

Title of Study: *Phonemic Awareness Instruction as a Response to Intervention Strategy for Kindergarten Students without Preschool Experience*

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Researcher: *Kerry Newlee*

Email address: *key@newlee.net*

Problem that was addressed: *Assuring that struggling students receive the help they need to reach grade level expectations before they fall so far behind their peers that they may never be able to catch up.*

Subjects (complete, as appropriate)

Sex: *5 boys, 6 girls*

Grade: *Eleven kindergarten students without preschool education experience*

Racial/Ethnic: *10 or the 11 are Hispanic; 7 have Spanish as their primary language*

Academic level:

Other: *Included researcher, two kindergarten teachers, principal*

Hypothesis:

- *Eight weeks of small group instruction focused on phonemic awareness will increase the ability of kindergarten students to identify initial and final sounds of simple CVC words.*
- *Eight weeks of small group instruction focused on phonemic awareness will increase the ability of kindergarten students to identify and create rhymes.*
- *Eight weeks of small group instruction focused on phonemic awareness will increase the ability of kindergarten students to blend and segment simple CVC words.*
- *Eight weeks of small group instruction focused on phonemic awareness will increase the motivation and confidence of kindergarten students with regard to reading and literacy.*

Data that indicated a Need existed:

- *Standardized test results from our school in 2011-2012 showed that while 68% of the total school population scored at the proficient or advanced range in English Language Arts, only 37% of English Learners and 45% of students from low SES homes met these same benchmarks*

Intervention (describe what was done):

- *Time was provided the researcher to provide Rtl services*
- *20% of kindergarten students had no preschool experience. These same children were the students teachers had concerns about during the first week of school even without knowing their backgrounds*

- *Students were initially seen in groups corresponding to their classroom assignments. In discussion with the ARLP team, it was decided that each group of students would be seen for an eight-week block in a multiple-baseline design. This approach uses a varying time schedule that allows the researcher to initiate intervention at different times for different subjects to determine if the intervention is truly influencing the change seen. A second group of students to receive intervention would serve as the control group for the first and allow a check of the validity of the results found.*
- *Baseline data was to be taken at the beginning of the school year for both groups and a new baseline for the second group was planned prior to beginning intervention. Unfortunately, due to their already busy schedules, the classroom teachers did not provide periodic data timed to my intervention schedule. Instead, the data I received was provided at the usual trimester breaks that did not allow for a multiple baseline comparison of the two groups.*
- *The Researcher provided Response to Intervention lessons to the groups Monday through Thursday for thirty minutes each day.*
- *The focus of the intervention was on phonemic awareness skills including identifying initial and final sounds, identifying and creating rhymes, counting syllables, blending syllables, blending sounds, and letter sound identification. The use of written words and graphemes was limited as much as possible to encourage the focus on sound awareness. A series of cards called the Webber Phonological Awareness Photos was used as were various apps designed for the iPad. The Webber photo set included separate decks for tasks such as identifying initial sounds, identifying final sounds, identifying rhymes, creating rhymes, segmenting syllables, segmenting phonemes, blending syllables, and blending phonemes. At the end of eight weeks, services for the first group were discontinued and post-test data was collected. A second baseline was collected for the second group of students to measure growth through classroom instruction and then services for the second group began. After the second eight weeks, all available data was collected and analyzed by the members of the ARLP team and a final group selected for further intervention.*

Results (data based):

- *Quantitative data was collected via the classroom teachers' benchmark assessments of such skills as letter/sound knowledge, rhyming, blending, and segmenting. These data were compared to quantitative data from the administration of the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) which checks first sound fluency, phoneme segmentation fluency, nonsense word fluency, and letter naming fluency. Both instruments were used during the first weeks of the school year and are re-administered to students at the end of each trimester. The teachers provided the results of classroom benchmark assessments at each trimester, while I retrieved classroom and student level reports of DIBELS results from Illuminate which is the district's data analysis program. The two measures were compared to help ensure they were valid measurements of student improvement.*

- *Qualitative data were collected through observations of student participation and motivation and use of a student survey. The Elementary Attitude Reading Survey was originally designed for use with students in grades 1-6 and looks at extrinsic and intrinsic motivation for reading. The study students were younger, but I believed it would be interesting to see if their attitudes toward reading change after they received intervention. Because the survey was not intended for kindergarten students, the percentiles found in the normative tables would not be valid and were not reported. Instead, just the raw scores were summarized and graphed. During regular weekly meetings of the ARLP team, all data was discussed and analyzed.*
- *Of the eleven identified students who lacked preschool experience, eight were Intensive (73%), two were Strategic (18%), and one was Core (9%).*
- *DIBELS was re-administered by the kindergarten teachers at the trimester break that fell mid-way through the second round of intervention after the first group had completed eight full weeks. For those students involved in the intervention program, four (36%) were now Intensive, three (27%) as Strategic, and four (36%) were now Core.*
- *The four students who continued to be identified as having intensive needs continued receiving a second round of intervention four times per week for thirty minutes each day.*

DIBELS RESULTS			
GROUPS	INTENSIVE Baseline-8 Wks	STRATEGIC Baseline-8 Wks	CORE Baseline-8 Wks
All Stdts	13 (28%) – 6 (12%)	8 (17%) – 9 (18%)	26 (55%) – 35 (70%)
No pre-schl exper	8 (73%) – 4 (36%)	2 (18%) – 3 (27%)	1 (9%) – 4 (36%)
Had pre-schl exper	5 (14%) – 2 (5%)	6 (17%) – 6 (15%)	25 (69%) – 31 (80%)

- *Results of the winter data showed that students who continued to be identified as needing Intensive services according to DIBELS results were also the lowest scoring on classroom measures of letter and sound identification. Interestingly, although number sense and math skills were not targeted in this project, those same students were lowest in abilities to read, write, and compare numbers.*
- *At the start of the eight week sessions, all of the students were hesitant to respond to any of the questions posed. They were all reluctant to guess, and allowed themselves to be distracted by anything around them to escape from the difficult tasks put before them. By the end of the eight weeks, all students were guessing and were more frequently correct with their answers*
- *Students were much more engaged on the days we used apps on my iPad instead of other materials such as picture cards*
- *Students gave themselves overall “points” ranging from 50 to 79 prior to intervention. Breaking these scores down further, four of the students initially had average responses of ‘2’ while the remaining seven students averaged below ‘2’ in their responses to the questions, indicating that while some students already*

enjoyed the idea of reading at home and at school, most did not. After intervention, students' ratings ranged from 71 to 80 showing that their perception of reading as an enjoyable activity had increased. Even the most struggling student showed an increase in his self-rating from 67 to 71.

- *Students without preschool experience are at a known disadvantage upon entering kindergarten and this is our chance to help them overcome those disadvantages and close the gap between them and their peers. Using the knowledge that these students are likely to be over-represented in our group of those needing Intensive services allows intervention to start immediately rather than waiting for the first set of test data to be available. Future cycles of intervention must also include other students identified as needing Intensive intervention so that these students get the help they need well before they fall further behind. Continued work with these students into first grade is crucial to help us close the gap further as the standards become even more rigorous.*

Conclusions:

- *Learning to read is a building block for the rest of education, so an early focus on literacy and pre-literacy skills is crucial for creating lifelong learners and internal motivation must be a part of that. My own experience suggests that the school district and intervention teachers should do more research into apps that can be utilized. The response to technology by these students in comparison to their response to more traditional curricular materials cannot be overlooked.*

What did not work?

- *Students were seen in the common room between the two kindergarten classrooms. Unfortunately, the room is small and is not furnished, so the groups were held while sitting on the floor in a semicircle facing me. Should the school decide to continue working with this type of intervention model in the future, appropriate space and furnishings should be provided.*

Research base:

Studies looking at the effectiveness of Response to Intervention (RtI) services in the area of literacy show the range of what different school districts and researchers have identified as the appropriate time to intervene. Years prior to the formal introduction of RtI, a study by Ross, Smith, Casey, and Slavin (1995) pointed out that early intervention can have tremendous impact and prevent later failure. The authors studied first graders who had been identified with data taken late in their kindergarten year and the beginning of first grade.

Vellutino, Scanlon, Small, and Fanuele (2006) studied the effects of intervention for students receiving help in either kindergarten or in both kindergarten and first grade. Students were identified as being at risk early in their kindergarten year. Like Vellutino et al. (2006), the study by Simmons et al. (2011) focused on kindergarten students identified early in the school year. Again, intervention throughout the kindergarten year was found to be effective at preventing later reading difficulties for many students. Studies by Hagans-Murillo (2005) and Koutsoftas, Harmon, and Gray (2009) went even further by

looking at the effects of Response to Intervention in preschool classrooms. In each of these studies, students who received intervention made measureable gains.

Gullo and Burton (1992) found that preschool experience increased kindergarten readiness, but they found no significant difference between those students who had attended public preschool programs for one year and those who had attended two years. The exception to this was with younger children for whom two years of preschool could negate the effects of being one of the youngest in the class. A study by Taylor, Gibbs, and Slate (2000) contradicted these findings somewhat by concluding that the advantage preschool provided was physical and social in nature and that there was no evidence of academic advantage. Their study also found no difference between public and private preschool programs in providing readiness for kindergarten. Winter and Kelley (2008) analyzed forty years of research on kindergarten readiness and concluded long term benefits can result from participation in quality preschool programs, particularly when individualized intervention is included. They concluded that including family support services can help disadvantaged students close the achievement gap often found in schools. The importance of this was further emphasized by Ansari and Winsler (2012) who found that Latino children often attend family-based childcare such as home daycares rather than center-based childcare such as preschool. During this study, the authors found that low income Latino children often plateaued or regressed after spending time in family-based childcare situations whereas those in center-based childcare showed growth in cognitive, social, and language skills. This information will be important when looking at the demographics of the students in my action research project.

A recurring theme throughout these studies was the focus on phonemic awareness. This, along with the specific training Speech-Language Pathologists receive, helped narrow the focus of my proposed intervention. Carson, Gillon, and Boustead (2013) found that students who received specific supplemental classroom instruction in phonemic awareness made better progress in literacy than those who had received the traditional adopted curriculum only. Yeh and Connell (2008) found that phonemic segmentation in particular was effective for encouraging literacy when compared to intervention that focused on rhyming or vocabulary. A longitudinal study by Byrne, Fielding-Barnsley, and Ashley (2000) showed that the effects of phonemic awareness training in preschool were measurable even six years later. In addition, difficulty with phonemic awareness was predictive of later reading struggles. Relevant to my action research project was the study by Spencer, Schuele, Guillot, and Lee (2008) that looked at the phonemic awareness skills of Speech-Language Pathologists, general education classroom teachers, and special education teachers. Results of this study showed that Speech-Language Pathologists, by virtue of their specific training in graduate school, were better able to demonstrate proficiency in phonemic awareness. Surprisingly, special education teachers were not measurably better than general education teachers and both groups were often negatively influenced by the printed word and poorly written teacher manuals.

What was evident from the literature is that there is no clear answer at this point about what is best when it comes to early reading intervention. Formal and informal programs have been found to be effective. Programs based on phonemic awareness and on whole language have been found to be effective. Intervention programs led by classroom teachers, paraeducators, and Speech-Language Pathologists have been found to be effective. What everyone seems to agree on is that something must be done as soon

as is feasible to address the needs of struggling readers. Until there is some consensus among researchers, it will be up to individual schools to conduct action research of their own to utilize their existing resources in the most effective way possible.