

Phonemic Awareness: An Important Piece of the Reading Puzzle

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Lynchburg College

Brandi Booker

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Reading is a difficult subject for all students, but it becomes even harder for individuals with disabilities. Many students with disabilities have specific problems with reading. Students who are able to identify letter sounds and read basic words in kindergarten and first grade are more likely to do better later on (Hosp, Hosp, & Howell, 2007). It is really important to be able to break down all the components to ensure a solid understanding for these students. Phonemic awareness is one component that can truly impact a student's ability to read.

Teaching students to read involves many different pieces and one of those pieces is phonemic awareness. Phonemic awareness falls under phonological awareness, which is under a broader area of metalinguistic awareness (Chapman, 2003). Phonemic awareness focuses on the sounds of the phonemes which help to increase decoding and reading skills. This becomes one of the hardest parts of reading because students have a hard time breaking down speech into the smallest units of sound (Blachman, Ball, Black, & Tangel, 2000).

Phonemic awareness is a critical part of reading (Chappell, Stephens, Kinnison, & Pettigrew, 2009). It is the process of understanding the sounds in the English language (Pullen & Lloyd, 2007). It focuses on the phonemes, which are the units of sound that correspond with the letters of the alphabet (Chappell et al., 2009). Students who have been taught phonemic awareness are able to break a part the sounds in a word as well as blend together the sounds to create words (Chapman, 2003). These skills are important for students to be able to spell and decode words.

Research in the area of phonemic awareness is growing. Many different studies are beginning to look at the effects of phonemic awareness on young readers. Studies discussed within this paper take a look at the effectiveness of different types of phonemic awareness programs for young readers.

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The purpose of this paper is to provide research findings on phonemic awareness. The major topics to be discussed are assessment, strategies, and effectiveness. This paper will conclude with a discussion on the major topics and its importance for special education.

### **Assessment for Phonemic Awareness**

In order to have a better understanding of the effectiveness of phonemic awareness, it is important to be able to assess the progress of students. Lane, Pullen, Eisele, and Jordan (2002) recommended that the most valid way to test students is individually. Lane et. al. (2002) also suggested that assessments can be in a variety of forms. Two different types of assessment will be discussed below: DIBELS and CBMs.

One form of assessment that is often related to reading and assesses phonemic awareness is the Dynamic Indicators of Basic Early Literacy Skills (DIBELS), which can be used with grades K-6<sup>th</sup>. DIBELS helps to determine reading difficulty at an early stage and continue to monitor it (Riedel, 2007). Assessment is to begin at the beginning of first grade and continue through first grade (Good & Kaminski, 2007). DIBELS provides four different sections of the test that focus on phonemic awareness. Two that are part of DIBELS 6<sup>th</sup> edition are initial sound fluency and phoneme segmentation. Both are in the kindergarten and first grade assessment (Good & Kaminski, 2007). These assessments also have progress monitoring incorporated within them. The DIBELS assessments are typically given at the beginning, middle, and end of the school year (Good & Kaminski, 2007). DIBELS helps teachers to see where their students are at the beginning of the year and monitor progress as the year goes on. This is also an individual assessment so the teacher is able to see exactly where each student is. The assessments include other components of reading therefore teachers are able to use them in all aspects of their reading instruction.

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Another form of assessment is curriculum based measures (CBMs). CBMs are used for progress monitoring in many subjects including reading. CBMs are useful because they are quick and frequent; they align with curriculum and help to guide instruction. CBMs are a form of assessment that contain scoring rules, data sheets, standards, a timing device, and a set of materials ( Hosp et al., 2007). CBMs look at nonsense word fluency and letter naming fluency in the early reading stages. Nonsense word fluency looks at decoding and letter naming fluency is used as a risk indicator (Hosp et al., 2007). Hosp et al. (2007) suggested that using DIBELS provides more assessments in early reading than CBMs, because DIBELS looks at initial sound fluency and phoneme segmentation fluency. CBMs in early reading help the teacher to quickly see what letters are known by a student, but do specifically over the two areas found in DIBELS. They can also be used more often to show progress, whereas DIBELS is typically done beginning, middle, and end of the year. CBMs are a good way to assess in between other assessments such as DIBELS.

Assessment is a key factor in early detection of reading problems and within phonemic awareness. Using assessments such as DIBELS helps provide teachers with information on where the student stands in all different areas of reading as well as specific areas of phonemic awareness. CBMs are useful for teachers as well because they provide other areas as well as progress monitoring in between DIBELS assessments.

### **Strategies for Teaching Phonemic Awareness**

Teaching phonemic awareness to students is important because it helps with the alphabetic principle (Manyak, 2008). Alphabetic principle is when students learn to use their system of language (Pullen & Llyod, 2007). Children must have the understanding of letter sound relationships in order to use the English language. In order for teachers to be able to

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successful incorporate phonemic awareness it is important for them to understand the different strategies available. Teachers must be able to help children understand how the letters of the alphabet represent speech (Blachman et al., 2000). It is also important that teachers have ways to teach students to segment their words. By teaching phonemic awareness, teachers are able to enhance their students' ability to read (Blachman et al., 2000). There are many different strategies available to teach the skills needed to become a good reader. The following strategies are discussed below: say-it-and-move-it, sound boxes, word boxes, and beginning-middle-end.

Say-It-And-Move-It can be used in instruction to help teach phonemic awareness. Say-It-And-Move-It has one prerequisite skill; students must be able to understand that one disk (letter) represents one sound (Blachman et al., 2000). This strategy involves saying the sound of a letter which is on a disk and moving that disk to the bottom of the page. First teachers start with just letter sounds, then as the lessons move on it becomes more complex and students begin to use letters and sounds to form words (Blachman et al., 2000). The main focus of this practice is to get the student to say the sound and see the letter it corresponds with.

Another strategy is sound boxes, which can build to word boxes. Sound boxes have a picture at the top of the page with boxes underneath for the number of sounds in the word (picture) (McCarthy, 2008). Underneath the boxes, the teacher places a coin or token for the student to push as they say the sound of each letter. The students are learning to "stretch" the words (McCarthy, 2008). When using this strategy, there are three things to remember: only use one syllable words, choose words familiar to the student, and make sure the words are phonemically regular (McCarthy, 2008). McCarthy (2008) created three levels of difficulty for teachers to use as students learn the strategy. This is also useful for students who are already at different levels.

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Word boxes are very similar to the idea of sound boxes. Word boxes typically do not have pictures though. Word boxes first start with a marker of some sort like sound boxes then they change to the actual letter (Joseph, 2002). For example if a teacher was teaching the word cat, first the student would use counters for the sounds /c/, /a/, /t/, then the student would use the letters c, a, t, and push using the letters while saying the sound. Once the student has pushed using counters and letters then the student must write the letter in the box (Joseph, 2002). An advantage to word boxes is that the student can build on skills and then these skills can be transferred to word sorts using the words taught with word boxes (Joseph, 2002).

Another strategy used is called beginning-middle-end. Beginning-middle-end is used to teach the students to think about and find where the sound is located in the word. This strategy helps to develop phonemic segmentation (Bear, Invernizzi, Templeton, & Johnston 2008). The teacher places a three to four letter word in a pocket chart or just facing down on the table. The teacher tells the student what the word is then they sing a song (Bear et al., 2008). Here is an example of the song if the word was man: “Beginning, middle, end; beginning, middle, end / Where is the sound? Where is the sound? / Where’s the *mmm* in man? Where’s the *mmm* in man? / Let’s find out. Let’s find out” (Manyak, 2008, p.659). One of the students then points to the card of where the *mmm* sound should be. The teacher can then do the other letter sound for middle and end. As students learn these skills the teacher can begin asking for letter sounds out of order. So instead of asking for *mmm* sound first ask for *aaa* sound or *nnn* sound. By using beginning-middle-end students are able to have a concrete manipulative as well as focus on the sounds they hear in the words.

All four of the strategies mentioned above are ways for students to understand the units of sound as well as learn to blend and segment the words. These strategies can be done in group

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instruction or individual instruction. As teachers work to increase phonemic awareness it is important they have engaging hands on strategies to teach their students. The students will be able to explore the different sounds and be hands on while doing so with these four strategies. As students begin to master phonemic awareness they can begin to use words like in Beginning-middle-end which leads more into phonics. Say-It-And-Move-It, word boxes, sound boxes, and beginning-middle-end are all useful ways for teachers to develop phonemic awareness in their classrooms.

### **Effectiveness of Phonemic Awareness on Reading Development**

Often times, students who struggle early on as readers, continue to have problems and often do not progress as well as their peers. Phonemic awareness is a key concept in early reading programs. The effects of phonemic awareness during the first few years of school can have an impact on children's reading development throughout the rest of their lives. Berg and Stegelman (2003) discussed how poor starts for readers lead to difficulties later on in school. They explained how students who start off poor rarely are able to catch up to their peers. It is very important for students to be able to understand the letter-sound relationship along with other concepts in early literacy (Berg & Stegelman, 2003). The following studies look more into how phonemic awareness affected students reading abilities.

Understanding the letter sound relationship is shown to be critical for reading and spelling (Ball & Blachman, 1991). Ball and Blachman (1991) conducted a study to see what the effects of phonemic awareness training had on 151 kindergarteners in the areas of reading and spelling. Different assessments were given to see the effects of the training on the students, which include a phoneme segmentation test, letter-name and letter-sound test, reading measures, and spelling measures were used to assess the phonemic awareness training. The students were

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placed into one of the following groups: phoneme awareness group, language activities group, and control group. These students not only received instruction in class the phoneme group and language group were pulled for further instruction (Ball & Blachman, 1991). Students were then tested at the end of the study to see results of the different instruction. The phonemic awareness group had the greatest increase in on the segmentation test with an increase from 13 items to 24 items. The control group and language activities group only increase by 2 to 3 items (Ball & Blachman, 1991). The study also showed that students who had phonemic awareness had greater spelling scores and could read more words than those with language activities or no intervention at all (Ball & Blachman, 1991). The results of this study show how phonemic awareness training can increase reading and spelling ability of young children.

Ukrainetz, Ross, and Harm (2009) presented a study looking at phonemic awareness with kindergarteners who were at risk for reading difficulties. The study included 41 kindergartners who were all at risk for reading difficulties. Students were tested using DIBELS. The intervention used in the study was treatment scheduling for phonemic awareness which included different activities related to learning letter sounds. Results showed that more phonemic awareness training produced greater gain in students. Results also suggested that the students maintained skills over a longer period of time (Ukrainetz et al., 2009). They discussed the benefits of explicit instruction in phonemic awareness and how it is important for students who have learning difficulties related to reading. This study helps to show how a different phonemic awareness program had positive outcomes for out risk readers.

Koutsoftas, Harmon, and Gray (2009) conducted a study on the effectiveness of using a Tier 2 intervention with a phonemic awareness focus to increase skills of students. The study included 34 preschool students. A multiple baseline across participants design was used during

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this study. Students all started baseline at the same time and then half of those students started intervention a week later than the other participants. Students were found eligible based on scores from the “Trophies Pre-K Beginning Sound Awareness CBM” (Koutsoftas et al., 2009, p.119). Along with this assessment DIBELS and PALS were also used. Students who qualified were receiving tier 1 and tier 2 interventions during this study. The tier 2 intervention occurred two times per week in the classroom. Phonemic awareness skills such as listening for sound and understanding beginning sounds were taught through lessons using direct instruction during the tier 2 intervention (Koutsoftas et al., 2009). The study showed that the tier 2 intervention for beginning sounds was effective for 71% of students in the study. DIBELS results show that the skills were also sustained for those students (Koutsoftas et al., 2009). Another finding of was that younger students had more difficulty with beginning sounds compared to the other parts of the word.

Another study was conducted by Carson, Gillon, Boustead, Nippold and Troia (2013) who looked at the effects of phonemic awareness instruction on 129 five year old children from New Zealand. Students either received phonemic awareness instruction or the normal literacy instruction, which was a whole-language approach. The study was conducted over a full school year which consisted of four 10 week terms (Carson et al., 2013). Teachers were provided with about 8 hours of professional development prior to the study. Several different formal and informal assessments were used to determine skill levels. The study used the Phonological Awareness Training program (PAT) which consists of “onset-rime knowledge, phoneme analysis, phoneme identity, phoneme segmentation, phoneme blending, and linking speech to print” (Carson et al., 2013, p. 153-154 ). Students who received the intensive phonemic awareness program scored significantly higher on the end of the year test in reading and spelling.

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The results also indicated that students who received the phonemic awareness program were less likely to have trouble decoding later on compared to those who did not have the program (Carson et al., 2013).

Phonemic awareness is very important for young children. The studies above are examples of how phonemic awareness training can be effective for students who receive instruction at a young age. Ball and Blachman (1991) along with Carson et al. (2013) presented studies that showed how phonemic awareness could be beneficial for reading and spelling. Ukrainetz et al. (2009) and Koutsoftas et al. (2009) both presented findings on how effective phonemic awareness training could improve skills of young struggling learners. All four studies discussed above show that phonemic awareness training is effective for reading development.

### **Discussion**

Phonemic awareness training is a popular topic in reading education. There are many who believe it is extremely important (e.g., Carson et al., 2013; Ball & Blachman, 1991; Ukrainetz et al., 2009). Students who tend to have difficulty with reading tend to develop these problems at a very young age and often times the problems occur in areas such as letter-sound relationship. It becomes important for teachers to make sure they are assessing students to find out exactly where the problem is so appropriate instruction can be given at an early age. Teachers can use assessments such as DIBELS or CBMs to help determine levels as well as monitor progress of their young learners.

There are many strategies available for teachers to help improve phonemic awareness skills. Teachers must create centers or times in their instruction to implement the strategies that provide students with the opportunity to develop skills that often tend to be areas of need. Strategies such as Say-It-And-Move-It, sound boxes, word boxes, and beginning-middle-end are

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all ways teachers can work on letter-sound relationships. It is important for teachers to know different strategies so once they know the areas of weakness they can teach to and help those students succeed.

Phonemic awareness is important at an early age for students to help avoid reading difficulties later on in life. The different studies reviewed in the paper (e.g., Ball & Blachman, 1991; Carson et al., 2013; Ukrainetz et al., 2009; Koutsoftas et al., 2009) collectively presented evidence that early phonemic awareness can help decrease the problems students have with reading and spelling. These studies also provided evidence that early intervention can help to decrease the gap of at-risk readers. It is important for educators to understand how phonemic awareness can improve the abilities of young readers. By providing phonemic awareness at an early stage in learning students are able to overcome their weaknesses and succeed in reading as well as spelling.

Phonemic awareness is an important part of the reading curriculum. It is one small piece of a much larger puzzle. It is important for educators to understand the importance of early phonemic awareness to help reduce the gap of at-risk readers. By providing phonemic awareness training, teachers are able to help their students increase reading and spelling abilities. Students are able to understand the letter-sound relationship which can help them decode later on as they progress as learners.

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