



Curriculum Associates

# Science of Reading

## Putting Research into Action

### **Demystifying Phonological versus Phonemic Awareness,**

Review Dr. Ray D. Reutzel and Dr. Parker Fawson's answers to the most asked questions from our webinar on phonological awareness instruction.

## FREQUENTLY ASKED QUESTIONS

### **What is an effect size?**

Virtually everything we do in education exerts an impact on student learning with most having a positive impact on learning outcomes.

However, many of these impacts are so small that they can hinder a student's achievement of expected grade level proficiency. An effect size is valuable since it helps us know the magnitude, or power, of a researched practice. To interpret the practical value of a practice reporting effect sizes, a score of 0.2 is small, 0.5 is medium, and 0.8 would be considered large.

John Hattie suggests that an effect size of 0.4 indicates a "hinge point" in evaluating the value of an educational practice. If an instructional practice reaches this 0.4 effect size hinge point, it would be powerful enough to accelerate student learning.

### **How many hours of phonological awareness instruction should a child receive?**

The data of the National Reading Panel suggests that 18-20 hours of PA instruction is the optimal amount. More time spent than that dropped the effect size from .86 to .31 exceeding 20 hours. Phonological awareness begins in Pre-K. On the other hand, one typically envisions phonemic awareness instruction to occur in grade K and into the first half of first grade. That is a total of 270 school days/ 1200 minutes of instruction (20 hours) = about 4 minutes of instruction per day with interleaved practice of no more than 2 PA skills at a time and distributed review. This should optimize outcomes. Going beyond this point should be indicated by individual testing and a demonstrated need for more PA instruction to facilitate reading/writing acquisition.

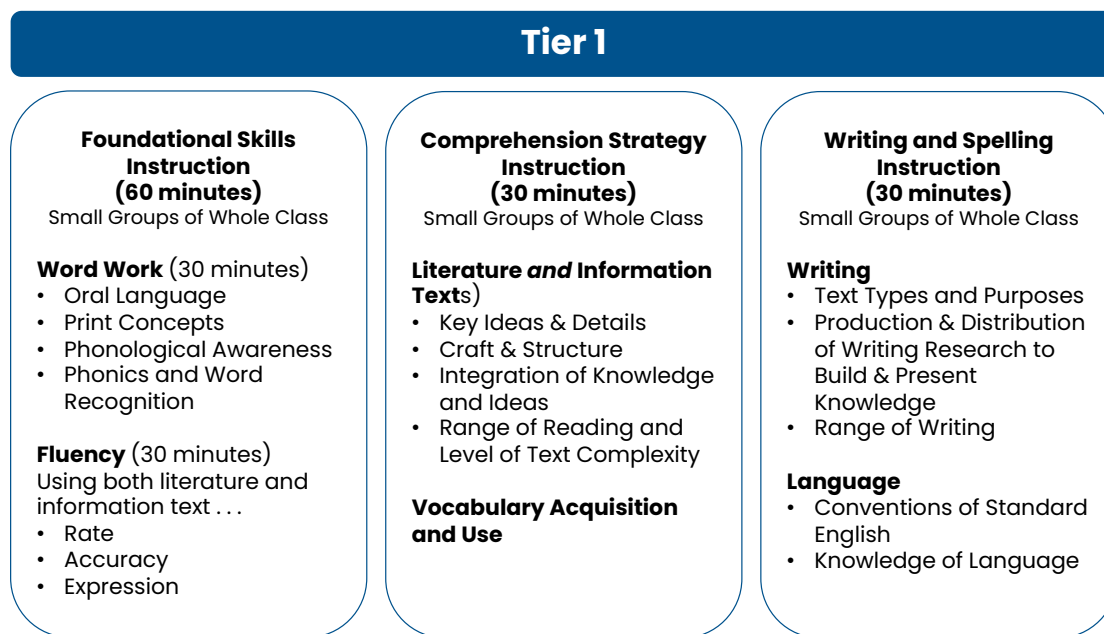
More recent analyses did not show a difference for duration of instruction; however, the unit of measurement was weeks of instruction and not actual time spent teaching. Weeks are not nearly as sensitive and informative a unit of measurement as are actual time spent teaching lessons on PA (Rice, Erbeli, Thompson, et al., 2022).

### **The limit of 18-20 hours for the child's lifetime seems a bit limiting. I think students need lots of review and loss of learning over the summer means reteaching in the next grade level. Is this true?**

The National Reading Panel data is compelling related to this question. There is a large effect size of phonemic awareness on student learning up to 18 hours of total instruction (0.86 effect size). If we go beyond 20 hours of total PA instruction in the lifetime of a student, the effect size drops dramatically to 0.31. What this means in practical terms is that PA instruction beyond the 18-20-hour total instructional threshold does not appear to accelerate student literacy learning to a level that would justify the use of this additional instructional time.

## What does an ideal literacy block look like if a teacher were to implement all the research?

Tim Shanahan's work in Chicago Public Schools indicated the minimum time threshold for impacting student literacy development was 120 minutes daily. We suggest blocking this 120-minutes for Tier 1 instruction into four 30-minute timeslots. These four areas are Word Study, Fluency, Comprehension, and Writing. As an example, here is what a suggested literacy block would look like:



The work within each block of time would vary depending upon the grade level that was being targeted for instruction.

## Is it more effective to teach phonemic awareness skills like blending and segmenting together, or one at a time?

It is more effective to teach these together.

As we reported from the National Reading Panel report, when we teach two PA skills together, the effect size is 0.79. This is slightly more impactful than teaching a single skill. Most of this power when teaching two skills is accounted for by blending and segmenting (0.67 effect size). This was found again in 2022 by Rice, Erbeli, Thompson, et al., in a Reading Research Quarterly meta-analysis on phonemic awareness.

## Is there any research on how English language or multi-lingual learners learn PA?

Other than some unique phonemes associated with specific languages or no-phonemes associated with logo-graphic languages, ELs tend to learn English PA in the same way as Non-ELs. This is confirmed by a systematic review by August and Shanahan (2006) and in a more recent PA meta-analysis by Rice, Erbeli, Thompson, et al., 2022.

## Should phonemic awareness instruction be taught differently to English language learners?

See answer above. There appears only to be support for highlighting English PA sounds that aren't found in the home or heritage language as a difference. Other than that, ELs tend to learn English PA in much the same way and with the same instruction as do Non-ELs.

## **What's the best approach for intervening when students have difficulties with phonological/phonemic awareness after 1st grade, especially for students in grades 3-8? What can a general education teacher in these grades do that will be most effective with these students?**

For students who do not get PA in the early years, intervening with PA in the later years has very little demonstrated research support in general education settings. The reason for this is that students who need PA in the upper grades are typically demonstrating clear signs of a severe reading disability and require specialized support.

Consequently, general education teachers would not be expected to take on the responsibility of PA support in the regular education classroom. Reading disabled students require individualized support with differentiated instruction calibrated by frequency, dosage, intensity, and content. However, the general educator would be wise to seek out a meeting with the special educator to learn about adaptations and modifications of instruction that might be helpful for such students.

## **How can I support a student who is struggling to apply phonemic awareness skills while writing?**

Students who aren't applying PA need special attention in segmenting and spelling.

The first thing to do is to determine IF the student can segment phonemes in single syllable words. If they can, then they need to be explicitly taught how to segment single syllable word patterns for sound and then represent these sounds with letters in a repeated instruction routine that is predictable and flexible.

## **What are next steps for students who do not show growth?**

First, be clear on where students are demonstrating a need for more instruction and practice. Then, target these specific instructional needs in tier 2 supports. Our preference is to establish a strong and effective tier 1 instructional routine to ensure that 90% or more of our students are achieving grade level literacy proficiency. This can then free up more flexibility for students who are not yet achieving grade level proficiency in the targeted skill or strategy.

## **How much time should be allocated for Tier 2 and Tier 3 instruction of PA?**

Tier 2 instruction should receive about 45-60 minutes of additional time to the traditional 120-minute block a la Shanahan's work cited above. This instruction should be offered in small, data-driven groupings. Tier 3 should be determined on an individual level and offered as data indicate is necessary. The three most important elements to consider in Tier 3 instruction are: intensity, frequency and duration of instruction AND of course, the targeted skill(s) need of instruction.

## **For students in grades 4-8 who are reading at K-1 levels, is phonemic awareness effective?**

Data from the National Reading Panel (NRP) report indicates that pre-school children experience the most power from PA instruction ( $ES = 1.25$ ). The impact of this instruction is still effective to accelerate learning up through the 2<sup>nd</sup> grade. However, this should be contrasted with the NRP data that indicates a sharp decline in the value of phonemic awareness instruction after a total of 18-20 hours of instruction so it is unlikely that a student in grades 4-8 would experience a benefit from this instruction if they had already received the specified does of 18-20 hours of total instruction.



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