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In What Ways Can Phonemic Awareness Skills be Targeted Strategically in Early Childhood Classrooms to Support Healthy Developmental Growth?

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In What Ways Can Phonemic Awareness Skills be Targeted Strategically in Early Childhood
Classrooms to Support Healthy Developmental Growth?

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Abstract

Phonemic awareness is a skill that is learned prior to learning phonics and reading. Phonological and phonemic awareness activities are taught through games, books, and activities. Exposure to phonological and phonemic activities begin as soon as birth and will continue through kindergarten. As curriculums and teachers moved away from explicit instruction in phonemic awareness activities and toward other standards, it has been important to continue to teach these skills. Children with strong phonemic awareness skills are more advanced readers and more advanced writers. Synthesizing the current research and information available included qualitative, quantitative, and mixed method studies in phonemic awareness instruction, articles based on evidence from the National Reading Panel, information from the University of Minnesota on how and why to teach phonemic awareness skills, and a meta-analysis of information on long term results. Articles and textbooks were also useful in identifying ways to teach phonemic awareness skills as well as the proper timing of instruction. The research showed the need for instruction in phonemic awareness skills to young children. The benefits of instruction were tracked for many years and helped the child in both reading and writing. Instruction for young children typically looks like games, activities, and conversation. Phonemic awareness activities taught to children focus on the critical time of preschool and kindergarten which leads to long term benefits in reading and writing.

Keywords: phonemic awareness, preschool, kindergarten, pre-reading skills, pre-writing skills

Chapter One: Introduction

Educational settings attempted to create equality across locations with the addition of educational standards that each grade or age level needed to address. Curriculum companies tried to connect with as many of the standards as possible, but there were times when components were omitted. Planned lessons sometimes overlooked phonemic awareness activities and focused on the components of the curriculum. The question was raised: is phonemic awareness instruction necessary? Research in the area of phonemic awareness instruction and skills investigated the reasons for instruction, how students benefited from the kinds of instruction, and what needed to keep happening to advance students. Phonemic awareness instruction needs to be offered to children at a critical time during language acquisition. Children's literacy development progresses smoothly when phonemic awareness skills are taught at the proper time and with the proper support. Phonemic awareness skills need to remain in early childhood facilities for the benefit of all children.

Definitions

Phonological awareness encompassed the broad understanding that sounds are in words, with phonemic awareness being a specific subskill of phonological awareness (Brown, 2014; Machado, 2016; Reading & Van Deuren, 2007; Steinhaus, 2000; Townsend & Knold, 2010). Phonemic awareness refers to skills such as: syllables heard in words (Brown, 2014; Minnesota Center for Reading Research, 2014), words made up of sounds or phonemes (Brown, 2014; Minnesota Center for Reading Research, 2014; Reading & Van Deuren, 2007), letter name, letter sound, and letter formation knowledge (Kaye & Lose, 2018; Steinhaus, 2000; Townsend & Konold, 2010), rhymes (Minnesota Center for Reading Research, 2014; Steinhaus, 2000), and phoneme manipulation activities (Spector, 1992; Steinhaus, 2000). Phoneme manipulation

activities included sound deletion and sound substitution. Sound deletion is the removal of sounds from words with the student stating what is left (take off the /b/ in bake, what is left?). Sound substitution in words is switching specific sounds in words and the student stating the new word (switch the /j/ in jam to /r/ what is the new word?) (Minnesota Center for Reading Research, 2014). A phoneme is the smallest unit of sound that when put together creates a word (Brown, 2014; Minnesota Center for Reading Research, 2014). A phoneme is the single sound made by one letter or more than one letter. The letter c has two phonemes a hard /c/ and a soft /c/. The letter c when placed with other letters creates an additional phoneme for example /ch/.

Instruction

Once phonemic awareness skills were understood, the reasons to teach the skills were investigated. When phonemic awareness skills were taught, children learned prereading skills (Reading & Van Deuren, 2007) and immediately benefited. Children also achieved future benefits with increased comprehension skills (Brown, 2014). Children who missed out on phonemic awareness instruction had greater challenges in reading skills (Brown, 2014) and spelling skills (Coker, 2013). Rightmyer, McIntyre, & Petrosko (2006) found a connection between children who learned basic phonemic awareness skills and became early readers, and the same children achieving additional academic success with age.

Phonemic awareness skill instruction was shown to have a target instructional age of preschool and kindergarten students (Machado, 2016). Students this age performed well on activities that included phonemic awareness skills. The children were developmentally ready to hear sounds that were in words, identify parts of words that rhymed, and isolate and play with sounds. Children past kindergarten ages were ready to move into phonics instruction and move past the phonemic awareness activities. Phonics connected letters to sounds and moved beyond

being focused on the sounds in words. When children moved to phonics without understanding phonemic awareness skills, children missed the building blocks of reading that phonemic awareness instruction provided.

Summary of Research

The research included studies that provided data on phonemic awareness skills taught to children in early childhood classrooms, special education classrooms, and followed students in a longitudinal study which determined lasting effects of instruction. Phonemic awareness skills were considered one of the foundational areas of learning to read as identified by the National Reading Panel (Cassidy, Montalvo Valdez, & Garrett, 2010; Minnesota Center for Reading Research, 2014). The National Reading Panel labeled the essential skills as pillars and identified five literacy pillars, with phonemic awareness being one of the five (Cassidy et al., 2010). The research identified the best time to teach phonemic awareness for lasting effects. It was also evident in the research that the benefits of phonemic awareness instruction were reflected in more areas than just the connection with reading. A well-planned phonemic awareness lesson fits with any curriculum and met children at each child's unique developmental level. Intentional phonemic awareness instruction was also shown to reduce the achievement gap (Wilkowski & Freeley, 2012). The achievement gap was the difference in educational ability for children at a specific point in time, which revealed the gap between above average students and at-risk students.

Research also identified the benefits of phonemic awareness instruction as it related to other academic areas. The benefits included reading, writing (Coker 2013), the understanding of the concepts of print (Kaye & Lose, 2018), fluency development, increased understanding of vocabulary (Cassidy et al., 2010), and extended book read-aloud experiences (Barclay, 2014).

Articles identified how instruction in phonemic awareness needed to look, activities to be taught, and the setting needed for success. All of the items that were identified showed that instruction needed to be planned and well thought out prior to implementation. Phonemic awareness instruction seemed like a small part of literacy development, but research determined that phonemic awareness skills were an essential component of literacy instruction.

Conclusion

Children benefited in multiple ways when phonemic awareness lessons were planned with developmentally appropriate activities (Machado, 2016). Children needed to be introduced to activities at key times that maximized the learning outcomes. Educators who learned what encompassed phonemic awareness skills and why instruction was necessary, purposefully incorporated those skills into lessons (Cassidy et al., 2010). Educators who instructed children in phonemic awareness skills saw success as the children continued to develop toward more challenging reading skills. Steinhaus (2000) identified phonemic awareness skills as one of the foundational pieces of reading and decoding success. Phonemic awareness skills are the foundation for phonics and reading instruction. The research that was studied provided evidence to address in what ways can phonemic awareness skills be targeted strategically in early childhood classrooms to support healthy developmental growth? The research question is connected to the essential question through the study of current research centered around best practices in early childhood education, and how the information gained from the research will inform instruction in the area of phonemic awareness in the future. The research studies that were examined will be further explained and summarized in the next chapter. The connection to phonemic awareness instruction will also be explored.

Chapter Two: Literature Review

Phonemic awareness is a component of early literacy necessary for children to learn. Phonemic awareness skills were the foundational pieces necessary for learning to read and write (Brown, 2014). Phonemic awareness activities needed to be taught at a specific time for maximum effectiveness (Steinhaus, 2000). Phonemic awareness skills also need to be appropriate to the age of the child and delivered in appropriate ways. The research collected has shown one reason instruction may have been overlooked, when the best time to teach phonemic awareness was, how phonemic awareness linked with other skills, why it was necessary to be intentional with instruction, what benefits were achieved, and how all learners needed to be included in phonemic awareness instruction. The synthesized research will show in what ways phonemic awareness skills can be targeted strategically in early childhood classrooms to support healthy developmental growth.

Overlooked Instruction

Phonemic awareness instruction was omitted from some language arts curriculums. The exact reason was not specified, but the introduction of Common Core State Standards created a shift in curriculum materials and instruction. In a study by Ozdemir and Bayraktar (2015), another reason emerged. A qualitative study was conducted in the spring semester of 2013-2014 that used a survey of five open ended questions to gain information from pre-service preschool teachers in the fourth year of undergraduate studies. The pre-service teacher's education was almost complete and the teachers would soon begin teaching. The questions were posed to 39 pre-service teachers (with only two males) that asked what the pre-service teachers knew about early literacy, described early literacy, and described relationships between early literacy and

activities that addressed early literacy skills. Ozdemir and Bayraktar (2015) selected the sample of pre-service teachers from a university in Turkey based on being ready for degree completion.

The research found that teachers incorporated the items learned into the lessons taught. The pre-service teachers who completed the surveys did not understand about early literacy. The responses showed that one-third of the pre-service teachers had not heard of early literacy toward the end of the degree requirements (Ozdemir & Bayraktar, 2015). If teachers were not trained well in early literacy skills and activities, or lacked the confidence to instruct students in phonemic awareness skills, then teachers did not teach phonemic awareness skills to students.

Teachers who progressed through preschool education programs in Turkey did not have the skills necessary to teach the children about literacy. Teacher preparation programs were designed to teach the skills that were needed to instruct children, but somehow this skill was missed. Machado (2016) agreed that some educators may not have had the skills needed to instruct children in phonemic awareness skills. When teachers were lacking the skills and materials needed to teach phonemic awareness, it created a situation where children missed out. Neuman, Copple, and Bredekamp (2000) stated that when young children waited to receive phonemic awareness instruction, the reading and writing abilities of the children were limited. Research found that young children needed to be exposed to phonemic awareness instruction from educated teachers who instructed children to continue learning.

When to Teach

Young children are immersed in the home language since birth. As children begin to talk and develop oral language, phonemic awareness skills are already being developed. Many phonemic awareness skills developed through oral language play (Yopp & Yopp, 2009). The research conducted by Kenner, Terry, Friehling, and Namy (2017) provided evidence that

children developed phonemic awareness skills as early as two years old. When children recited riddles and nursery rhymes, sang silly songs, and listened to books, phonemic awareness skills were being developed (Yopp & Yopp, 2009).

Beginning at Birth

Kenner, Terry, Friehling, and Namy (2017) conducted a quantitative research study that explored the development of phonemic awareness skills in toddlers and preschoolers. The study was descriptive in nature as it attempted to show that young children developed phonemic awareness skills earlier than thought. The belief was that young children understood phonemic awareness concepts and could demonstrate the skills if the proper assessment was administered (Kenner et al., 2017). The study utilized receptive measures where children pointed to the responses and did not state the responses verbally or with expressive measures.

To find a diverse sample of participants, children were recruited who represented a variety of backgrounds and experiences (Kenner et al., 2017). The study consisted of 50 children (31 female and 19 male) who varied in preschool programming opportunities. The preschool settings for the children included home care, attended some center time, or attended full day preschool programs. The children were multiculturally and socio-economically diverse with English being the primary language. No children in the study displayed learning disabilities.

The children were presented the measures through the use of puppets and picture cards. The puppet would segment a word and the child pointed to the picture that corresponded to the sounds when blended. Another measure had a picture card presented. Two puppets segmented the word differently and the child picked which puppet segmented the word correctly (Kenner et al., 2017). The measurements were developmentally appropriate for the young children that were participating in the study, and the findings revealed that children developed phonological

awareness skills much earlier than the age at which expression took place: typically ages 4 to 5 (Kenner et al., 2017).

According to the research analyzed, young children developed phonemic awareness skills earlier than previously thought by educators. This was because an effective and developmentally appropriate assessment had not been created to determine the phonemic awareness level of toddlers and young preschoolers (Kenner et al., 2017). Once it was identified that young children learned phonemic awareness skills, the focus was to determine if the age, or grade level, of the child made an impact on phonemic awareness skills.

What Grade to Target

Knowing that children began learning phonemic awareness skills as toddlers and preschoolers (Kenner et al., 2017), educators needed to find the best time for instruction. The reading literature and research pointed to specific ages for when phonemic awareness needed to be taught: kindergarten through second grade (Booker, Invernizzi, & McCormick, 2007), preschool and kindergarten (Brown, 2014), kindergarten and first grade (Cassidy et al., 2010), before second grade (Hogan, Catts, & Little, 2005). Reading and Van Deuren (2007) explored this information to find out when the best time was to teach phonemic awareness skills.

In a quantitative study, Reading and Van Deuren (2007) attempted to find the best time for phonemic awareness instruction. An experimental study was created with 92 middle-class, Caucasian students being randomly assigned to kindergarten classes in a private school in an urban area of the Midwest. The participants were English-speaking students that were not at risk for reading difficulties. One class received phonemic awareness instruction intervention, the experimental group, while the other group was the control group and did not. Students were

again randomly assigned to classes when promoted to first grade. Reading and Van Deuren (2007) followed up with additional data collection.

Information was gathered through a Dynamic Indicators of Basic Early Literacy Skills, DIBELS, test that measured letter naming fluency, phoneme segmentation fluency, nonsense word fluency, and oral reading fluency. The research from Reading and Van Deuren (2007) showed that students who received phonemic awareness instruction in kindergarten, scored higher on the DIBELS test at the beginning and middle of first grade than those who did not have phonemic awareness instruction in kindergarten. Reading and Van Deuren (2007) found that when phonemic awareness skills were taught in the beginning of first grade, students were able to make up the difference in phonemic awareness skills by the end of first grade. The results showed that at the end of first grade there was no significant difference between the two sets of students (Reading & Van Deuren, 2007). The study was conducted over two years to achieve reliable and comparable data. Phonemic awareness skills taught with intentionality in first grade made up for the lack of instruction in kindergarten.

The study demonstrated that phonemic awareness skills were important and needed to be taught in kindergarten or the beginning of first grade (Reading & Van Deuren, 2007). Reading and Van Deuren (2007) gave suggestions for future research that included longitudinal studies, more diversity in student participants, and including at-risk students. Townsend and Konold (2010) believed that phonemic awareness needed to start before students entered kindergarten. Children who received phonemic awareness instruction prior to kindergarten had more time to develop phonemic awareness skills. Cunningham and Carroll (2011) were interested to discover if a difference existed in the age of the child when phonemic awareness instruction began compared to the length of time of formal instruction.

Age at Instruction Compared to Length of Instruction

Cunningham and Carroll (2011) conducted a qualitative study that explored the effects that both age and schooling had on early literacy and phoneme awareness. The study used a purpose statement to make a connection between items. A purposive sample of 45 students from a state funded school in England was chosen. The students had similar backgrounds (high socioeconomic status and middle class) so that other factors could be excluded from interfering with the intent of the research findings. The students started school in September, which created an equal starting point. The students were grouped as followed: 15 older kindergartners (5.0 years), 15 younger first graders (5.2 years) and 15 older first graders (5.11 years) (Cunningham & Carroll, 2011).

The participants completed eight different phoneme and literacy measures during one school year. The first round sampled was in the fall and the second round sampled was about six months later in the spring (Cunningham & Carroll, 2011). The information collected was in the form of tests, with the results grouped to find correlations and themes. The individual data was not analyzed but rather a larger purpose was to compare the groups of students to see if the amount of time in education played a role in literacy development and phoneme awareness, and to see the role that the age of students played in the same kind of learning (Cunningham & Carroll, 2011).

The findings from Cunningham and Carroll (2011) showed that once kids reached school, the age of the student did not make a difference in developing early literacy skills and phoneme awareness skills. Children in first grade developed at the same rate across the school year regardless of age. Children who were older came in knowing more than their younger peers (Cunningham & Carroll, 2011). This could be that older children had more time prior to school

to learn and be exposed to language. The younger peers caught up to the older children with instruction in phoneme awareness. Cunningham and Carroll (2011) had peers who reviewed the research to verify the data.

Cunningham and Carroll (2011) determined that the age of the child was not as important as the length of instruction when phoneme awareness skills were intentionally instructed. Children that were older for the class did not have an advantage over younger children. Cunningham and Carroll (2011) provided evidence that quality phoneme awareness instruction eliminated the age advantage of the children who participated. Limitations of the study were the small sample size and similar participant demographics (Cunningham & Carroll, 2011). Phoneme awareness skills improved for children across ages and grade levels with instruction.

Phonemic Awareness Linked Skills

The Minnesota Center for Reading Research (2014) believed that phonemic awareness instruction could be combined with other skills. Phonemic awareness skills were frequently intertwined with other early literacy skills such as alphabetic knowledge (Neuman et al., 2000), the concept of print (Brown, 2014), early writing experiences (Coker, 2013), vocabulary (Cassidy et al., 2010), and books read aloud (Barclay, 2014) to make the instruction valid and meaningful (Machado, 2016). Children learned phonemic awareness skills and other literacy skills in a progression from simple to more complex (Brown, 2014). Receptive blending skills developed before receptive segmenting skills, the same way that expressive blending skills developed before expressive segmenting skills (Kenner et al., 2017). Linking phonemic awareness skill instruction with other literacy skills had advantages for children.

Blending, Segmenting, and Sound Discrimination

Burns, Maki, Helman, McComas, and Young (2018) conducted a quantitative study that used a descriptive model to try to examine a link between the phonemic awareness skills of rhyming, initial sound, blending, segmenting, and letter sound fluency. The participants were 192 high-poverty students, primarily African American, who attended kindergarten in one of three urban schools in the upper Midwest. The benchmark scores for the students were collected to determine if rhyming, initial sound, blending, or segmenting contributed to increased letter sound fluency, and phonemic awareness skills were compared (Burns et al., 2018).

The measures that were used were an early literacy assessment with data gathered in the fall, winter, and spring and the Quick Phonemic Awareness Assessment administered in the winter. The study used statistical analysis and compared the results between the different tasks.

Rhyming was found to be a poor predictor of letter sound fluency (Burns et al., 2018).

Instruction in segmenting, blending, and sound discrimination increased letter sound fluency.

This is the first study of its kind and identified that more research was needed (Burns et al.,

2018). Limitations noted in the study included determining phonemic awareness between groups of students, ELL students, outcome measures, and measurements used to fidelity (Burns et al., 2018).

Phonemic awareness skills taught to high poverty students were reflected in continued learning such as letter sound fluency (Burns et al., 2018). Blending, segmenting, sound discrimination and letter sound fluency were shown to improve student understanding. Machado (2016) suggested that phonemic awareness instruction include other tasks such as blending and segmenting for increased learning. Townsend and Konold (2010) stated that instruction in phonemic awareness was not independent of other learning.

Visual Models

Phonemic awareness was defined as hearing the sounds in words through syllables, rhyming, blending, and segmenting. Most phonemic awareness pieces focused primarily on auditory skills. Schlagal (2013) identified letters as a tool that helped children remember letter sounds and draw from memory when needed. Castles, Wilson, and Coltheart (2011) examined how visual models influenced phonemic awareness skills. Letters that were incorporated with phonemic awareness instruction changed the dynamic of learning for those who were ready.

Castles, Wilson, and Coltheart (2011) conducted a quantitative study created from an earlier study. The original study was an experimental design with an experimental group and a control group. The current study utilized the participants of the experimental group and created a descriptive study to interpret data that was collected in the initial study but never used. The purpose of this study was to identify if a connection existed between seeing the letter (which was used during the experimental instruction) made a difference on acquiring phonemic awareness skills (Castles et al., 2011). Participants were children from child care centers in Melbourne, Australia who could not produce letter sounds or read any of the top ten nouns. Children were accepted in the study if the only sound known was the sound of the first letter of the child's first name. The 40 children were instructed in phonemic awareness skills, took an intermediate test, were instructed in letter-sound correspondence, and took a post test (Castles et al., 2011).

The children were grouped for specialized training during phase one and were trained in one of three groups: initial sound, the visual letter (without the letter name), or a control group showing a picture. After the training, an intermediate phonemic awareness test was administered. In phase two training, all groups received training in letter-sound correspondence (Castles et al., 2011). The measures were basic tests that showed pictures and the child pointed

to the one that started with a specified sound. The second measure presented letters and the child was asked what sound each letter made (Castles et al., 2011).

Children showed a greater increase in phonemic awareness skills when instructed in phonemes with the visual letter present (Castles et al., 2011). This provided children a reference to help remember the phoneme. Having a visual image provided children a concrete connection to remember and recall the information. A limitation and possible flaw related to training in phonemic awareness skills with a letter, which resulted in unintended letter-sound instruction (Castles et al., 2011).

Alphabetic Knowledge

Information was provided on the introduction of the images of letters when learning phonemic awareness skills (Castles et al., 2011). Phonemic awareness instruction that included using letters was supported by the Minnesota Center for Reading Research (2000) and Neuman, Copple, and Bredekamp (2000). Moving past the introduction of the image of the letter, research examined the influence of alphabetic knowledge and vocabulary in relation to phonemic awareness instruction. Vocabulary was identified as a major component of early literacy learning (Cassidy et al., 2010). Research studies that connected alphabetic knowledge with other literacy skills were examined. Ouellette and Haley (2013) combined alphabet knowledge and vocabulary in relation to phonemic awareness. Townsend and Konold (2010) researched the connection between alphabetic knowledge and print and phonological awareness.

Alphabetic Knowledge and Vocabulary

Ouellette and Haley (2013) created a quantitative study that was descriptive in nature. The study explored if there was a correlation between phonemic awareness, alphabetic knowledge, and vocabulary. The participants were selected due to having participated in another

research project previously. Ouellette and Haley (2013) selected 57 typically developing children from eastern Canada for this study. The children were English-speaking students with 43% having a second language at home. The children were tested twice over the two-year study (Ouellette & Haley, 2013).

The measurements Ouellette and Haley (2013) used determined oral vocabulary, alphabetic knowledge, phonological awareness, sound matching, segmenting, blending, and analytic and synthetic phonemic awareness. The children completed testing midway through kindergarten and then midway through first grade. The findings of Ouellette and Haley (2013) showed a small window of time existed for blending and segmenting (phonemic awareness) instruction. Kindergarten was the perfect time for blending, paired with alphabetic knowledge instruction (Ouellette & Haley, 2013). As children learned and moved on, blending skills continued to develop. These skills developed more in first grade after alphabetic knowledge had been mastered. Oral language and vocabulary continued to benefit phonemic awareness development as children aged. Ouellette and Haley (2013) critiqued the work and listed the sample size as a limitation of the study.

Alphabetic Knowledge and Print and Phonological Awareness

Another study of phonemic awareness and alphabetic knowledge focused on the relationship between different portions of a screening tool that was frequently used in preschools. Townsend and Konold (2010) wanted to know what connected eight different literacy concepts that created the Phonological Awareness Literacy Screening for Preschool (PALS-PreK). The study examined alphabetic knowledge as it related to print and phonemic awareness.

Townsend and Konold (2010) created a quantitative study that examined what underlying factors were responsible for the literacy connections in the PALS-PreK. The study took place in

Virginia in the fall of 2006 with 18,307 participants with a wide range of ethnic backgrounds. Most of the participants attended public preschools for at-risk children. The eight subtests that were part of the PALS-PreK include name writing, upper-case alphabet knowledge, lower-case alphabet knowledge, letter sounds, beginning sound awareness, print and word awareness, rhyme awareness, and nursery rhyme awareness. The alphabet knowledge subtests built on each other as children's skills increase. Children who knew 16 or more uppercase letters continued with lowercase letters. Children who knew nine or more lowercase letters continued with letter sound identification. If the children did not meet the thresholds, the test administrator stopped the test.

The PALS-PreK was administered once to the children and the results were analyzed. Townsend and Konold (2010) found that there was a link between the information on the alphabet knowledge subtest and the beginning sounds subtest. Children learned more letter knowledge and therefore identified more letter sounds. Students also identified more beginning sounds on the beginning sounds subtest. One underlying factor that connected alphabetic knowledge and phonemic awareness was letter sound correspondence (Townsend & Konold, 2010). Letter sound correspondence was determined to be a skill of alphabetic knowledge, but it was also a skill of phonemic awareness. The relationship with letter sounds categorized as alphabet knowledge and print and phonological knowledge, demonstrated the need for instruction in phonemic awareness skills that included alphabetic knowledge (Townsend & Konold, 2010).

Instruction

Phonemic awareness instruction takes many forms. Instruction for young children, took the form of conversations, games, nursery rhymes, and songs (Machado, 2016; Rightmyer et al., 2006). Intentionally planned instruction was as important as the material that was taught. Kaye

and Lose (2018) stated that successful teachers used observation of student's abilities and deficits to guide instruction. Phonemic awareness skills needed to be assessed to guide further instruction. A variety of instructional methods existed but the key was to make phonemic awareness instruction intentional. Al-Bataineh and Sims-King (2013) wanted to identify the benefits of intentional phonemic awareness instruction on the achievement gap of at-risk students.

Targeted Instruction

Al-Bataineh and Sims-King (2013) created a quantitative study that used a quasi-experimental design. The 18 culturally diverse students were randomly assigned to kindergarten classes within the district. A majority of the participants were Caucasian, with the classroom demographics representational of the school district as a whole. The students attended public preschools for at-risk children. The experimental group was selected based on the teacher in the classroom and not selected at random. This classroom was compared to another classroom making it a quasi-experimental design. The research question Al-Bataineh and Sims-King (2013) had was to determine if direct phonemic awareness instruction closed the achievement gap for children who entered kindergarten academically behind their peers.

The measures that were used were the Measures of Academic Progress (MAP) test and the Fountas and Pinnell benchmark system for reading level. The full extent of the MAP test was not detailed, but only stated that it was a literacy test that was performed twice during the study time-frame. When the students entered kindergarten, the MAP assessment was completed on a computer, which was a new experience for students. The study identified students that were academically low when kindergarten began. The children identified as low were provided with

the same phonemic awareness instruction as the whole class, but were also provided with extra phonemic awareness instruction three times per week for 15 minutes each time.

Al-Bataineh and Sims-King (2013) found that students who were behind academically when starting kindergarten were able to close some of the achievement gap over time with direct and intentional phonemic awareness instruction. The results of the MAP assessment and the Fountas and Pinnell benchmarking system both showed an increase in assessment scores and reading ability. Students who received direct instruction were able to catch up to peers who started out academically ahead. Al-Bataineh and Sims-King (2013) also showed that phonemic awareness instruction and the development of phonemic awareness skills, improved reading abilities for students. Targeted and intentional phonemic awareness instruction reduced the achievement gap over time. Al-Bataineh and Sims-King (2013) offered limitations of the study that included a small sample size, a short time frame, and a specific demographic of participants.

Al-Bataineh and Sims-King (2013) proved that a link existed between phonemic awareness instruction and increased reading skills. The instruction decreased the achievement gap for at-risk students. Neuman, Copple, and Bredekamp (2000) stated that instruction needed to be intentional. Kay and Lose (2018) reported that instruction needed to be brief and focused. The Minnesota Center for Reading Research (2014) believed that phonemic awareness instruction needed to provide scaffolding for students. Scaffolding student's learning provided the student assistance to learn a skill that is just slightly above the student's independent ability level (Machado, 2016). Phonemic awareness instruction was able to combine all items to be intentional, focused, and scaffold student's current abilities. Scaffolding student's phonemic awareness learning was possible with sound boxes.

Sound Boxes

Sound boxes were a tool for phonemic awareness instruction that provided students with a visual when listening for phonemes in words. The way that a sound box worked was that an image of connected boxes was placed in front of the child with counters or tokens to slide into the boxes for each sound that the child heard (Minnesota Center for Reading Research, 2014). Typically, a sound box contained three connected boxes for words that contained three sounds. The use of sound boxes was investigated in a research study by Keesey, Konrad, and Joseph (2015).

A qualitative study was conducted that utilized a purpose statement and guiding questions to find the connection between sound boxes and phonemic awareness skills (Keesey et al., 2015). An experimental design was created to record data from three participants. The study examined what themes developed and interpreted the larger meaning of the data collected. The students were a purposive sample because the students were selected specifically for having been identified as at-risk students entering kindergarten. The students who met the inclusion criteria were two boys and one girl. The study followed the three students for one year (Keesey et al., 2015).

A program was created where a baseline score was obtained. The children were then introduced to the sound boxes and were instructed to slide a chip into each box as a sound was heard. When this skill reached proficiency, the instructor changed the instruction. The next instruction that was introduced was to place the correct letter in the box when the corresponding sound was heard. The children needed to place the correct letter card from a select group of letter cards, in the correct box. When this skill reached proficiency, the instructor changed the instruction for the last time. The final instruction was to have the children write the letter in the

box for the corresponding sound. Maintenance records were kept for follow up to the different portions of the study. The research was conducted by one researcher but was evaluated by three doctoral candidates to ensure reliability and integrity of the study (Keeseey et al., 2015).

Intentional phonemic awareness instruction with sound boxes resulted in kindergarten students achieving academic gains that resulted in no longer being considered at-risk (Keeseey et al., 2015). Gains were made at all levels and showed that the letter sound correspondence, the final stage, needed the largest amount of instruction time. The connection between phonemic awareness and alphabetic knowledge was verified through the study, which also demonstrated that explicit instruction was necessary (Keeseey et al., 2015). Limitations to the study were presented that included an increase in baseline data on spelling after letter-sound instruction had taken place, and the difficulty to generalize results with only three participants (Keeseey et al., 2015). The use of sound boxes was shown to be an effective tool in teaching children phonemic awareness skills.

Assessment Data Used to Plan Instruction

Instructional planning is one of the keys to great classroom lessons. Phonemic awareness lessons are no different. Using assessments of student's knowledge and developmental level provides information to guide individual instruction. Assessments were used to determine what phonemic awareness skills students needed to develop (Cassidy et al., 2010). Individual assessments of student's abilities provided the greatest instructional match for the needs presented (Rightmyer et al., 2006). Cummings, Kaminski, Good, and O'Neil (2011) researched the assessment titled First Sound Fluency to determine if this assessment was an appropriate assessment to guide planning for phonemic awareness instruction.

A quantitative study was created that explored assessing phonemic awareness in preschool and kindergarten settings (Cummings et al., 2011). Research questions, an identified purpose, and a hypothesis were created and guided the study. A descriptive study described how First Sound Fluency compared to other assessments and how assessments helped instructors plan appropriate lessons. Two of the researchers involved worked with a variety of schools professionally, and sent out an inquiry to schools to see if the school districts were interested in participating in a research study. Three schools volunteered to participate; a suburb in the Midwest, a large suburb in the Rocky Mountain West, and a midsize city in the Pacific Northwest. All of the students in preschool and kindergarten in those three schools participated. The schools had a variety of socio-economic and racial backgrounds. The information gathered was evaluated to compare First Sound Fluency to other measures of phonemic awareness (Cummings et al., 2011).

The measurements that were used were the Initial Sound Fluency, Letter Name Fluency, Phonemic Sound Fluency, Nonsense Word Fluency, Picture Naming, Rhyming, Alliteration, Comprehensive Test of Phonological Processing and First Sound Fluency. The measures were conducted in September and May with the Initial Sound Fluency, Letter Names Fluency, Phonemic Sound Fluency, and Nonsense Word Fluency also conducted in January. The student's individual phonemic awareness scores were not used to determine ability levels for this study. The information was gathered over one school year and was used to compare the results from the First Sound Fluency measurement to the other norm referenced tests to determine how the First Sound Fluency assessment compared (Cummings et al., 2011).

First Sound Fluency was found to be a measurement tool that was administered to students in a short amount of time that determined how students were progressing with hearing

the first sound in words (Cummings et al., 2011). The assessment gave instructors information that guided continued phonemic awareness instruction. First Sound Fluency was a successful phonemic awareness measure for pre-kindergarten and kindergarten students that enabled instructors to plan more individual instruction. The study was critiqued and a limitation was that one school joined in the winter which resulted in insufficient data for comparison (Cummings et al., 2011).

Benefits of Phonemic Awareness Instruction

Achievement Gaps

Achievement gaps are noticeable when children enter group settings. In the area of early literacy, Brown (2014) stated that achievement gaps had long-term effects on reading and writing skills if instruction was not intentional and focused. Choosing where to start, and how to close the gap was left to individual teachers and schools to decide (Craig, 2006). Two research studies of different styles were conducted by Booker, Invernizzi, and McCormick (2007) and Wilkowski and Freeley (2012) that demonstrated how focused phonemic awareness skills that were intentionally taught, closed the achievement gaps for young children who were missing early literacy skills.

Various Intentional Instruction Models

A qualitative research study was created that studied four different elementary schools where the population was greater than 70% free and reduced, which made major gains in literacy despite the low socio-economic status of the students served (Booker et al., 2007). The sample was a purposive sample of schools that had families of low socio-economic status that made major gains in literacy over the course of one year, as reported on the PALS assessment. The study was conducted by one primary researcher who was assisted by two others. Booker

conducted the interviews and made field notes, while Invernizzi and McCormick used a subjective and objective view to look at the field notes and made conclusions (Booker et al., 2007). An outside peer debriefer audited the field notes to maintain data consistency.

The first school was a small rural school on the state line between Virginia and Tennessee with a transient population. The demographics given showed less than 5% African American, one child had limited English proficiency, and 78% free or reduced lunch. The kindergarten classroom included 17 students with three ethnic minorities. The school focused on a phonics-based instruction with many opportunities for repetition and review for the students. During the instruction the teacher began with a story. The teacher incorporated activities of sound substitution, alphabet recognition, letter sounds, letter formation, blending sounds, and segmenting sounds. The teacher returned to review skills frequently during the lesson. The students worked in both small group and large group settings (Booker et al., 2007).

The second school was in a large urban area near Washington D.C. with a transient population. The demographics of the school were predominantly Hispanic and Black, with a large population of children (92%) with English as a second language, and 81% free or reduced lunch. The kindergarten classroom included 17 students. This school focused on rotations of literacy activities where skilled individuals taught a group of students. During reading instruction, three teachers were in the classroom. The children took turns and received instruction from each of the skilled instructors. The activities focused around letter names and letter sounds, beginning sounds, alphabetic skills, reading words, letter matching, and reading books. Targeted instruction delivered to the children as needed helped improve achievement (Booker et al., 2007).

The third school was a suburban Title 1 school near a military base in Tidewater, Virginia. The school included 75% free or reduced lunch. The average student/teacher ratio was 18:1, but additional demographics of the first-grade classroom and school were not given. The school focused on a strong internal and external community. The school had a parent resource center and all staff were part of the learning community, from the janitor to the bus drivers. The education center focused on what students needed and the weak areas were targeted for remediation. The teacher taught reading skills and a reading group. The children worked on blending sounds, sound switching, segmenting, and reading. The classroom had an extension center where students worked with the Title 1 teacher on the skills specific to the student's needs (Booker et al., 2007).

The fourth school was a small urban school. The demographics of the school was 99% African American with 70% free or reduced lunch. The individual demographics of the second-grade classroom were not listed. The principal believed in high expectations and provided staff what was needed to accomplish the instruction. The school had direct involvement, effective leadership, and reflective monitoring to create reading success. The teachers used small group work and differentiated instruction to meet the needs of all students (Booker et al., 2007).

All four of the schools used a different method for improving the literacy skills of the children at school. The intentionality of the instruction created situations that increased early literacy skills and closed the achievement gap for the students involved. The researchers found that the type of phonemic awareness instruction, and the location and demographics of the students were not limiting factors (Booker et al., 2007). The dedication to early literacy and the intentionality of instruction made the academic gains possible. The study was critiqued and

additional paths for research were suggested with each type of instruction focused on and investigated independently (Booker et al., 2007).

The variety of instructional models presented provided guidance to support students who were academically behind fellow peers. Large literacy gains were possible in as little as one year (Booker et al., 2007). Wilkowski and Freely (2012) also found that intentional phonemic awareness instruction closed the achievement gap. The improvements for Wilkowski and Freely (2012) were noticed in as little as ten weeks.

One Intentional Instruction Model

Wilkowski and Freely (2012) created a quantitative study that explored teacher-created interventions to determine if instruction increased letter naming and letter sound identification and the effects to close the achievement gap. New York State's northern Westchester district had five elementary schools, with two selected for participation. The changes by the state, which included the adoption of Common Core State Standards and an increase in the state's requirements for reading levels, led Wilkowski and Freely (2012) to select the schools that had at-risk students. This was a quasi-experimental design with two different schools being selected to participate. One school was the experimental group and one was the control group. The students were randomly assigned to classrooms, but the schools were the groupings. The two schools had similar demographics making a good pair for experimental and control group comparison. Each school had four kindergarten classes that participated, totaling 171 students. The ethnic demographics of school 1 was African American 11%, Hispanic American 17%, Asian American 4%, and Caucasian 66%. The students were low to middle class with 9% free or reduced lunch. The ethnic demographics of school 2 were African American 8%, Hispanic

American 18%, Asian American 8%, Caucasian 65%. The students were low to middle class with 16% free or reduced lunch (Wilkowski & Feely, 2012).

The measures used were the AIMS Web letter names fluency and letter sounds fluency probes. The measurements were described well and were used as a screener to determine how many students were in each category of above average, average, and below average. The scores were compared to see how many students were in each category before the intervention, after the intervention, and after maintenance. Some kindergartners who came to school were missing early literacy skills (Wilkowski & Feeley, 2012). Students were identified and provided interventions in phonemic awareness activities as soon as possible, to reduce the achievement gap through intentional daily instruction. The students received 30 minutes of daily phonemic awareness instruction for ten weeks, in addition to the core reading instruction. The control school received only the core instruction (Wilkowski & Feeley, 2012).

All students benefited from phonemic awareness instruction that created a total shift in the number of students in each group compared to the control group. The at-risk students were no longer at-risk, but had made gains in only ten weeks. Wilkowski and Feeley (2012) did not critique the research but did give ideas for future research. Utilizing one model of instruction was successful for Wilkowski and Feeley (2012) in reducing the achievement gap. Machado (2016) stated that phonological awareness instruction takes a variety of forms. Booker, Invernizzi, and McCormick (2007), and Wilkowski and Feeley (2012) both found success with a variety of intentional instructional models.

Effects of Intervention

Teaching phonemic awareness skills closed the achievement gap in the studies by Booker, Invernizzi, and McCormick (2007) and Wilkowski and Feeley (2012). Closing the

achievement gap is not the only benefit of phonemic awareness instruction. Phonemic awareness skills improved children's reading abilities (Machado, 2016; Minnesota Center for Reading Research, 2014), and writing and spelling abilities (Craig, 2006). Suggate (2016) wanted to find out how long the benefits of phonemic awareness and other interventions lasted. Suggate (2016) conducted a meta-analysis of studies to determine the long-term effects of reading instruction.

Suggate (2016) conducted a meta-analysis of 56 studies to examine the long-term effects of reading interventions. Research had been conducted on the short-term effects with Suggate's (2016) meta-analysis being one of the first to focus on long term effects. Selection criteria was established to determine how the final studies were included in the meta-analysis. Once the studies were selected, Suggate (2016) examined the different kinds of interventions; phonemic awareness, phonics, fluency, reading comprehension, and mixed interventions. The research subjects were divided into categories based on need that included normal readers, at-risk, low readers, and reading disabled. The majority of interventions that were studied provided either a phonological awareness piece (64.8%) or a phonics piece (53.5%) (Suggate, 2016). The phonemic awareness and comprehension interventions showed the largest results when examined at follow up. Preschool and kindergarten needed to focus interventions on phonemic awareness while decoding skill interventions needed to be focused on in first and second grade (Suggate, 2016).

The analysis showed that reading interventions provided a greater amount of retention for readers in all categories except the normal readers. Phonemic awareness interventions provided students with lasting effects. Suggate (2016) noted that the phonics interventions were not as successful as the phonemic awareness interventions. Interventions needed to be in addition to the normal instruction to have an effect. Long-term effects from reading interventions were

shown to be attainable. The limitation of the meta-analysis was that more research needed to be done in the small to medium study size range. It was also noted that more studies needed to add a follow up to continue to observe if the effects were continuing long-term. Suggate (2016) also suggested that the quality of the published studies needed to continue to improve and researchers needed to conduct more large-scale follow up assessments.

Including All Learners

The research included in this paper selected participants that were considered at-risk, average, or above average on early literacy screenings. Phonemic awareness skills are important for all students including those with disabilities. Literacy development is ongoing, beginning at birth (Rightmyer et al., 2006). Brown (2014) stated that literacy development occurs in a developmental sequence. Children with reading disabilities followed the developmental sequence at a different pace. Two research studies focused on children with reading disabilities, attention-deficit/hyperactivity disorder (ADHD), and significant developmental disabilities to determine the effects of phonemic awareness instruction on all learners.

Reading Disabilities and ADHD

De Groot, Van den Bos, Van der Meulen, and Minnaert (2017) were interested in how children with reading disabilities, and children with ADHD scored on phonemic awareness tasks. Time consuming tasks, such as decoding and reading, required a high level of working memory which was more challenging for these groups of children (De Groot et al., 2017). Rapid automatized naming of letters and sounds, and word reading were two tasks that required phonemic awareness skills and were challenging to children with reading disabilities and ADHD (De Groot et al., 2017).

A quantitative study was created that posed five predictions about the link between rapid automatized naming, phonemic awareness skills, working memory, reading disabilities, and ADHD (De Groot et al., 2017). The study was a quasi-experimental design with students assigned to groups based on the diagnosis of reading disability, ADHD, a combined group of reading disability and ADHD, and neither a reading disability nor ADHD. The participants were 1,262 Dutch children from the northern Netherlands. It was not specified how the students were selected, but did list exclusion criteria such as extreme disabilities. No other demographic information was included on the participants (De Groot et al., 2017).

The measurements used were norm-referenced Dutch tests. The ability to compare groups based on the measurements used was demonstrated. The study examined the effects reading disabilities and ADHD had on phonemic awareness and rapid naming skills. Both groups reported lower scores and results, with the reading disability children lower than the students without reading disabilities. It was proposed that the lower phonemic awareness skills may have been due to the amount of working memory that the students had available to dedicate to concentrating on the task, but was not a determination of this study (De Groot et al., 2017).

Significant Developmental Disabilities

Students with reading disabilities needed to be exposed to repeated instruction in phonemic awareness skills (Taylor, Ahlgrim-Delzell, & Flowers, 2010). Instruction needed to be at a student's level and developmentally appropriate (Machado, 2016). Struggling readers were able to benefit from instruction that was delivered in small groups and was intentional (Booker et al., 2007). Taylor, Ahlgrim-Delzell, and Flowers (2010) were interested in the instruction of reading skills for children who were developmentally disabled. Children who experienced significant developmental disabilities did not have curriculum that was developmentally

appropriate (Taylor et al., 2010). Taylor, Ahlgrim-Delzell and Flowers (2010) wanted to see what results would emerge if developmentally disabled children were given appropriate materials and instruction.

A qualitative study was created that studied how special education teachers and students responded to the implementation of a new curriculum that was created for students with cognitive impairments (Taylor et al., 2010). The curriculum was created with the addition of the No Child Left Behind Act and the Individuals with Disabilities Education Act, which required all students to take standardized tests. The curriculum that was introduced was more advanced than what the teachers were using (Taylor et al., 2010). The curriculum addressed concepts of print, phonemic awareness and phonics, and comprehension, through two educational components. The first component taught phonemic awareness and phonics skills. The second component taught skills that increased student participation in reading books aloud in a small group. There were thirteen objectives that were taught in the curriculum. Special education students were hard to test with standard measures. The new curriculum offered improved assessments for special needs students (Taylor et al., 2010).

The school district that participated was located in a metropolitan area in the southeastern United States. The researchers interviewed six different teachers of developmentally delayed special education students. Two teachers taught students with moderate cognitive disabilities, two taught students with autism, and two taught students with severe, multiple disabilities. It was a purposive sample of students and teachers with the teachers having had a variety of years of teaching experience, as well as a variety of races represented. There were no demographics other than the disability groupings listed for the student population (Taylor et al., 2010).

The researchers used the study to obtain how usable the new curriculum was, as well as how the students responded to the curriculum (Taylor et al., 2010). The observations and interviews were conducted by one researcher who was a neutral party, Taylor, and later two other researchers, Ahlgrim-Delzell and Flowers, joined because of an invested stake in the new curriculum (Taylor et al., 2010). The teachers were observed and interviewed to gather data. The teachers rated the experience with the curriculum in a favorable way and thought that the students benefited from the materials. The teachers stated that there was more rigor in the instruction and that the curriculum included learning activities that would not have been presented to students before (Taylor et al., 2010). The students were accomplishing more than the teachers thought that students would or could accomplish. The accomplishments were observed by an independent party and were able to be seen in both verbal and nonverbal children. The teachers had been finding resources to supplement the student's learning. As the teachers taught the curriculum, the teachers liked the materials and did not supplement additional materials for student learning (Taylor et al., 2010).

The data led to the emergence of three themes: an impact on student learning, teacher effectiveness, and teacher self-efficacy (Taylor et al., 2010). The teachers saw positive impacts on students' knowledge of concepts of print, phonics and phonemic awareness, word recognition, and reading comprehension. Students learned directionality, text pointing, one-to-one correspondence, identified letter name and letter sound relationships, initial sounds in words, made vowel sounds, beginning and ending sounds, learned sight words, and developed reading comprehension (Taylor et al., 2010). Teachers reported being more effective because planning was more efficient. The new curriculum provided a complete set of materials directed at student needs and standards. The students learned the beginning skills of phonemic awareness and

comprehension. The researcher described some limitations which included the need to study student learning outcomes (Taylor et al., 2010).

Conclusion

In the research studies analyzed in this chapter, phonemic awareness activities were not provided randomly, but were targeted in a strategic manner for the benefit of children. Phonemic awareness skills were shown to be necessary for the development of early literacy skills. Phonemic awareness skills have been referred to as the building blocks of literacy (Neuman et al., 2000). Ensuring those building blocks are strong and supportive will provide the basis for learning to read. Phonemic awareness skills have been linked to reading success (Brown, 2014; Hogan et al., 2005; Machado, 2016; Minnesota Center for Reading Research, 2014; Spector, 1992; Yopp & Yopp, 2009). Information provided from the National Reading Panel revealed that phonemic awareness instruction did not stay at the top of the list of skills educators found necessary for reading instruction (Cassidy et al., 2010). When the research was analyzed, the need for phonemic awareness instruction was evident. The research on phonemic awareness connected the pieces of why instruction is important. Brown (2014) stated that children who had the basic skills in place excelled in reading all through high school. Instruction that was provided in developmentally appropriate ways supported children's development (Machado, 2016). The research will be further synthesized and summarized in the next chapter bringing about an understanding of the need for phonological awareness instruction.

Chapter Three: Research Summary and Conclusions

Phonemic awareness is an early literacy skill that is necessary for children to learn. The importance of phonemic awareness skills was not found in the instruction of the individual skills that were categorized as phonemic awareness skills, but rather the results that occurred because of the instruction in phonemic awareness (The Minnesota Center for Reading Research, 2014). Phonemic awareness skills lead to greater abilities in reading, writing (Yopp & Yopp, 2009), and spelling (Craig, 2006). The research examined in this paper focused on the implementation of phonemic awareness instruction in educational settings. The research was able to answer the question: In what ways can phonemic awareness skills be targeted strategically in early childhood classrooms to support healthy developmental growth? This chapter will follow the similar path of the literature review as the research is summarized and related to the research question.

Overlooked Instruction

In the research study by Ozdemir and Bayraktar (2015), the students who studied to be preschool teachers in Turkey were not skilled in early literacy skills. The students were not able to answer simple questions about early literacy and were not able to connect activities to early literacy skills. Teachers who were unsure of a subject were more hesitant to teach the subject matter. Understanding that students at the university did not feel confident in what early literacy skills were, or why early literacy skills were necessary, would have implications when the students became teachers in preschool classrooms. The study presented one reason why phonemic awareness instruction was not taught in early childhood classrooms (Ozdemir & Bayraktar, 2015).

When to Teach

Language development begins when children are first exposed to language: at birth. As children played with language, early literacy skills were developing. Children were learning phonemic awareness skills through playing with sounds. Assessment was difficult for young children who were not able to express the answer in words (Kenner et al., 2017). Children two years old were able to show phonemic awareness skills when an assessment was developmentally appropriate. Children started to learn phonemic awareness skills through nursery rhymes, songs, and chants with family members or child care providers (Kenner et al., 2017). The study provided information that showed phonemic awareness skills could be taught to young children.

Instruction in phonemic awareness skills was structured when children reached school ages. Children in kindergarten and first grade were compared to determine when the best time was for phonemic awareness instruction. The study by Reading and Van Deuren (2007) found that kindergarten and first grade were both appropriate grade levels for instruction. The children who did not receive instruction in kindergarten learned all of the same skills by the end of first grade. The skills targeted for instruction in kindergarten and first grade were blending and segmenting of words. The instruction of phonemic awareness skills benefitted the students at this age (Reading & Van Deuren, 2007).

Children who began phonemic awareness instruction at home with family members, or in child care had more advanced phonemic awareness skills. Cunningham and Carroll (2011) found that students who started ahead of peers did not stay ahead in phonemic awareness skills when instruction was intentional. Students who started school older and ahead of the younger

children in the class, ended the school year at a similar ability level. The age of the student was not an important factor, the length of instruction was (Cunningham & Carroll, 2011).

Phonemic awareness instruction needed to begin at home, or in child care, when children were young. Shared conversation, sound games, and book reading were ways to develop phonemic awareness skills in young children (Kenner et al., 2017). When children came to school and began formal education, phonemic awareness instruction needed to begin and continue through first grade (Reading & Van Deuren, 2007). Children who had formal instruction in school ended up at similar academic levels at the end of the school year (Cunningham & Carroll, 2011). Instruction in phonemic awareness needed to be targeted from the time children were born through first grade. The instruction needed to be developmentally appropriate for each child throughout childhood.

Phonemic Awareness Linked Skills

Phonemic awareness was not a skill that was meant to be taught just for the benefits of what the instruction provided. Phonemic awareness was a small piece that led to larger academic success (Reading & Van Deuren, 2007). Phonemic awareness instruction was linked to other academic skills during instruction. Studies evaluated for this paper found that phonemic awareness skills were linked with blending, segmenting, letter sound fluency, rhyming (Burns et al., 2018), visual images (Castles et al., 2011), alphabetic knowledge, vocabulary (Ouellette & Haley, 2013), and print (Townsend & Konold, 2010).

Lessons that were created that included visual images provided students with a link for learning the letter names and letter sounds (Castles et al., 2011; Ouellette & Haley, 2013; Townsend & Konold, 2010). All three of the studies stated that having a visual reference helped the children to associate the sound with the letter, recall the letter name or sound, and increase

the phonemic awareness skills of letter sound and letter name recognition (Castles et al., 2011; Ouellette & Haley, 2013; Townsend & Konold, 2010). Alphabet knowledge benefitted students by providing additional points of reference. Instruction with alphabet letters utilized the skills that children reference when writing (Townsend & Konold, 2010). Utilizing the alphabet while learning letter names and letter sounds provided students with blending and segmenting opportunities (Ouellette & Haley, 2013). Townsend and Konold (2010) found that letter sound identification was both a phonemic awareness skill and a skill of alphabet knowledge. The importance of instructing letter sound and alphabetic knowledge at the same time was evident (Townsend & Konold, 2010). Vocabulary helped to increase phonemic awareness skills as children developed additional skills (Ouellette & Haley, 2013). Planned phonemic awareness instruction worked with other early literacy skills to develop a strong literacy foundation (Neuman et al., 2000).

Instruction

Instruction in phonemic awareness skills was found to benefit students the most when it was intentional (Al-Bataineh & Sims-King, 2013). A phonemic awareness program that was intentional in planning and implementation helped students who entered school academically behind peers (Al-Bataineh & Sims-King, 2013). The intentionality of the instruction determined the difference that the instruction made with students. Students did not learn at the same speed or with the same materials (Taylor et al., 2010). Materials that benefitted student learning included sound boxes (Keesey et al., 2015). The introduction of sound boxes was one way to teach specifically to where a student's academic abilities were in relation to hearing sounds (Keesey et al., 2015). A student's ability level needed to guide the student's learning and the

teacher's instruction. The best indicator of how a student was learning was through an assessment, or screening tool, that identified current ability levels (Cummings et al., 2011).

Screening tools were used to guide phonemic awareness instruction for continued achievement (Cummings et al., 2011). When student's abilities were identified, additional materials could be introduced as needed (Keeseey et al., 2015). Instruction in phonemic awareness was an intentional part of the school day. Information gained through assessments, paired with the intentionality of instruction encouraged student success. Instruction required planning based on the current ability level of the students (Cummings et al., 2011).

Benefits of Phonemic Awareness Instruction

Phonemic awareness instruction provided benefits to students when the instruction was part of a quality program. The long-term effects of phonemic awareness instruction and intervention were studied and a correlation with the narrowing of the achievement gap was identified. The achievement gap was addressed with one model of phonemic awareness instruction (Wilkowski & Freeley, 2012) and with multiple models of phonemic awareness instruction (Booker et al., 2007). One model of instruction showed that in addition to the core instruction, additional instruction advanced students academically (Wilkowski & Feeley, 2012). The study that focused on various models demonstrated that the instruction needed to be intentional and planned to fit the needs of the students (Booker et al., 2007). The model of instruction was not as important as the intentionality of the instruction. The achievement gaps of children who received intentional instruction diminished (Booker et al., 2007).

Long-term effects of phonemic awareness instruction included increased abilities in reading, writing, and spelling (Brown, 2014; Yopp & Yopp, 2009). Instruction for long term effects needed to focus on phonemic awareness activities in preschool and kindergarten.

Decoding skills were the focus of first and second grades (Suggate, 2016). Kindergarten phonemic awareness scores predicted second grade reading (Hogan et al., 2005) which demonstrated another benefit of phonemic awareness instruction.

Including All Learners

Phonemic awareness instruction was not limited to at-risk students, average students, and above average students. All students were included in phonemic awareness instruction. Students with reading disabilities and attention-deficit/hyperactivity disorder (ADHD) were shown to have lower phonemic awareness scores than peers (De Groot et al., 2017). Students that had reading disabilities or other disabilities needed extra time to learn phonemic awareness skills. It was possible to learn phonemic awareness skills even with significant developmental disabilities when students were presented with the proper materials (Taylor et al., 2010). Students with disabilities learned phonemic awareness skills when the materials were developmentally appropriate for the student (De Groot et al., 2017; Taylor et al., 2010). All students were able to benefit from phonemic awareness instruction.

Conclusion

The finding of the studies that were presented in this paper answered the question of how to strategically target phonemic awareness skills in a developmentally appropriate way. The studies determined that phonemic awareness skills can be taught beginning at birth (Ozdemir & Bayraktar). When students began formal schooling, intentional instruction was necessary. Students who received integrated phonemic awareness instruction in kindergarten or first grade were able to close the achievement gap and developed skills that had lasting effects (Al-Bataineh & Sims-King, 2013). All students were able to learn phonemic awareness skills if the instruction

was targeted at the student's developmental level (Brown, 2014). Additional discussion and application of the findings will be presented in the following chapter.

Chapter 4: Discussion, Application and Future Studies

Phonemic awareness is an important developmental process that provides foundational skills for children (Minnesota Center for Reading Research, 2014). Common Core State Standards are trying to ensure that all children receive the benefits of instruction in specific areas. Phonemic awareness instruction is one area that needs to be given attention when planning and assessing children (Steinhaus, 2000). The research studies used in this paper provide a starting point for understanding phonemic awareness and the benefits for students. The research offered limitations and areas for future studies that will be explored. The information gained from the studies will also guide future instruction and understanding of the importance of phonemic awareness instruction.

Limitations in the Research and Future Studies

The research studies explored in this paper wanted to isolate the phonemic awareness pieces which created studies that utilized students of similar demographics (Burns et al., 2018; Reading & Van Deuren, 2007). The sample size for many of the studies was small (Al-Bataineh & Sims-King, 2013; Castles et al., 2011; Cunningham & Carroll, 2011; Keesey et al., 2015; Kenner et al., 2017; Ouellette & Haley, 2013; Taylor et al., 2010). The limitations of the studies show that there is a need for additional studies that extend the research. The research provides a starting point, but additional studies are needed to continue to explore how to be strategic in implementing phonemic awareness activities in early childhood classrooms.

Instruction

Phonemic awareness is an early literacy skill that is necessary to teach (Neuman et al., 2000). Research needs to be conducted to find out if phonemic awareness is being taught in early childhood classrooms across the United States. If phonemic awareness is not being

instructed in a classroom, it is necessary to find out more information about why it is not being taught. The research study from Turkey found that university students did not feel educated about phonemic awareness (Ozdemir & Bayraktar, 2015). Research needs to find out if lack of education is a concern in the United States as well. Finding out more information about the lack of instruction can help to discover why phonemic awareness is not being instructed. When the reasons are identified, changes can be made to increase the number of classrooms that are adding phonemic awareness instruction to the daily schedule. Some simple ways to add phonemic awareness instruction can be shared with teachers if teachers need suggestions. Additional instruction at the college and university level can also be added if teachers are not gaining the information to feel confident in phonemic awareness instruction (Ozdemir & Bayraktar, 2015). Barclay (2014) and Brown (2014) include lists of activities that can be added to promote developmentally appropriate phonemic awareness instruction including: reading books and pointing out the rhythm to the language, rhyming and singing songs, pointing out parts of a book and retelling the story, listening games, and talking about new vocabulary words.

Achievement Gaps

Research has shown that in Virginia (Booker et al., 2007) and New York (Wilkowski & Freeley, 2012) the achievement gap can be reduced through the implementation of intentional phonemic awareness instruction. Additional research needs to be done to compare other areas of the country and the effects of phonemic awareness instruction on the achievement gap of students. Both studies evaluated in this paper included a population of at-risk students in an area with high poverty levels (Booker et al., 2007; Wilkowski & Freeley, 2012). With small groups of at-risk students showing positive gains, it is necessary to conduct a study to find out if the results are similar across the country. Expanding the research to a larger population with diverse

backgrounds in various locations is necessary. The method of phonemic awareness instruction is not as important as the intentionality of the instruction. Various types of instruction were shown to reduce the achievement gap in the studies examined in this paper. Rightmyer, McIntyre, and Petrosko (2006) agreed that instruction can come from a variety of source and be presented in different ways with positive results. The achievement gap exists in education across the United States. If research can show that phonemic awareness instruction can reduce the achievement gap across differing levels of income, ethnic background, and location of residence, then the benefits of phonemic awareness instruction will be more clearly known. Receiving a high-quality education in necessary literacy skills is important beginning in preschool (Brown, 2014).

Best Practices

Phonemic awareness instruction in early childhood classrooms takes many different forms. The research provided in this study has shown that phonemic awareness instruction can be provided to children in any stage of early childhood education (Cunningham & Carroll, 2011; Kenner et al., 2017; Reading & Van Deuren, 2007), with or without visuals (Castles et al., 2011; Ouellette & Haley, 2013; Townsend & Konold, 2010). The key to providing different ages of students with different instruction is to know and understand what is developmentally appropriate for each child. Neuman, Copple, and Bredekamp (2000) authored a book about the developmentally appropriate practice of instructing early literacy skills. Research needs to continue to study what phonemic awareness skills should be taught at what age (Reading & Van Deuren, 2007). Research is important to guide teachers and curriculums to ensure that children are receiving the proper instruction at the appropriate times. Early literacy skills progress through a continuum (Brown, 2014). Understanding the timing of the development of skills will strengthen the instruction at each level. Common Core State Standards and Early Childhood

Indicators of Progress have been created to establish equality and instructional comparison across early childhood programs. The information from research studies can help inform and guide the standards and practices to ensure learning is developmentally appropriate.

The Future of Phonemic Awareness Instruction

Understanding that phonemic awareness skills are important is the first step in implementing instruction in the classroom. However, it is not enough just to implement phonemic awareness instruction, it is also necessary to understand the best way to provide instruction and what skills are necessary to teach. The instruction of phonemic awareness skills to young children needs to be seen as the equivalent to teaching children to read. In fact, teaching phonemic awareness skills is teaching the basics needed for reading (Spector, 1992). Early childhood educators need to look to the research and the educational journals to identify the best ways to determine what each age or grade level needs to learn. Identifying target ages for instruction will allow teachers to determine what is developmentally appropriate for the children involved. Knowing the best time to teach specific skills benefits the students (Ouellette & Haley, 2013) by selecting lessons that fit the student's needs and developmental level. It is important to teach all students phonemic awareness skills. If students are behind peers, teachers need to find the developmentally appropriate level of instruction to meet the student's academic level (Brown, 2014). All children are capable of learning and need to be given the opportunity to learn at the pace that fits the child's needs (Taylor et al., 2010). Phonemic awareness assessments are necessary to determine what level the child is at to ensure proper instruction. Student assessments need to guide planning and implementation of phonemic awareness instruction (Cummings et al., 2011). Teachers need to prepare phonemic awareness lessons even if the curriculum does not provide suggested activities and lessons.

When children are instructed in phonemic awareness skills during kindergarten and first grade, letters should accompany the instruction (Castles et al., 2011). Providing students with letter forms when teaching letter names and letter sounds will help children to make connections to print. When children are able to connect print with phonemic awareness learning, connections that benefit the children in reading (Spector, 1992), writing (Neuman et al., 2000), and spelling (Coker, 2013) are being created. The connection between phonemic awareness and print starts by pointing out print when reading books. Identifying letters that words start with, and understanding that words are made up of sounds and letters are important skills (Yopp & Yopp, 2009). Children are developing writing and spelling abilities when using phonemic awareness skills to identify the sounds in words, and attempting to write the sounds heard (Brown, 2014; Kaye & Lose, 2018). Phonemic awareness skills help children to learn other skills. Teachers who understand the connection between skills implement instruction throughout the daily activities. Teachers who understand the importance of phonemic awareness skills need to advocate to teachers who are not teaching phonemic awareness skills for the benefit of all children. The information gained from this paper will show teachers that phonemic awareness instruction needs to start in the preschool years and continue through first grade (Reading & Van Deuren, 2007). The instruction needs to be intentional and targeted to the students who need phonemic awareness skills the most. Assessments need to be used to continue to plan instruction, and all children need to be included in the instruction.

Conclusion

Phonemic awareness is a small piece of early literacy that has much larger implication to academic skills. The research and summaries in this paper work to answer the question: in what ways can phonemic awareness skills be targeted strategically in early childhood classrooms to

support healthy developmental growth? Through the material presented, the research has shown that phonemic awareness skills are targeted strategically through the time of delivery (Cunningham & Carroll, 2011; Kenner et al., 2017; Reading & Van Deuren, 2007), the intentionality of delivery (Al-Bataineh & Sims-King, 2013; Cummings et al., 2011; Keesey et al., 2015), the connection with other skills (Burns et al., 2018; Castles et al., 2011; Ouellette & Haley, 20213; Townsend & Konold, 2010), and the inclusion of all students (De Groot et al., 2017; Taylor et al., 2010). Selecting developmentally appropriate activities for lessons will support healthy growth for all children advancing in age and in ability.

Early literacy including phonemic awareness is an important part of education in early childhood. Exposing young children to the understanding of how the language works provides the basics to build upon. The International Reading Association and the National Association for the Education of Young Children developed a position statement in 1998 titled “Learning to Read and Write: Developmentally Appropriate Practices for Young Children” that has been reviewed and is still current today (Neuman et al., 2000). Early literacy and phonemic awareness instruction are identified in the position statement as necessary preschool activities (Neuman et al., 2000; Townsend & Konold, 2010). Early literacy skills are introduced in early childhood classrooms in appropriate and fun ways. Children who are participating in phonemic awareness instruction may not even realize learning is happening when the activities are engaging. Preschool programs help to prepare children for kindergarten by enhancing literacy skills (Brown, 2014). Rightmyer, McIntyre, and Petrosko (2006) stated that instruction in reading is challenging with all of the different aspects and ability levels of the children. It takes a teacher who is skilled to understand all of the factors and provide a lesson suitable for all children in the group. At one time phonemic awareness instruction was not seen as an important part of literacy

instruction. Phonemic awareness is again being viewed as an important part of reading instruction (Cassidy et al., 2010). Knowing the importance of phonemic awareness and the reasons to teach phonemic awareness skills does not make the instruction an easy task for educators. Educators need to have confidence in the material and self-confidence to make instruction beneficial. “The work is not easy, and it takes educated teachers to do it well” (Rightmyer et al., 2006, p. 229). Phonemic awareness instruction is a challenge that is necessary for the benefit of all students.

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