

PUZZLE PIECE PHONICS

Research Base Alignment:

A Summary of Salient Research and
Description of Program Alignment



PHONICS

The System of Relationships Between Sounds
and Letters That Leads to Reading and Writing

Introduction

Try this: look online at a document written in a language you don't know. Suddenly, black characters on a white background have no meaning for you. The words are impenetrable. You can't access the meaning of words and sentence in a language you don't know because you have no system for unlocking it. It is the same for children learning to read the English language. Even a short sentence like "The bunny hops." requires an impressive array of linguistic skills to unlock meaning. This is where *phonics* comes in.

Phonics is a research-based method for teaching reading and writing that develops learners' ability to hear, identify, and manipulate **phonemes**—the smallest units of sound in language—in order to correspond sounds with their graphical representations in written language (the **grapho-phonological system**). Through phonics instruction, beginning readers learn to systematically decode, or "sound out," words by blending sound-spelling patterns.

Beginning readers also learn to decode the *meaning* of language. Through phonics instruction, students learn to identify and manipulate **morphemes**—the smallest units of semantic meaning in language—and to use morphemes to parse the meaning of words (the **semantic system**). They also learn the rule-governed ways in which words are put together in phrases and sentences to convey meaning (the **syntactic system**).

These three systems—phonological, semantic, and syntactic—work together in complex and astonishing ways, enabling human beings to communicate and think (Pinnell & Fountas, 2009).

The main focus of phonics instruction is the grapho-phonological system. Although the relationship between sounds and letters is imperfect in English—for example, the letter *a* may make a dozen slightly different sounds depending upon the context in which it is embedded and the speaker's dialect ([ɑ] = the *a* in *father*; [æ] = the *a* in *cat*; [ə] = the *a* in *about*)—awareness of sounds in words is an essential factor in learning to read (Blevins, 1999, 2016).

The formula for learning to read with success is simple: Being able to recognize a large number of words leads to automaticity and fluency in reading, without which learners cannot become proficient, engaged readers. Phonics instruction is the key.

The **Puzzle Piece Phonics** program will provide children in a classroom working at significantly different levels with the rigorous yet engaging instruction they need to gain the necessary **automaticity** and **fluency**. It is a comprehensive year-long phonics curriculum—grounded in research—that teaches K-2 learners to immediately apply phonics learning to their authentic reading and writing. Its defining unique tool is its illustrated, colorful, moveable puzzle pieces, which help students learn spelling and phonics patterns as a natural part of becoming fluent readers and writers. The Puzzle Pieces introduce the specific sound-letter patterns, and can be

displayed on classroom wall as an ongoing reference throughout each week.

What also sets ***Puzzle Piece Phonics*** apart is that it meets the needs of students working on very different levels, within the same grade. Differentiating learning for students is not an add-on to the scope and sequence of the program, but a central part of its design, so that all students make impressive strides throughout the year. Harnessing the power of the Gradual Release Model (Pearson and Gallagher, 1993), students learn new skills during whole-group lessons, then immediately apply them at their individual working level through the differentiated components, including weekly sorts, fluency poems, and Practice Pieces.

Other highlights of note that will be elaborated on in this paper:

- The scope and sequence of the program is designed to teach students how the English language works in the easiest way possible.
- Differentiation is *embedded* within the daily instructional design so that teachers can easily implement each component of balanced literacy while also flexibly grouping students and meeting individual needs.
- Rigorous daily lessons embed vocabulary and word analysis in instruction, while at the same time providing fun, child-appealing content and routines that support young learners working at a range of levels.
- Daily lessons make optimal use of the Gradual Release of Responsibility model, moving from whole-group instruction to independent and small-group practice.
- Bright, cheerful illustrated texts offer a high degree of direct application to reading and engage young readers.
- Professional development for teachers is outlined before each of the weekly lessons to help teachers foster conversations about how sound-spelling patterns can be applied within words.
- Easy ongoing assessment holds students accountable for mastery of phonics concepts and allows for flexibility in grouping students.

This paper is designed to provide educators with a distillation of research findings related to phonics, phonics instruction, and teacher efficacy along with point-by-point explanations of how ***Puzzle Piece Phonics*** is based on each research finding. The intent of this paper is to show that when a resource is authored by practitioners—highly effective teachers—and assiduously aligned with research, the result is a resource that is streamlined, efficient, and designed to solve common classroom challenges in ways that other “bulkier” programs can’t. The authors based their resource primarily on the findings of the landmark 2000 report from the **National Reading Panel: Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and its Implications for Reading Instruction**.

Puzzle Piece Phonics began when three teachers, Carolyn Banuelos, Danielle James, and Elise Lund, frustrated by the flaws in the phonics resources they used, harnessed their creativity, their curricular understanding, their practicality, and their can-do talents to design a program that reflects how students best acquire phonics knowledge. The result is a unique and engaging curriculum designed with a scope and sequence that teachers can easily adapt, and supported by student resources that encourage young learners to instantly apply phonics concepts to their reading and writing.

Definitions

In considering any instructional resource for phonics, it's key to assess its capacity to develop children's mastery of the following three facets:

Phonological awareness, the ability to identify and manipulate units of oral language, such as words, syllables, onsets, rimes, and initial, medial, and final sounds (phonemes), including

- Long vowel, short vowel, and complex vowel sounds
- Consonant blends and digraphs

Phonemic awareness, the ability to focus on and manipulate individual sounds (phonemes) in words, including

- Identifying rhyming patterns
- Discriminating among sounds that are different
- Blending spoken sounds into words
- Handling word-to-word matching
- Isolating sounds in words
- Counting phonemes
- Segmenting words into sounds
- Deleting sounds from words
- Breaking down words and noticing the syllables

Phonics awareness, the ability to relate sounds and letters, including

- Identifying letter names and sounds
- Recognizing common sound-spelling patterns within words
- Producing the sounds of various spelling patterns
- Orally blending sounds to produce words
- Word study

What the Research Says

Research in the last two decades has proven that systematic instruction on phonics patterns is more effective at promoting growth in reading and spelling than non-phonics based approaches (National Reading Panel, 2000). Balanced Literacy requires that word study is not taught in isolation. The skills students learn during word study become a tool for successful reading and writing all day long.

When teachers explicitly demonstrate and lead students to speak, read, and write in ways that help them learn the relationship between letters and sounds, word recognition, fluency, and reading comprehension, children acquire a foundation in literacy and language that sets them up to read and write. The efficacy of explicit, systematic phonics instruction for beginning readers is amply supported by research:

- According to John Hattie's Visible Learning research, phonics instruction has a 0.7 effect size, which when implemented, *results in nearly 1.5 years' worth of growth for students* (Hattie, 2009). Effect sizes are statistical measures that allow readers to determine how powerful a specific influence is on learning. (The average effect size in his database is .40. At .40, an effect is equal to approximately one year of learning for one year spent in school.) Hattie's findings are based on 16 years of research, and the largest educational research database in history involving 1,200 meta analyses and millions of teachers and students to identify the instructional routines and literacy practices that have the biggest impact on student learning.
- Research conducted by the National Reading Panel (NRP) shows that systematic and explicit instruction of letter-sound correspondences is effective for teaching children to encode and decode reading. Explicit phonics instruction more strongly impacts children's reading than any other non-phonics based instructional approach (NICHHD, 2000, p. 2-89).
- According to Wiley Blevins's review of the research in *A Fresh Look at Phonics*, "The researchers have all documented that learning the alphabetic principle is essential to learning to read, and phonics is best taught when it is systematic and explicit" (Blevins, 2017, p. xxv).
- 84-87% of English words are regular, meaning that they follow consistent sound-spelling patterns; therefore, students can be taught letter-sound relationships in order to decode words. (Anderson et al., 1985).

How *Puzzle Piece Phonics* Supports This Research

With *Puzzle Piece Phonics*, the authors primarily drew upon the four research bodies summarized in the bullets above, and leveraged their teaching experience to provide systematic

and explicit instruction of letter-sound correspondences as part of a scope and sequence that shows students how English words work *in the easiest way possible*. Connections to previous learning and immediate, daily application of concepts to authentic reading and writing are essential aspects of the program. When young learners see that the phonics and word study work they do is all of a piece with the reading and writing they do throughout the literacy block, they progress quickly toward becoming fluent readers and writers.

Specifically:

- **Focus letter-sound patterns are studied for one week at a time so students have ample opportunities to practice and apply spelling patterns.** Similar letter-sound patterns are studied in succession so students can connect their learning to previously taught concepts.
- **Repeated phonics practice with a variety of word study tasks builds the confidence** necessary for students to apply phonics knowledge outside of the word study block.
- Students constantly read and write words that contain the weekly focus letter-sound patterns in a variety of authentic contexts, including fluency poems, Comprehension Checks, and Practice Pieces.

The Optimal Scope and Sequence

The National Reading Panel (NRP) has determined that **systematic, explicit phonics instruction—phonics instruction that is direct and follows a particular sequence— is an essential ingredient in beginning reading instruction.**

According to the NRP, research shows clearly that systematic, explicit phonics instruction:

- Is more effective than phonics instruction that is not systematic or no phonics instruction at all.
- Is most effective when it begins in kindergarten or first grade.
- Improves children’s word recognition, spelling, and reading comprehension skills.
- Benefits all children, regardless of their socioeconomic status.
- Most benefits children who are having difficulty learning to read.

The NRP suggests teaching letter names and sounds early in kindergarten, before reading is introduced: “To be effective, phonics instruction introduced in kindergarten must be appropriately designed for learners and must begin with foundational knowledge involving letters and phonemic awareness” (NICHHD, 2000, p. 2-133).

Moreover, phonics instruction is only one part of a comprehensive reading program for beginning readers. According to the NRP, the scope and sequence of an effective beginning reading program should also emphasize reading fluency, vocabulary development, and text

comprehension.

Wiley Blevins makes the following recommendations for a scope and sequence in *A Fresh Look at Phonics*: “[Effective scope and sequences] build from the simplest to the most complex skills in a way that takes advantage of previous learning” (Blevins, 2017, p. 27).

In other words, students should be able to contrast known sound-spelling patterns with new sound-spelling patterns. According to Blevins, a scope and sequence should also

- Allow students to form as many words as possible as early as possible by teaching vowels and consonants in combination
- Teach high-utility sound-spelling patterns before less useful patterns
- Separate easily confused letters and sounds
- Include built-in differentiation to meet the diverse needs of students in a class (p. 29).

How the Scope and Sequence of *Puzzle Piece Phonics* Supports This Research

Systematic phonics is a key element of the scope and sequence of *Puzzle Piece Phonics*:

- Phonics instruction begins in kindergarten with letter names and sounds. Students are given ample time (10 weeks of instruction) to focus on letter names, sounds, and formation of letters before beginning to read consonant-vowel-consonant (CVC) words.
- The scope and sequence continues to build from simple to complex throughout kindergarten and into first and second grades. Students study high usage sound-spelling patterns first, and are only introduced to less common sound-spelling patterns (for example, *kn* and *gn* in second grade). Students are also taught a mix of consonants and vowels so they can read and write many words early in the program.
- Students begin encoding and decoding full words 13 weeks into the kindergarten year. Prior to that point, decoding is supported by the teacher through oral blending of words, and students write letters to represent single sounds. Students begin decoding and encoding words on the first day of first and second grade.

In the words of the *Puzzle Piece Phonics* authors:

“Phonics instruction must be systematic, both in the way sound-spellings are introduced to students and how they are continuously reviewed. Simple, but high-usage patterns should be mastered first so that literacy is accessible and student excitement begins to build. Additionally, previous learning should be continuously reviewed so that students can build upon prior knowledge. When done properly, as in *Puzzle Piece Phonics*, phonics and word study empower students to analyze words using academic language, read and write independently, and self-reflect on their progress.”

Explicit Consistent Lesson Design

According to Blevins, an effective phonics lesson is fast-paced and rigorous (Blevins, 2017). Also, learning is increased when the teacher is confident and expert, and makes use of a lesson design that

- Is engaging.
- Avoids the pitfalls of too many minutes spent on easier activities that don't sufficiently drive students to apply the skills to their reading and writing.
- Is fun and keeps students active and engaged throughout the entire lesson (Blevins, 2017).

How the Explicit Consistent Lesson Design of *Puzzle Piece Phonics* Supports This Research

Puzzle Piece Phonics guides students to analyze phonics and word structure patterns in rigorous daily lessons that embed vocabulary and word analysis in instruction—while at the same time, providing fun, child-appealing content and routines that support young learners working at a wide range of levels:

- The full-color **puzzle pieces create a wall chart that helps students understand the relationships among patterns**, rather than memorizing them individually. The puzzle pieces are visual and multi-sensory, and thus support diverse, differentiated teaching and learning.
- Students study the same set of sound-spelling patterns shown on the puzzle pieces for a full week to allow for self-reflection, mastery, and whole-class conversations.
- **Child-appealing, illustrated texts offer a high degree of direct application to reading.** Students practice fluency every day by repeatedly reading poetry and simple text (kindergarten), poetry (first grade), and reader's theater or expository texts (second grade). Half the resources are written for students working on and below grade-level and include repetition, formally introduced sound-spelling patterns, and pictorial support. Half of the resources are written for students working above grade level and provide enrichment by including higher-level vocabulary, sentence structures, and ideas.

In the words of the *Puzzle Piece Phonics* authors:

“Lessons in *Puzzle Piece Phonics* are structured around daily routines. Explicit instruction and the gradual release of responsibility is embedded in these routines. Teachers begin each day by introducing new content and reviewing prior learning. Then, the responsibility for applying new sound-spelling patterns and word study concepts to reading and writing is slowly released to students throughout each lesson. Progress can be constantly monitored and students receive the necessary support to achieve mastery.”

How the Six Teaching Functions of Explicit Instruction are implemented in *Puzzle Piece Phonics* (PPP)

According to Rosenshine and Stevens (1986) and Rosenshine (1997), explicit instruction can be organized into six teaching functions:

1. Review of prerequisite skills and knowledge

Implementation in PPP: Each day begins with phonemic awareness (PA), with an oral review of the skills students learned in previous weeks and practice with the current focus skills. Following PA is the puzzle piece review, which reviews the name (example word), sound, and spelling of each focus puzzle piece.

2. Presentation of new material and model procedures, providing examples

Implementation in PPP: Teachers display sample words with the focus sound-spelling patterns and engage students in discussions about how the sound-spelling patterns work within the sample words.

3. Guided practice, requiring students to respond at high rates; providing prompt, specific feedback; and requiring students to continue to practice until they achieve mastery

Implementation in PPP: Students complete blending (guided decoding) and dictation or word ladder activities (guided encoding) daily. Teachers provide feedback and discuss the patterns that emerge by using the teaching points outlined on the daily lessons. Students self-correct their work in response to teacher feedback.

4. Corrections and feedback, reteaching as needed

Implementation in PPP: Teachers provide whole-group feedback and reteaching as necessary in response to students' work during blending and dictation or word ladder activities. Teachers use observation as formative assessment to determine students who will need additional support during independent practice.

5. Independent practice, monitoring practice attempts and providing feedback

Implementation in PPP: Students independently complete a differentiated word sort each day. Teachers use this time to formatively assess students and to provide feedback. Students also complete a daily practice piece and fluency practice, which requires them to

apply the sound-spelling patterns to read and write authentically. Teachers can continue formatively assessing students and providing feedback at this time as well.

6. Weekly and monthly reviews

Implementation in PPP: Students complete a weekly spelling and comprehension check to provide immediate feedback on their mastery of the weekly focus sound-spelling patterns. Students also complete period cumulative pre- and post-assessments that allow teachers and students to set goals and monitor retention of previously learned sound-spelling patterns.

In the words of the *Puzzle Piece Phonics* authors:

*“Puzzle Piece Phonics uses explicit lesson design daily. Teachers are guided in providing direct instruction and guided practice opportunities with the daily lesson activities and teacher notes as well as the weekly Tips for Management and Differentiation sections. Students are given multiple opportunities to apply learning and demonstrate mastery in a variety of settings. Teachers have many opportunities to formatively assess students, provide specific feedback, and to reteach as necessary. The use of explicit lesson design in *Puzzle Piece Phonics* guides students to achieve mastery and retention.”*

Research-Based Routines

The daily lessons in *Puzzle Piece Phonics* are built upon the following research-based routines:

PHONEMIC AWARENESS

According to the NRP, “Phonemic awareness refers to the ability to focus on manipulating phonemes in spoken words” (NICHD, 2000, p. 2-1). In other words, phonemic awareness is the ability to manipulate units of sound within spoken language. Phonemic awareness is a precursor to learning to read because the English writing system is alphabetic, with letters representing spoken sounds. Beginning readers must be able to distinguish between sounds and match them to graphemes (NICHD, 2000, p. 2-2). Developing phonemic awareness helps beginning readers learn to read.

What does the research say about phonemic awareness?

According to the NRP, phonemic awareness instruction helps children learn to read, and the effects of phonemic awareness instruction are long lasting. Phonemic awareness can be effectively instructed by teachers. NRP review of the research has shown:

- Phonemic awareness training improves students' ability to decode real and pseudowords, spelling, and reading comprehension: "Results of the meta-analysis showed that teaching children to manipulate the sounds in language helps them learn to read...Effects of phonemics awareness training on reading lasted well beyond the end of the training" (NICHD, 2000, p. 2-5).
- Phonemic awareness instruction impacts various groups of students: "PA instruction helped all types of children improve their reading, including normally developing readers, children at risk for future reading problems, disabled readers, preschoolers, 1st graders, children in 2nd through 6th grades (most of whom were disabled readers), children across various SES levels, and children learning to read in English as well as in other languages" (NICHD, 2000, p. 2-5).
- Phonemic awareness instruction is most effective when focused on one or two skills at a time, rather than on multiple skills at once (NICHD, 2000, p. 2-6).

According to Blevins's review of the research in *A Fresh Look at Phonics*, "The two best predictors of early success are alphabetic recognition and phonemic awareness" (Blevins, p. 3).

How does *Puzzle Piece Phonics* implement phonemic awareness in accordance to the research?

- Word study begins each day with a brief (1-3 minute) phonemic awareness activity. Students in grades K-2 focus on 1-2 isolated skills each week that align with the weekly focus sound-spelling patterns.
- Phonemic awareness activities progress from simple skills, working with larger parts of words (identifying rhyming words, counting syllables, isolating onset and rhyme, and orally blending words) to more challenging skills (oral segmentation of words and manipulating single phonemes within words). This is in keeping with the recommended progression from simple to complex (Blevins, 2017, pp. 4-5).

In the words of the *Puzzle Piece Phonics* authors:

"Phonemic awareness is essential to students learning to read and write. Students

must first understand that words are made up of sounds which can be broken apart or put together to read and spell words. In *Puzzle Piece Phonics*, students participate in phonemic awareness games every day—learning these essential concepts while having fun with language!”

DIRECT INSTRUCTION OF SOUND-SPELLING PATTERNS (PHONICS INSTRUCTION)

Direct phonics instruction teaches children the relationship between letters (graphemes) and sounds (phonemes) in order to decode and encode words. Students can learn single sound-spelling patterns (for example, consonant and short vowel sounds), or larger blends of letter-sound relationships that occur frequently in words, such as –ack, and bl- (NICHHD, 2000, p. 2-99).

What does the research say about phonics instruction?

According to the NRP:

- Phonics instruction helps “prevent reading difficulties among at risk students” and “remediate reading difficulties in disabled readers” NICHHD, 2000, p. 2-94).
- Phonics instruction improves students’ ability to read regularly spelled words and pseudowords, improves reading comprehension, and spelling (NICHHD, 2000, p. 2-89).
- Phonics instruction is beneficial for children at different SES levels, and students who were taught using a phonics-based approach outperformed students taught using basal programs, whole- language approaches, and whole-word programs (NICHHD, 2000, p. 2-95).
- The effects of phonics instruction on reading are long-lasting (NICHHD, 2000, p. 2-113).

How does *Puzzle Piece Phonics* implement phonics instruction in accordance to the research?

- **Students are taught a systematic scope and sequence of sound-spelling patterns using the puzzle pieces**, which are a visual representation of each sound-spelling pattern. Each puzzle piece includes the focus sound-spelling pattern, an example word with the focus pattern color-coded, and an image of the example word.
- **Students are introduced to the focus sound-spelling patterns at the beginning of the week** and receive direct instruction. Direct instruction might include what letters make up the sound-spelling pattern and how the sound-spelling pattern behaves—for example, is it found at the beginning, middle, or end of words/syllables? Or, is it

similar to other sound-spelling patterns (for instance, “oa” is similar to “ea” in that the sound of the first vowel is produced)?

- **Students review the sound-spelling patterns all week (including a motion to engage kinesthetic learners and aide retention)** and apply the sound-spelling patterns to read words during Blending (encoding) and to spell words during various encoding activities (dictation and word ladder activities).
- **With *Puzzle Piece Phonics*, phonics instruction begins early, as recommended by the NRP**, which found that phonics instruction is much more effective when it began in kindergarten and first grade, before students have learned to read independently. Phonics instruction also occurs over multiple years (K-2), which was found to be more effective than phonics instruction that ended in first grade (NICHHD, 2000, p. 2-118).
- **Students are explicitly taught that phonics instruction is meant to help them learn to read—it is a “means to an end.”** Students apply what they learn during direct instruction on the sound-spelling patterns to authentically read and write every day, as recommended by the NRP (NICHHD, 2000, p. 2-118).

In the words of the *Puzzle Piece Phonics* authors:

“The puzzle pieces are the cornerstone of *Puzzle Piece Phonics* because they are the visual tool students use to learn sound-spellings and how they behave within words. The puzzle pieces allow teachers to provide direct instruction, including the sound and spelling of each pattern, example words, and how the patterns are typically used within words. The pieces can be manipulated and connected so that students understand—most importantly—that sound-spellings are used to read and write words.”

BLENDING

According to Wiley Blevins, “Blending is the main strategy we teach students to decode, or sound out, words (Resnick & Beck, 1976). It is simply the stringing together of letter sounds to read a word” (p. 69).

What does the research say about blending?

Blevins explains that there are two types of blending: final blending and successive blending:

- Final blending is sound-by-sound blending. Students blend one sound at a time as they read the word. Blevins recommends that this is the first type of blending students begin with (p. 71).
- Successive blending is more efficient. Readers do not pause in between the sounds within words. They string them together. Blevins recommends that this type of blending be used with more advanced readers, as they are reading longer words and may have difficulties remembering the individual sounds they have produced (p. 71)

Blevins makes the following suggestions:

- Blending should be modeled frequently (every day for early readers)
- Blending lines should include:
 - minimal contrasts and students should practice analyzing words
 - differentiation to meet all students' needs
 - sentences to provide scaffolded practice reading connected text (Blevins, 2017, p. 72)

According to the NRP, programs that incorporated *daily* blending were found to improve low SES children's ability to read words more than basal programs less focused on sound-spelling relationships (NICHD, 2000, p. 2-127).

How does *Puzzle Piece Phonics* implement phonics instruction in accordance to the research?

- **Students in grades K-2 blend every day in *Puzzle Piece Phonics*.** The blending lines are designed with minimal contrast, so that similar words are listed on one blending line and within the blending line for the day. Teachers are guided with discussion points directly on the lesson for the day so they can help guide student discussions of the blending lines and teach students to analyze word relationships (such as compare and contrast how spelling patterns behave within words, identify related words generated by adding prefixes and suffixes, etc.)
- **Blending lines include words of varying levels of difficulty to challenge all levels of learners within the classroom.** At the beginning of the week, the words are simpler (one syllable words or words that only contain the focus sound-spelling patterns for the week). As the week progresses, students are challenged to analyze words with similar sound-spelling patterns or words with prefixes and suffixes.
- **Students decode sentences during blending every day.**

In the words of the *Puzzle Piece Phonics* authors:

“Blending is the essential application of phonics instruction to decode words. Students must internalize the blending process so that they can apply it during independent reading. Blending is the teacher’s opportunity to model breaking words into syllables, decoding each syllable, putting the syllables back together, and self-correcting as necessary. This is the process that makes literacy accessible to all, even students who do not recognize a large number of words.”

DICTATION

According to Wiley Blevins, “Dictation is guided spelling practice. It is your way of modeling and providing supported practice for a student in how to transfer phonics skills from reading to writing” (p. 91).

What does the research say about dictation?

According to Blevins:

- “The great benefit of dictation is that it can accelerate students’ use of taught phonics skills in their writing” (Blevins, p. 91).
- “Dictation can and should be part of your weekly phonics instruction (at least twice a week) as it is a systematic way for you to show your students how to use their growing phonics skills in their writing, whether or not you expect mastery at that point in the school year, and no matter where the student is on the spelling developmental continuum” (Blevins, p 92).
- “Begin dictation as early as kindergarten. Oftentimes, I see dictation started too late in the instructional sequence” (Blevins, p. 95).

According to the NRP, programs that incorporated daily dictation were found to improve low SES children’s ability to read and spell words more than basal programs less focused on sound-spelling relationships (NICHHD, 2000, p. 2-127).

How does *Puzzle Piece Phonics* implement dictation in accordance to the research?

- **Students receive guided writing practice every day** with *Puzzle Piece Phonics*. Two days per week, students complete Dictation. Some of the words are encoded with teacher support breaking each word into phonemes, referring to the puzzle pieces (sound-spelling cards), and recording the words. Some of the words are recorded independently. Students self-check work and receive teacher feedback. Two days per week, students complete a word ladders routine. Students break words into phonemes and refer to the puzzle pieces to encode words. Then, students identify

similarities and differences between words and use known words to record unknown words.

- **Dictation begins in kindergarten** with *Puzzle Piece Phonics*. At the beginning of the year, students encode single sounds. Later students begin encoding consonant-vowel-consonant (CVC) and CVCC words. At the end of the year, students encode CVCe (silent e) words.
- **The daily lessons include notes with discussion points for teachers to they can hold academic conversations with students** and teach them to analyze sound-spelling patterns as they are recording words.

In the words of the *Puzzle Piece Phonics* authors:

“Dictation is as essential to daily lessons as blending. During dictation, students apply what they learn during phonemic awareness to break words into sounds, identify the spelling patterns that represent each sound, record the patterns, and self-correct as necessary. Students benefit from guided practice encoding words and engaging in discussions with their peers. They become empowered to encode words independently—even if using developmentally appropriate invented spelling—without relying on the teacher or a word wall for correct spellings.”

WORD SORTING

In word sorting, students sort pictures that represent words (sound sorting) or sort word cards. Students in *Puzzle Piece Phonics* complete closed sorts, in which students are told how to sort the word (according to the focus sound-spelling patterns).

What does the research say about word sorting?

According to Blevins:

- “Word sorts allow students time to think about how words work by drawing their attention to important and common spelling patterns” (Blevins, 114).
- “While the initial introduction of phonics skills is best using an explicit approach, that does not mean there shouldn’t be a time in the instructional cycle in which students play with and explore letter sounds. In fact, I think this exploration is critical for students to consolidate and solidify their learning of how words work” (Blevins, p. 112).
- “When phonics instruction fails, it often does so because it is rote, unthinking and not applied to real reading and writing experiences” (Blevins, p. 112).

According to the NRP, word study programs that developed phonological awareness and decoding skills and included daily word sorting produced greater growth in reading than guided reading programs. Student achievement in word reading and reading comprehension was greater with word sorting than with guided reading (NICHHD, 2000, p. 2-130).

How does *Puzzle Piece Phonics* implement word sorting in accordance to the research?

- **Students complete differentiated word sorts daily**, so that all students are challenged and supported at their level. Students have the opportunity to apply the decoding skills they have learned during blending to independently read and sort words, solidifying their knowledge. For phonics instruction to be successful, students must apply what they are learning directly to read and write as they are learning it. Daily word sorting encourages this application.
- **Students are encouraged to analyze words as they complete their sorting.** Students highlight sound-spelling patterns and can complete an open sort (they determine the rules for sorting). Students also make connections among words when completing the sorting routine, which requires students to say the word they are sorting, say the sound-spelling pattern, say the header word (example word that has the same sound-spelling pattern), and say the sound-spelling pattern, so that connections are made between similar words.

In the words of the *Puzzle Piece Phonics* authors:

“Word sorting is how students independently practice reading words. Many students can become lost in whole-group blending, especially those who need the most support. Word sorting holds all students accountable for applying knowledge of sound-spelling patterns to decode words. It also gives students the opportunity to make connections among similar words, a process that leads to long-lasting learning.”

APPLICATION TO READING: FLUENCY

Reading fluency is the ability to read with ease and accuracy so the reader can focus attention on meaning:

- “Fluent readers can read text with speed, accuracy, and proper expression” (NICHHD, 2000, p. 3-1).
- “As readers begin to recognize larger and larger numbers of words automatically, their reading fluency (the speed and accuracy with which they read) improves” (Blevins, p. 154).

Fluency is generally accepted as a critical component of reading comprehension.

What does the research say about reading fluency?

- “Reading fluency is linked to reading **comprehension**. Improvements in reading fluency improve understanding of the text. Since students are no longer struggling with decoding words, they can devote their full mental energies to making meaning from text” (Blevins, p. 154).
- Phonics instruction must be supported by connected text that relates to direct instruction. “Like arithmetic without application, phonics without connected reading amounts to useless mechanics. And like arithmetic that we never did understand well enough to do the word problems, it is easily forgotten altogether” (Adams, 1990).
- According to Anderson, Hiebert, Scott, and Wilkinson, decodable text must meet three criteria:
 - Comprehensible: students must understand the vocabulary. The stories should make sense and sound natural.
 - Instructive: The majority of words in the decodable text must contain sound-spelling patterns that have been previously taught.
 - Engaging: Students must want to revisit the text for repeated rereads (Anderson, p. 3)
- The NRP found that repeated oral reading positively impacted word recognition, fluency, and comprehension at a range of grade levels (NICHHD, 2000, p. 3-16).
- “Repeated reading and other procedures that have students reading passages orally multiple times while receiving guidance or feedback from peers, parents, or teachers are effective in improving a variety of reading skills” (NICHHD, 2000, p. 3-20).

How does *Puzzle Piece Phonics* implement fluency in accordance to the research?

Students practice fluency daily by repeatedly reading texts that are comprehensible, instructive, and engaging. Fluency builds from year to year:

- ***All grade levels:*** Students each receive a copy of the **Fluency Notebook** that supports instruction in *Puzzle Piece Phonics*. They can keep it at their desks all year long and refer back to previously practiced fluency resources (passages, poems, and reader’s theater plays) for repeated rereadings.
- **Kindergarten:** Students read differentiated chants, passages, and poems with the support of their teacher, class, and peers. Fluency resources can be projected and enlarged for shared reading. Later in the year, responsibility is released to students, who read differentiated texts with peer support.

- **First Grade: The fluency notebook contains poems in a variety of formats.** The poems are engaging and playful and supported by eye catching pictures. Students repeatedly read the differentiated poems. Poems written for students working on or below grade-level include sight words and sound-spelling patterns previously taught. Poems written for students working above grade-level include challenging words with features that have not yet been taught. Teachers are encouraged to gather small groups for additional support and to hold “fluency celebrations” in which student partnerships present to the class, so that students can model fluent reading and learn from one another.
- **Second Grade: The Fluency Notebook includes a collection of reader’s theaters with 4 differentiated parts.** Homogenous groups of students work all week to repeatedly read the plays and support one another to achieve reading fluency. Teachers are encouraged to meet with groups of students to support fluency as well. Every other week, students read differentiated informational articles. Students repeatedly read one section of the article each day, improving reading fluency and comprehension. At the end of the week, students reread the article in its entirety to understand the text as a whole. Reader’s theater parts and informational articles written for students working on or below grade-level include sight words and sound-spelling patterns previously taught. Reader’s theater parts and informational articles written for students working above grade-level include challenging words with features that have not yet been taught.

In the words of the *Puzzle Piece Phonics* authors:

“Daily fluency practice is the fun of *Puzzle Piece Phonics*! Students read age-appropriate, engaging texts and apply what they have learned directly to engage in reading. They see the reason behind phonics instruction--to read real texts and have fun with the process.”

Teacher Clarity

An important research body in support of explicit phonics instruction is teacher *clarity*. Teacher clarity occurs when teachers are clear in the expectations and instruction, so that students learn more. Fendick (1990) defined teacher clarity as “a measure of the clarity of communication between teachers and students in both directions” (p. 10) and further described it across four dimensions:

1. **Clarity of organization** such that lesson tasks, assignments, and activities include links to the objectives and outcomes of learning

2. **Clarity of explanation** such that information is relevant, accurate, and comprehensible to students

3. **Clarity of examples and guided practice** such that the lesson includes information that is illustrative and illuminating as students gradually move to independence, making progress with less support from the teacher

4. **Clarity of assessment of student learning** such that the teacher is regularly seeking out and acting upon the feedback he or she receives from students, especially through their verbal and written responses.

When students know what they are learning and the lesson flows well, students learn more (Fisher, Frey, Amador & Assof, 2018). Fisher, Frey et al. explain, “Teacher clarity has an effect size of 0.75 [Hattie, 2009]. Effect sizes are statistical measures that allow readers to determine how powerful a specific influence is on learning. John Hattie has assembled the largest educational research database in history and has calculated effect sizes on over 200 influences on learning. The average effect size in his database is .40. At .40, an effect is equal to approximately one year of learning for one year spent in school. Teacher clarity, with an effect size of .75, is likely to ensure that the impact on students is significantly greater than average.”

How *Puzzle Piece Phonics* Implements Teacher Clarity

In *Puzzle Piece Phonics*, lessons flow logically from direct instruction tied to a specific objective (the focus sound-spelling patterns) to guided and independent practice reading and writing using the focus sound-spelling patterns. Multiple resources in the teacher guide help teachers provide clear, focused direct instruction, including:

- The introduction, which details the purpose, procedures, and possible modifications for all program routines
- The weekly Tips for Management and Differentiation section, which outlines ways to deepen student understanding, explains how to avoid common misconceptions students, and provides suggestions for remediation and differentiation
- The daily lessons, which include teaching points teachers can use to guide class discussions and help students analyze words

By relying on these resources and, as the authors strongly encourage, personalizing instruction in response to formal and informal assessment points, teachers can appropriately scaffold students as they master the focus sound-spelling patterns each week. *Puzzle Piece Phonics* empowers teachers to implement the four qualities of teacher clarity and to be the experts in their classrooms.

As Wiley Blevins notes, “We need to put systems in place in which teachers are respected, highly engaged, thinking professionals with the necessary support tools” (p. 191). As such, *Puzzle Piece Phonics* is designed so that the teacher—not the program—is the expert:

- In the letter to teachers, the authors introduce themselves and explain their philosophy—no one knows students better than their teachers. The authors recommend that teachers personalize everything to “make it ‘fit’ for you and your students” and explain that the authors view the teacher, not our program, as the expert. Teachers are encouraged to look at the lessons through the lens of their students.
- Every week includes a Tips for Management and Differentiation section with strategies for personalizing the lessons that are comprehensive, intentional to each week—not just “extra” tips.

Moreover, the authors considered feedback from other teachers when designing the scope and sequence *Puzzle Piece Phonics* curriculum:

- Research and focus groups highlighted the spiral nature of the kindergarten curriculum. The authors structured the scope and sequence to allow ample time for direct instruction and review of consonant and short vowel sounds in kindergarten.
- Teachers in focus groups recommended teaching digraphs before blends in first grade. They argued that students are accustomed to seeing one sound-spelling pattern represent one sound, as is the case with digraphs. It is more difficult for students to master blends, in which one pattern represents two sounds.
- Teachers noted that the second grade standards include both a review of the phonics patterns studied in first grade and an understanding of more complex, language and within word structures (root words and affixes, parts of speech). The authors designed the scope and sequence of second grade to reflect this shift and to prepare students for the increase in text complexity as they move from learning to read to reading to learn throughout second grade.

The authors also considered feedback from other teachers when designing the Puzzle Pieces (sound-spelling cards). Teachers noted the importance of having one sound-spelling pattern on each puzzle piece. Many teachers felt that students become overwhelmed when sound-spelling cards include multiple possible sound-spelling patterns. Furthermore, cards with multiple patterns do not help students internalize how sound-spelling patterns are most frequently used. In light of this teacher feedback, the sound-spelling cards (puzzle pieces) in *Puzzle Piece Phonics* are designed so that

- Students can make connections among sound-spelling patterns.
- Patterns that represent the same sound connect vertically, so students can still make valuable connections among spelling patterns that represent the same sound.

- Patterns that behave the same way (for example, all vowel teams) connect horizontally.
- Students can apply what they know about a familiar sound-spelling pattern to decode words with untaught patterns.
- The puzzle pieces can be used to build words and are shaped differently to help students learn how each pattern most frequently appears within words.
- Patterns that occur only at the beginning of words have a straight edge on the left, so that no other pieces can be joined before them.
- Patterns that occur only at the end of words have a straight edge on the right so that no other pieces can be joined after them.

Effective Implementation

As noted, there is an ample research base in support of explicit, systematic phonics. As a result, many phonics programs contain year-long scope and sequences that look impressive but have not been adequately “stress-tested” in actual classrooms. Published phonics program lessons are sometimes outsourced to a group of writers, and thus do not have strong cohesive author vision and voice. With *Puzzle Piece Phonics*, the authors use their teaching experience to craft every aspect of the resource themselves. The lessons were developed, widely field-tested, and adjusted by the authors, which makes the lessons highly replicable and thus can be effectively implemented.

In *A Fresh Look at Phonics*, Blevins identifies ten common reasons for phonics instruction to fail (p. 99) *Puzzle Piece Phonics* avoids these pitfalls, turning the ten areas of potential weakness into ten strengths of the program. Here—*a la* Blevins’ ten common reasons for failure—are ten of the ingredients for success in *Puzzle Piece Phonics*:

Ten Ingredients for Effective Implementation in *Puzzle Piece Phonics*:

1. Review and repetition

In PPP, adequate review and repetition occurs through the daily lessons and cumulative, summative assessments. Previously studied sound-spelling patterns are integrated into the daily lessons, and students are expected to demonstrate continued mastery.

2. Application to real reading and writing experiences

In PPP, young learners immediately apply the new concept learned by reading the poems, readers’ theaters, and passages in their Fluency Notebooks and writing during the daily practice pieces.

3. Appropriate reading materials to practice skills

In PPP, the reading materials were carefully developed by the authors and field-tested in classrooms; in addition, PPP provides ideas for what to look for in high quality decodable texts and children's literature. Children also directly apply learning to write authentically during the daily practice pieces.

4. Effective use of the gradual release model

In PPP, all daily lessons follow the gradual release of responsibility model. Lessons begin with explicit instruction on the focus sound-spelling patterns and how they work within words. This instruction is followed by guided practice reading and writing words with the focus patterns and student-to-student and independent practice applying learning to read and write authentically.

5. Little to no time lost during transitions

In PPP, the daily lessons are structured around routines that students can quickly internalize, maximizing time on task. Tips for management are also included prior to each set of weekly lessons to help teachers smoothly introduce new elements of instruction.

6. Teacher knowledge of research-based phonics routines and linguistics

In PPP, all of the routines included are research-based. Teachers can refer to the introduction to learn the purpose behind program routines and how to effectively implement them.

7. Appropriate pacing of lessons

In PPP, teachers are given guidelines for how much time should be spent in each lesson component so that lessons progress through the gradual release of responsibility every day. Teachers can refer to the introduction (which outlines steps to efficiently complete each routine) and the Tips for Management and Differentiation section at the start of each week for help in pacing lessons.

8. Comprehensive assessment tools

In PPP, Students complete an initial assessment at the beginning of each grade level to help teachers group students. These flexible groups can be adjusted in response to additional preassessments administered before new phonics concepts are introduced. Students complete post-assessments after major word study concepts have been formally taught to help teachers track student data and identify needs for reteaching. Teachers can communicate results with students and parents and adjust word study goals accordingly.

9. Well-timed transitioning to multisyllabic words

In PPP, students in first and second grade are frequently exposed to multisyllabic words. At the beginning of the week, instruction highlights basic words containing the focus sound-spelling patterns. However, later in the week, students apply all prior knowledge to decode and encode

words with the focus sound-spelling patterns plus prefixes and suffixes and multisyllabic words. This guided practice during blending and dictation supports students' work with multisyllabic words during fluency and comprehension checks, which are written to appropriately challenge students.

10. Efficient and targeted use of practice time

In PPP, students complete a brief, differentiated word sort every day to support retention and mastery. After this 3-5 minute activity, students begin immediately applying their learning to authentic reading and writing during practice pieces and fluency. The majority of practice time is spent in activities at a higher level on Bloom's Taxonomy, requiring students to apply their knowledge and supporting a deeper level of understanding.

Gradual Release of Responsibility

The Gradual Release of Responsibility is a research-based instructional model developed by Pearson and Gallagher (1993) in which the responsibility for task completion shifts gradually over time from the teacher to the student. Gradual release of responsibility is an ideal learning model for phonics instruction—teachers can explicitly demonstrate the relationship between sounds, letters, and words to students, and then lead students to practice with increasing independence toward fluency and reading comprehension. The daily lessons in *Puzzle Piece Phonics* provide this kind of explicit instruction and follow the Gradual Release of Responsibility model toward student fluency and comprehension.

How *Puzzle Piece Phonics* Implements Gradual Release of Responsibility

Puzzle Piece Phonics is designed to make optimal use of gradual release of responsibility. Daily lessons move from whole-group instruction—including phonemic awareness, a review of the weekly focus pattern, blending, and supported writing—to small-group and independent practice. Students independently sort their words and complete a variety of Practice Piece routines. Finally, students work independently or in small groups to practice fluency.

The design of the daily lessons in *Puzzle Piece Phonics* aligns precisely with the Gradual Release of Responsibility (GRR) model:

1. I do—Focus Lesson:

- **GRR model:** In the focus lesson, teachers model. They demonstrate and describe the concept in a clear, concise, and consistent manner. Students are to be involved in this portion of the lesson.
- **How this is implemented in PPP:** Teachers present the focus sound-spelling patterns by displaying the puzzle pieces and introducing students to their name (sample word),

sound, and spelling. Teachers also directly explain how specific patterns can be used (for example, the *-ck* pattern spells /k/ following short vowels). Students orally repeat the name, sound, and spelling of each pattern, demonstrate the motions associated with each sound-spelling pattern, and identify example words that have the focus sound-spelling pattern.

2. We do—Guided Instruction:

- **GRR model:** Students practice in a prompted or guided format. Teachers cue students with physical, verbal, and visual prompts. They provide scaffolding by telling and reminding students of what to do.
- **How this is implemented in PPP:** Students practice daily decoding and encoding words with the focus sound-spelling patterns by blending and completing dictation or word ladder activities as a class. Students are supported by their teacher and peers as they begin interacting with the new content.

3. You do together—Collaborative:

- **GRR model:** Students practice with peers, unprompted by the teacher. The teacher monitors student performance and provides corrective feedback.
- **How this is implemented in PPP:** Students engage in practice pieces and fluency practice daily with peers. They apply the focus sound-spelling patterns to authentically read and write with their classmates. Teachers can use this time to provide feedback and further scaffolding to individuals and small groups of students.

4. You do—Independent:

- **GRR model:** Students practice independently, unprompted by the teacher. The teacher monitors student performance and provides corrective feedback.
- **How this is implemented in PPP:**
 - Students independently complete differentiated picture or word sorts for 5-10 minutes daily. Students also independently complete weekly spelling and comprehension checks.
 - Practice sessions follow a distributed practice model, in which student complete short, repeated practice sessions over time. Research has shown the distributed practice model to be the most effective method of achieving mastery for a variety of students, since most students struggle with retention (Dempster & Farris, 1990; Hattie, 2009; Willingham, 2002).

In the words of the Puzzle Piece Phonics authors:

“In Puzzle Piece Phonics, responsibility for reading and writing words with the focus sound-spelling patterns is released **daily** and **weekly**. **Daily**, students begin with high levels of scaffolding—hearing, reading, writing, and discussing words with the focus

sound-spelling patterns in a whole-group format. Students practice applying new sound-spelling patterns, receive immediate feedback, and participate in discussions that deepen their understanding of how words work. Then, students apply sound-spellings to independently read and sort words, write during daily practice pieces, and read connected fluency texts. Daily, independent practice solidifies learning and helps students and teachers monitor the progress of individuals. **Weekly**, students are expected to work with increasingly difficult words and at higher levels of independence. Multisyllabic words and words with prefixes and suffixes are integrated into blending and dictation, challenging students to further apply their learning. Students independently complete a spelling and comprehension check at the end of the week, demonstrating final mastery of the concepts. Students are held accountable for mastered sound-spellings in the future as well. Through this process, students ultimately take responsibility for their learning.”

Differentiation

Differentiation is a general term used to describe both a teacher mindset about reaching a wide range of learners through daily instruction and a process by which to teach students of differing abilities in the same class. The intent is to maximize each student's growth and individual success by meeting each student where he or she is rather than expecting students to modify themselves for the curriculum. (Hall, 2002)

According to Tomlinson and Strickland (2005), teachers usually differentiate instruction by adjusting one or more of the following: the content (what students learn); the process (how students learn); or the product (how students demonstrate their mastery of the knowledge or skills).

As stated by Hueber (2010) Experts (Anderson, 2007; Rock, Gregg, Ellis, & Gable, 2008; Tomlinson, 2000) suggest these guiding principles to support differentiated classroom practices:

- Focus on the essential ideas and skills of the content area, eliminating ancillary tasks and activities.
- Respond to individual student differences (such as learning style, prior knowledge, interests, and level of engagement).
- Group students flexibly by shared interest, topic, or ability.
- Integrate ongoing and meaningful assessments with instruction.
- Continually assess; reflect; and adjust content, process, and product to meet student needs.

What sets *Puzzle Piece Phonics* apart is that it meets this goal by meeting the needs of students working at very different levels simultaneously. Some students need to overcome gaps to meet grade-level expectations, whereas other students need to exceed grade-level expectations to achieve one year's growth. Differentiating learning for students is a central part of *Puzzle Piece Phonics*' design, so that all students make great strides in the course of the year. Differentiation is embedded within the daily lessons.

How *Puzzle Piece Phonics* Supports Differentiation

Differentiation is built in to the daily lessons in *Puzzle Piece Phonics*:

- In each grade level there are two differentiated word sorts. Students all study the same sound-spelling patterns so that groups can be flexible and all are challenged at their working level.
- Fluency resources are differentiated, as well, at every grade level. One set of resources is for students on grade level and includes sight words and previously learned sound-spelling patterns. One set of resources is written for students working above grade-level and includes untaught word study concepts.
- Students learn new skills during whole-group lessons then immediately apply them at their individual working level through the differentiated components including: weekly sorts, fluency poems, and Practice Pieces.
- The differentiated tools, located in the Learner Notebooks, include student sorts, fluency practice, a spelling check, and a comprehension check. All of the components highlight the focus patterns and deepen student understanding without teachers needing to find supplemental materials.
- Routines allow teachers to easily implement each component of balanced literacy while also flexibly grouping students and meeting individual needs. All children focus on the same weekly spelling patterns, using word sorts at varying levels of complexity, and therefore movement between groups can be fluid. This structure prevents any gaps in knowledge between students in group one (working on or below grade level) and students in group two (working above grade level). Teachers can change the level on which a child is working by telling him/her to turn to the next page.

With *Puzzle Piece Phonics*, all children experience success either on or above grade-level. As they grow their knowledge, students can easily begin working in a new group the next week without having to learn new routines and content.

In the words of the *Puzzle Piece Phonics* authors:

“Today’s classrooms are filled with diverse students working at varying levels of ability. Built-in differentiation is the only way to ensure that students working below grade-level

make the essential gains to access grade-level content and students working on and above grade-level achieve *at least* one year's growth. Differentiation must also allow for flexible grouping so that students can be challenged and supported at their level, even as it changes frequently. For these reasons, *Puzzle Piece Phonics* is designed so that all students learn the same sound-spelling patterns at the same time. Remediation and enrichment are built in to the differentiated word sorts, spelling checks, and fluency resources so that the *application* of the sound-spelling patterns matches individual student needs. This structure allows teachers to involve all students in whole-group learning while also challenging and supporting individuals as necessary."

Diverse Learning Needs

When working hard to close the achievement gap, teachers know the needs for personalizing lessons and for flexibility in grouping and regrouping students for specific learning tasks. In classrooms populated by striving readers/writers, special education students, ELL student, low literacy students, and many other types of learners, teachers must be empowered with access to a comprehensive research-tested phonics approach that allows for flexibility and customization on a daily basis. **By providing teachers with an instructional framework for phonics that meets the unique needs of a diversity of learners, we as a society assure that children of all literacy backgrounds receive the language foundation needed for academic and personal success.**

Puzzle Piece Phonics is that comprehensive research-tested phonics approach. In its design, scope, sequence, and capacity for flexibility, *Puzzle Piece Phonics* empowers teachers to more effectively reach a wide range of learners.

How *Puzzle Piece Phonics* Supports the Diverse Learning Needs of Students

- All students study the same weekly focus sound-spelling patterns, using word sorts at varying levels of complexity. This structure prevents any gaps in knowledge between students in, for example, group one (students working on or below grade level), and students in, for example, group two (students working above grade level). As soon as a student is ready to study a more challenging set of words, he/she can move from group one to group two, or vice versa.
- Students are encouraged to self-report grades on their weekly spelling and comprehension checks, to set word study goals, and to reflect on whether or not they are ready to tackle a more challenging set of words. Students are involved in the pacing of their learning.
- A Tips for Management and Differentiation section at the start of each week details strategies for modifying the curriculum to meet the needs of individual students. The

Introduction also includes suggestions for remediation and enrichment for all student practice pieces.

In the words of the Puzzle Piece Phonics authors:

“*Puzzle Piece Phonics* was developed using feedback from a variety of school settings, including public, private, and Title I schools. As diverse as the pilot schools are, a few basic principles remained the same. Students need:

- Systematic, explicit instruction
- Content that is challenging and represents new learning
- Engaging presentation of content
- Multiple opportunities for practice and explicit, immediate feedback

This is a lot to ask of teachers! *Puzzle Piece Phonics* makes it easy. The resources are tightly aligned with daily learning objectives and review prior content, supporting students who may have gaps in their learning. They are also differentiated and engaging, providing challenge and interest for students who have already mastered grade-level skills. We have seen success and excitement in students from all backgrounds when working with *Puzzle Piece Phonics*, without teacher stress!”

Systematic Assessment

According to the research of John Hattie, students self-reporting grades has a 1.33 effect size.

Puzzle Piece Phonics makes student self-assessment and self-directed learning a central part of the assessment structure. Formal and informal assessment points—including spelling checks, comprehension checks, and informal observations—help teachers group students and hold students accountable for applying instructional content. In addition, students self-check their work while completing Practice Pieces to help develop their understanding with the focus patterns for the week. Self-assessment and self-reporting enable students to reflect on their progress towards mastery and become self-directed learners.

How *Puzzle Piece Phonics* Implements Systematic Assessment

The assessment structure embedded into the design of *Puzzle Piece Phonics* includes formal assessments and student self-evaluation:

- Students complete an initial assessment at the beginning of each grade level to help teachers group students.
- Students take pre-assessments before beginning each concept and are encouraged to set word study goals. These assessments allow groups to remain flexible throughout the year.

- Students have weekly spelling and comprehension checks. Students are encouraged to self-reflect on their performance on these weekly checks and evaluate their work during the week on guided and independent practice to determine how it related to their score at the end of the week.
- Students complete post-assessments after major word study concepts have been formally taught. Post-assessments help teachers track student data and identify needs for reteach. Teachers can communicate results with students.
- Assessments and Practice Pieces can be shared with families so they are able to see student progress and hold students accountable for the skills taught in school.

In the words of the Puzzle Piece Phonics authors:

“Frequent assessment, both formal and informal, is an important component of *Puzzle Piece Phonics*. Frequent assessment allows teachers to adjust instruction for whole-group, small groups, and individual students. Teachers can communicate progress toward learning targets with professional learning communities, parents, and students as well.

The frequent assessment system in *Puzzle Piece Phonics* allows students to self-monitor their progress towards mastery, a practice essential to developing self-directed learners. Students self-assess their progress after daily independent practice, weekly spelling and comprehension checks, and periodic summative assessments. They reflect on their progress and the effort it took, a process that empowers them and inspires them to continue learning. *Puzzle Piece Phonics* enables teachers and students to ensure their efforts are effective at growing lifelong readers and writers!”

The Sequence of Phonics/ Language Acquisition Across Grades K-2

Puzzle Piece Phonics is organized around the eleven phonics concepts and spans approximately thirty-five weeks of instruction for each year, K-2.

For each grade level: Succinct daily lessons cover the core teaching components—phonemic awareness, weekly focus sound-spelling pattern, direct instruction, guided instruction, and independent practice—with doable differentiation strategies embedded in the design to engage all learners.

Students spend one full week studying each new set of sound-spelling patterns in order to reach mastery. Weekly instruction is designed so that students decode and encode words with only the focus sound-spelling patterns at the beginning of the week. Later in the week, students decode and encode words with prefixes and suffixes, previously learned sound-spelling patterns, and

multiple syllables. They also work with sentences that include concepts from the grade-level language standards. With this structure, students have the time needed to reach mastery but also cover the entirety of grade-level standards within one school year.

Spiraled Cohesion Across Grades K-2: *Puzzle Piece Phonics* in its entirety—K, 1, and 2—provides schools with a developmentally appropriate, cohesive program for helping children move successfully through the stages of English Language acquisition in K-2. Skills spiral and build on one another throughout the program, so that students master and retain grade-level skills progressing from concepts about print and consonant and short vowel relationships in kindergarten to knowledge of syllable types, root words, and endings in second grade. In this way, students master phonics, becoming progressively more able to tackle complex, grade-level appropriate texts.

Kindergarten

In kindergarten, students focus on consonants and short vowels. Each sound is represented by one letter. The kindergarten scope and sequence is designed to allow ample time for direct instruction and review of consonant and short vowel sounds. Students focus on single consonants and short vowel sounds for the first twelve weeks, and then begin to study CVC and CVCC words, simultaneously reviewing consonants and short vowels and learning to apply their knowledge of letter-sounds relationships to begin decoding and encoding words.

First Grade

In first grade, the focus is on spelling words phonetically. First grade students begin the year reviewing consonant and short vowel sounds, then begin to study other vowel types, including r-controlled vowels and schwa. By mid-year, first graders begin their study of long vowels with vowel-e syllables, vowel teams, open syllables, and diphthongs. First graders finish the year by studying irregular vowels, vowels that do not produce either the short or long vowel sound. Throughout the year, students learn all possible sound-spelling patterns that can be used to represent sounds within words and attempt to spell words phonetically, even if not accurately. Students also study high frequency words, simple sentences, compound sentences, and present and past tense.

Second Grade

At the beginning of the year, second grade students review the sound-spelling patterns learned in first grade. At this point, however, the focus is on internalizing how particular sound-spelling patterns are most often used (for example, the *ow* spelling of long o is often at the end of a word, as in *flow*, or before *n*, as in *grown*) and spelling words accurately. By mid-year, second grade students begin to study more complex word study concepts in order to access the increasingly

rigorous texts introduced at this grade level. Students learn about parts of speech, prefixes and suffixes, and word types, including homophones, compound words, and contractions. Students learn to write simple, complex, and compound sentences, to maintain tense when writing, and to identify parts of speech within sentences. The scope and sequence of second grade prepare students for the increase in text complexity as move they from learning to read to reading to learn.

An Exemplary Phonics Program

An exemplary phonics program integrates authentic reading and writing into phonics learning, and introduces language through poems, chants, songs, engaging decodable texts, and so forth, with the goal of fluent reading and writing. Ehri and Roberts (2006) articulate what to look for in an exemplary phonics program for young readers:

“...we have suggested that a planned curriculum with a carefully defined sequence of goals related to learning about letters and sounds in words is a critical feature in early literacy instruction. A planned curriculum does not imply rigid, overly controlled instruction in which children passively sit and engage primarily in paper-and-pencil activities. The teaching practices and learner activities used to implement a thoughtfully planned curriculum should ensure children’s active participation and enjoyment. A variety of games and contextually embedded learning may be most effective and engaging.” (p. 127)

What makes *Puzzle Piece Phonics* an exemplary phonic program?

- Through mastery of the weekly focus sound-letter patterns, students learn to understand phonics patterns, read for meaning, build their vocabularies, and apply knowledge of word structure to decode and encode words. The skills learned during Word Study time lead to success in all content areas.
- The large, bright, and sturdy puzzle pieces make it simple and fun for students to explore patterns and make words. After using them for focused study, the puzzle pieces are displayed on a classroom wall for reference and for year-long reinforcement of concepts. The design of the puzzle pieces allows them to connect horizontally in Puzzle Piece Families, or to join vertically to link pieces that represent the same sound. The puzzle pieces make the major concepts of phonics concrete for all children.
- The Learner’s Notebooks are designed so that students learn to have fun with language. Through practice, students develop their vocabularies and their understanding of word structure. They read and spell the words, break words into syllables, add endings to change their meanings, and apply words correctly in context. Student excitement grows as they understand more and more of what they encounter in print.

- Fluency Notebooks—a fun and lively reference source filled with the poems students read and enjoy in the lessons—are a bright and lively resource for students to practice reading and fluency skills. Whether used for choral readings or for independent fluency practice, the poems build on prior learning to reinforce phonics concepts in a way that delights young readers.

Final Thoughts

Puzzle Piece Phonics is designed to inspire, challenge, and support students without creating more work for teachers. Phonics can easily become the forgotten piece of Balanced Literacy. However, by making word work the center of literacy instruction, all of the other skills—reading, writing, spelling, phonic awareness, vocabulary—fall into place. With *Puzzle Piece Phonics*, its easy make word study both effective and engaging.

REFERENCES

Adams, M.J. (1990). *Beginning to read: Thinking and learning about print*. Cambridge: Massachusetts Institute of Technology.

Anderson, R. C., Hiebert, E. H., Scott, J. A. & Wilkinson, I. A. G. (1985). *Becoming a nation of readers: The report of the Commission on Reading*. Champaign, IL: Center for the Study of Reading and National Academy of Education.

Blevins, W. (1999, 2006, 2017). *Phonics From A-Z: A Practical Guide*. New York, NY: Scholastic.

Blevins, W. (2017). *A Fresh Look at Phonics: Common Causes of Failure and 7 Ingredients for Success*. Thousand Oaks, CA: Corwin.

Brophy, J. E., & Good, T. L. (1986). Teacher behavior and student achievement. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 328-377). New York: Macmillan.

Dempster, F. N., & Farris, R. (1990). The spacing effect: Research and practice. *Journal of Research and Development in Education*, 23(2), 97-101.

Fisher, D., Frey, N., Amador, O., Assof, J., (2018) *The Teacher Clarity Playbook: A Hands-On Guide to Creating Learning Intentions and Success Criteria for Organized, Effective Instruction*. Thousand Oaks, CA: Corwin.

Hattie, J. A. C. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. New York: Routledge.

Huebner, T.A., (2010). What Research Says About Differentiated Learning. In *Educational Leadership, Meeting Students Where They Are*, vol 67/ No. 5., pp. 79-81

National Institute of Child Health and Human Development (2000). National Reading Panel—Teaching children to read: Reports of the subgroups (NIH Pub. No. 00-4754). Washington, DC: U.S. Department of Health and Human Services. Retrieved from <http://www.nationalreadingpanel.org/publications/subgroups.htm>

Rosenshine, B. (1987). Advances in research on instruction. In J. W. Lloyd, E. J. Kame'enui, & D. Chard (Eds.), *Issues in education students with disabilities* (pp. 197-221). Mahwah, NJ: Erlbaum.

Rosenshine, B., & Stevens, R. (1986). Teaching functions. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 326-391). New York: Macmillan.

Tomlinson, C.A. (2017) *How to Differentiate Instruction in Academically Diverse Classrooms*. Alexandria, VA: ASCD.

Willingham, D. T. (2002). Allocating student study time: “Massed” versus “distributed” practice. *American Educator*, 26(2), 37-39, 47.