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VISUAL PHONICS: RELEVANT FOR ALL EARLY READERS, ESPECIALLY STRUGGLING READERS

Professional Review

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ABSTRACT

Visual Phonics is a multisensory method for teaching phonological skills using visual, auditory, and kinesthetic modalities and has the potential to improve the literacy development of diverse students, especially struggling readers. Many interventions designed for specific populations (e.g., students who are deaf or have learning disabilities) can be generalized to the larger population of students. However, the potential of these interventions is often overlooked or regarded as not applicable to specific cohorts of students. Visual Phonics is one such example. Therefore, this paper describes visual phonics, reviews selected studies on its effectiveness, and provides instructional activities and strategies of Visual Phonics to show how to use this system effectively.

Keywords: *Visual Phonics; struggling readers; instructional activities and strategies*

Visual Phonics: Relevant for All Readers, Especially Struggling Readers

Reading in any alphabetic language requires children to understand how letters in written words represent the sounds in the spoken counterparts (Adams, 1990; National Reading Panel [NRP], 2000; Snow et al., 1998). This association is complex in opaque languages; that is, in languages that have a complex phonology and morphological system. For example, in English 26 letters represent 45 sounds and that can be spelled in 398 different ways (Morrison et al., 2008). Only a small percent of the population (e.g., in the United States) is consciously aware of phonemes (speech sounds) because speech has no breaks and phonemes are co-articulated (Adams, 1990). Therefore, in order to understand the alphabetic code, most children need instruction on phonemic awareness and phonics. In the United States, about 70 to 75% of the school population understand the alphabetic principle with ease, regardless of the teaching method; however, the other 25 to 30% of the school population, including students with dyslexia and other special education populations, require intensive systematic and explicit phonics instruction (Birsh, 2011).

Phonology is the building block of language and acquiring phonological skills can improve reading development, comprehension, knowledge of language structures, and vocabulary knowledge (Paul et al., 2013). Research has shown that phonemic awareness and phonics are significant components of balanced literacy instruction and strong precursors of conventional reading success (National Early Literacy Panel [NELP], 2008; NRP, 2000). These foundational skills have a strong evidence base for the effectiveness of early and

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conventional reading development for all young children and older children with disabilities as well as children who are at risk for reading difficulties (Adams, 1990; Foorman et al., 2016; NELP, 2008; NRP, 2000; Snow et al., 1998).

Between 30% to 50% of students with disabilities and students who are at risk do not benefit from traditional phonics instruction that is used with typical literacy learners (Morrison et al., 2008). Using a variety of evidence-based strategies is important to ensure that all students can benefit from these instructions. Research has shown that gestures enhance learning and make instruction more effective (Cook & Goldin-Meadow, 2006). Gestures are based on visual and mimetic imagery, and children tend to copy gestures that their teachers make (Goldin-Meadow, 2009). The National Reading Panel (2000) also stressed the motivational value of incorporating hand motions into activities when teaching letters and sounds. Furthermore, research has indicated multisensory phonological awareness training with articulation facilitates early literacy development (Falth et al., 2017; Pieretti et al., 2015).

Students learning styles differ based on their individual needs. Since there is no one best way to teach phonemic awareness and phonics, including a variety of activities and strategies, adding gestures, and using a multimodal approach with articulation are important for effective instruction. Visual Phonics is a multisensory method for teaching phonological skills using visual, auditory, and kinesthetic modalities and has the potential to improve the literacy development of diverse students.

The plan for the rest of this paper is as follows. First, visual phonics is described and then, a few selected studies are reviewed to provide evidence of the effectiveness of Visual Phonics. Finally, based on the findings and interpretations of the selected studies, a few instructional strategies and examples are provided to show the manner in which Visual Phonics can be used effectively.

It should be highlighted that this is a professional review manuscript written in a practitioner manner. That is, the selection and interpretations of research investigations are based on the present author's professional expertise. This approach is acceptable for authors who have a background in and have conducted research on the specific content area. Given this positionality, authors are also able to recommend instructional practices based on their interpretations. The limitations of this approach are discussed in the conclusion section of this article.

What is Visual Phonics?

Visual Phonics is a multisensory teaching method to teach phonological skills such as phonemic awareness, phonics, and alphabetic principles. Visual Phonics, also called See the Sound – Visual Phonics, has 46 hand cues and corresponding written symbols for the sounds of the English Language (Waddy-Smith & Wilson, 2003). Visual Phonics was created by a mother of three deaf children to give them visual and tactile access to the sounds (Woolsey et al., 2006). The hand cues mimic the articulatory aspects of sounds and incorporate visual-motor feature letters to provide visual and kinesthetic access to phonological information (Kart, 2022). For example, the hand cue for the /d/ sound is produced by making an imaginary dot in the air with a forefinger that dips down and the written symbol for this hand cue is a dot as seen in Figure 1. A helpful online visual source can be located at https://www.youtube.com/watch?v=fft9upTmHwo.

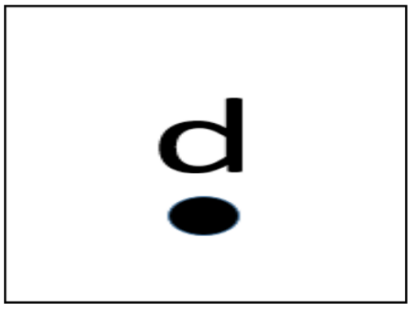

Figure 1. /d/ sound

Even though Visual Phonics has been mostly used with children who are d/Deaf and hard of hearing, it has been shown to be appropriate for children with communication disorders, reading difficulties, and any typical child as an early literary skill improvement tool (Montgomery, 2008). It can also be used in speech therapy sessions and with children who are English language learners. In fact, Visual Phonics can be developed in languages whose sound systems can be represented by the International Phonetic Alphabet system. For example, Visual Phonics has been adapted to languages other than English, for example, Italian, Spanish, Turkish, and Korean, (Cihon et al., 2013; Kart, 2022; Seo, 2013).

It is important to note that Visual Phonics is not a communication method or curriculum, and it is not a grade-specific or stand-alone phonics program. The hand cues can be easily incorporated into any existing phonics programs, so teachers do not need to learn a completely new program that can be expensive and time-consuming (Morrison et al., 2008). Visual Phonics is flexible, inexpensive, easy to teach and learn method that promotes children's learning of hand shapes and articulatory features. It is ready to use method that requires no extra material after initial training. In addition, the usage of Visual Phonics fades when students have mastered the associations between the hand cues and the corresponding sounds.

Research on Visual Phonics

Although research on Visual Phonics has focused mostly on students who are d/Deaf and hard of hearing, it can be an effective strategy for a diverse group of students (Kart, 2022; Narr & Cawthon, 2011). Studies, selected here, have shown that Visual Phonics is beneficial for typical (i.e., hearing) students (Cihon et al., 2008; Gardner et al., 2013; Slauson & Carrier, 1992).

Slauson and Carrier (1992) utilized Visual Phonics as an early reading intervention for kindergarteners with low language skills. Two kindergarten classes were assigned to either a treatment or control group. All students received standard reading instruction, but Visual Phonics hand cues were only used for the treatment group. Based on pretest scores of naming letters, telling the common sound of each letter, and blending sounds to read nonsense syllables, students were divided into three groups: advanced, typical, and slow learners; resource room students were treated as a separate group. When the researchers compared the pretest-posttest scores (seven months apart), they found that students in the treatment group were more successful on posttest scores than the ones in the control group. Slower and resource room students benefitted the most whereas advanced students did not show any significant difference. Overall, it was concluded that Visual Phonics instruction was beneficial for resource room students, slow and typical learners.

Cihon et al. (2008) selected five low achieving kindergarten students for a Visual Phonics intervention program. During the intervention, letter-sound relations were taught with a song and flashcards. The students showed improvement in their understanding of the relations between letters and sounds, and the researchers concluded that using Visual Phonics is appropriate for low achieving typical literacy learners. In addition, Gardner et al. (2013) examined 11 kindergarten students who were at risk for reading failure. The results of this study also indicated that all students enhanced their knowledge of letter-sound correspondences. The studies, reviewed here, provide evidence for Visual Phonics as an effective tool for hearing kindergarteners who are at risk.

Narr and Cawthon (2011) investigated teachers' use of Visual Phonics in their everyday reading instruction. They conducted a national mix-method survey study with over 200 participants including teachers of d/Deaf and hard of hearing students, special education teachers, regular education teachers, reading specialists, and speech-language pathologies. The majority of teachers used Visual Phonics with elementary-age students, and they preferred to use it because of its effectiveness for phonics instructions, spelling, phonemic awareness, vocabulary, and improvement of articulation. Furthermore, more than 80% of the teacher-participants stated that Visual Phonics was easy to use and was engaging to students.

Narr and Cawthon (2011) also reported that some teachers struggled to incorporate Visual Phonics into the existing reading curriculum because there were no guidelines or best practices associated with its use. The researchers concluded that little is known about the use of Visual Phonics, and teachers have difficulty with the incorporation process and need more guidance on how to use it efficiently.

Therefore, the rest of this paper provides a sample of instructional activities and strategies for Visual Phonics. These activities and strategies are based on a professional review of the literature. The reader is reminded that this is only a sample and pertains to the early development of reading skills.

Instructional Activities and Strategies

A practice guide for introducing the foundational skills in kindergarten through third grade by Foorman et al. (2016) recommends teaching segments of sounds in speech and how they link to letters, decoding, analyzing words, and word parts. These recommendations were rated as a strong level of evidence. Using onset-rime awareness, Elkonin sound boxes, memorable pictures with letters, word-building exercises, sounding out or chunking, using a word-analysis strategy to recognize common word parts, using flashcards, and creating word walls are also recommended. These recommended strategies can be incorporated with the use of Visual Phonics.

Visual Phonics contributes to building literacy skills while using multisensory inputs, and it can be adapted to different instructional situations. Teachers' imaginations can produce a range of engaging activities for children. It can be used with all lesson delivery systems (i.e., tutoring, small group, or whole class). Teachers can use Visual Phonics hand cues when teaching phonemic awareness, introducing new letter-sound combinations, distinguishing differences between long and short vowel sounds, and decoding. Table 1 shows steps to use Visual Phonics when introducing a new letter sound. Also, Table 2 demonstrates the lesson plan for distinguishing long-and short-vowel sounds (e.g., bit/bite).

Table 1. Introducing new letter sound with Visual Phonics

1. Teacher holds a card with the letter t on it and says this letter makes the /t/ sound. Watch my mouth while I say /t/ and says /t/ in an exaggerated fashion. Teacher repeats the step twice.
2. Teacher says "now you try it with me".
3. Teacher and student say the /t/ sound and repeat twice.
4. Teacher says, "I'm going to show you a hand sign that looks and feels like /t/" Teacher repeats this step twice.
5. Teacher says, now you try it with me. Teacher says the /t/ sound while making the hand cue and repeats it three times. "Now you make the hand cue with me" while saying the sound.
6. Student says the /t/ sound and makes the corresponding hand cue and repeats three times.
7. The teacher spreads three different cards, one with the letter *t* and two other letters, and asks a student to point to the letter that makes the sound /t/, while making the hand sign then moves to the next student with shuffling the cards.
8. Teacher presents the student with five words that contain the target sound. (The teacher should have 20-30 word cards and each child should have five opportunities to identify the letter/sound.)
9. Student reads the words, making the corresponding hand sign each time she comes to the target sound.
10. Teacher gives the student a sentence with five words containing the target sound embedded. (A different sentence is used for each student.)
11. Student reads the passage, making the corresponding hand cue each time she comes to the target sound.

Adapted from Cihon et al. (2008) and Morrison et al. (2008).

Table 2. Long and Short Vowels

Instructional Objective	Instructional Procedure
Identify differences between long and short "a" words using Visual Phonics and make connections between words such as mad becomes *made*.	1. Word Sort: Long "a"/ Short "a" Teacher provides models as needed. 2. Student sees the word in context (in print) and determines if it's long or short. 3. Student sees *and* says/produces *(using Visual Phonics)* the word, determines if it's long or short.

Adapted from Narr (2006).

The importance of phonemic awareness and phonics instruction is supported by a well-known body of research and viewed as a critical component of reading curriculum in the early grades (Adams, 1990; NELP, 2008; NRP, 2000; Snow et al., 1998). All children have benefitted from these systematic and explicit instructions. Below are the most commonly used phonemic awareness tasks that enable the incorporation of Visual Phonics hand cues:

- Rhyming words— words can be presented using Visual Phonics when rhyming;
- Phoneme counting— students can count phonemes with Visual Phonics;
- Oddity task— when discriminating the beginning, ending, and medial sounds in words, teachers can use Visual Phonics;
- Phoneme blending —students can blend phonemes into words with Visual Phonics;
- Phonemic segmentation— students can completely analyze words into phonemes with Visual Phonics;
- Phoneme manipulation— students can add, delete, or move a designated phoneme of words with Visual Phonics (Adam, 1990; NLP, 2000; Waddy-Smith & Wilson, 2003).

Additional information, including strategies and activities, can be found at

1. http://seethesound.org is the official website
2. https://sites.google.com/a/cesuvt.org/visual-phonics/#:~:text=Visual%20Phonics%20is%20a%20system,in%20teaching%20speech%20and%20reading offers description of hand cues, activities, and strategies
3. http://soundprinciples4literacy.com/index.php/visual-phonics/ offers variety of implementation ideas
4. https://www.youtube.com watch?v=e0GChd7LaZc PaTTAN Literacy Symposium on Visual Phonics

Concluding Thoughts

Developing effective instruction requires an understanding of the underlying mechanisms of early literacy development. Clearly, code-related skills are important for literacy development and need to be taught systematically and explicitly within meaningful and engaging contexts (NRP, 2000). Effective teaching strategies increase learning opportunities, and the quality of classroom instruction in early grades is the best way to prevent reading failure. However, traditional instruction may not be beneficial for all children, therefore; teachers need to use variety of tools, activities, and strategies.

As an alternative instructional tool, Visual Phonics has the potential to improve reading outcomes of diverse students. However, little is known about how teachers use Visual Phonics. Therefore, in this manuscript a few instructional activities and strategies for Visual Phonics are provided. This is important because teachers may need guidance on the usage of Visual Phonics and how to incorporate Visual Phonics to teach foundational literacy skills to diverse students with attention to early readers.

In this professional review only a representative sample of selected studies was synthesized, and limitations need to be addressed. As in any type of literature review, the interpretation of research tends to be somewhat biased because there is a possibility that other scholars may have synthesized related research differently. With this evidence from related research, this article provides strategies and activities for teachers and related services professionals who can use Visual Phonics with their diverse students to help develop phonological skills.

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