation & Explanation:

- ☆ Individual training was effective maybe due to:
 - Amount of practice time
 - Specific feedback
 - Motoric and auditory properties of phonemes
- 🕒 After treatment for blending and segmenting began scores increased significantly.

Relation to Past Literature/Theory

- Supports past studies that found Lindamood techniques helpful in teaching children who were struggling to learn to read (Alexander, et. al ,1991)
- Supports theoretical notion that SLPs can play an important role in the intervention of children with reading difficulties (ASHA, 2000)

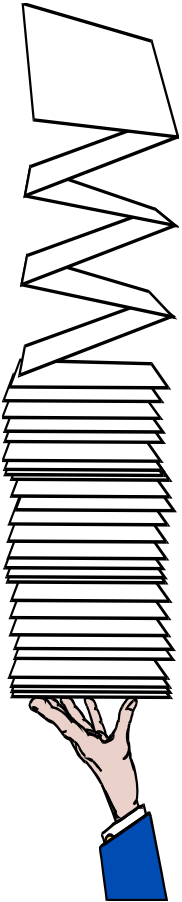
Practical Implications:

- Individual phonological awareness training is effective for some students even after they fail in classroom-based intervention.
- Emphasis on acoustic and motoric aspects of sounds may be beneficial in teaching phoneme/grapheme associations.
- Weakness- summer university- realistic



Future Research

- ⌞ During School Year collaboratively with other professionals (small group)
- ⌞ Longitudinal Follow-up
- ⌞ Comparison of program that emphasized motoric cues (LiPS Program) and one that does not emphasize this aspect



Discussion

- Weakness – waited too long for two subjects to begin blending behavior treatment
- Practical Implication- dramatic increases in reading skills with relatively short intervention period for children between K & 1 – May be better to intervene early than later
- Future research- which part of therapy contributed most to improvement. Integration of PA with other speech-language deficit needs.