2021

Reading Instructional Methods: The Effectiveness of Phonetic-Based, Whole Language, and Balanced Approaches to Teaching Beginning Readers

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READING INSTRUCTIONAL METHODS:
THE EFFECTIVENESS OF PHONETIC-BASED, WHOLE LANGUAGE, AND BALANCED APPROACHES TO TEACHING BEGINNING READERS

A MASTER'S THESIS

SUBMITTED TO THE FACULTY

OF BETHEL UNIVERSITY

BY

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IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF

MASTER OF EDUCATION

MARCH 2021

BETHEL UNIVERSITY

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MARCH 2021

APPROVED

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Abstract

This thesis examines the benefits and identifies the differences between reading instructional methods. Current research reveals the relationship between whole language, phonics, and balanced literacy, which can be helpful to educators in identifying a primary strategy for reading instruction. Some students respond best to phonics-based strategies while others show greater growth in response to whole language instruction. Various factors can affect reading development, including educator knowledge, parental support, brain research, gender, socioeconomic status, and ethnicity. Several methods are explained to help teachers identify the most effective strategies in teaching young learners how to read and aiding those who struggle.

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CHAPTER I: INTRODUCTION

Teaching beginning or struggling readers to read is a rewarding yet challenging task for educators. There is an immense amount of pressure on teachers to continuously meet state standards, excel on standardized tests, and bring all students up to grade level. Reading is arguably one of the most important predictors of academic success, and instructional approaches vary across the globe (The basics of teaching reading and writing, 2020). Some models focus more intensely on phonics, and others draw children's attention to the semantic and syntactic information of a given text. Teachers ultimately want to know the best and latest research on how the reading brain works, how to best support students in the learning process and potential challenges they may come across. All educators, especially primary grade teachers, need to be given the skills, knowledge, and resources they need to most effectively teach young children to read.

As a first-grade teacher, I have witnessed the frustration several students display when struggling in reading. This frustration can be especially hard on young learners as they see other classmates pick up on this skill with ease. I have always wondered how my instruction can better respond to the needs of struggling readers. This wondering prompted the following research questions. Is a phonics-based approach more beneficial than whole language instruction? Can a balanced approach to reading instruction meet the specific needs of individual learners?

Reading Development

The development of reading begins through a gradual process called emerging literacy (The basics of teaching reading and writing, 2020). During this process, which begins at birth and continues through age eight, children learn to use language. Typically, language is first learned through oral forms, followed by written forms. Reading requires individuals to make

meaning out of print (The basics of teaching reading and writing, 2020). Arguably the cornerstone to academic success, the skill of reading is also crucial to social, economic, and emotional achievement in life (Maddox & Feng, 2013).

While some students go through the process of learning to read easily, others struggle. According to the National Reading Panel (2000), about 17.5 percent of children have trouble with reading during the first three years of school. The most recent report from the National Assessment of Educational Progress revealed 34% of fourth grade students in the United States read below the basic reading level (NAEP, 2019). A total of 65% of fourth grade students read below the proficient reading level. Students identified as having a specific learning disability in reading are more likely to struggle with phonemic awareness and word recognition. Phonemic awareness, word recognition, fluency, vocabulary, and text comprehension are the five key components of reading (National Reading Panel, 2000).

Definition of Terms

Reading instruction has swung back and forth between phonics-based instruction and whole language since the early twentieth century (Pernai, Pulciani, & Vahle, 2000). Referred to as the "Reading Wars," phonics was held in higher esteem by colonialists until the 1930's when it was challenged by Edmund Huey and John Dewey's whole word learning strategy (Robinson, 2018). When reading achievement dipped in the 1950s, phonics-based instruction rose in popularity. Around 1980, whole language again became an established approach. The two opposing strategies continue to battle for prominence today (Robinson, 2018).

Systematic phonics is the explicit teaching of letter-sound correspondences before focus on the meanings of words (Bowers, 2020). To best teach sounds in speech, phonics-based instruction includes paired-association activities. These activities usually focus on the association

between illustrations or objects and spoken phonemes. Students study phonemes by blending, manipulating, decoding, and segmenting words (Maddox & Feng, 2013). Another element of phonics-based instruction is teacher modeling. Teachers demonstrate to students the process involved in decoding new and unfamiliar words through direct instruction (Synder & Golightly, 2017).

Whole language instruction focuses on the meaning of words as students are taught to combine various skills including context clues to guess words they do not recognize. Whole language instruction does not necessarily exclude phonics but incorporates it unsystematically, on an as needed basis (Bowers, 2020). This approach believes learners develop an unconscious knowledge of language through speaking, writing, and reading. Meaning is made of written symbols by keeping words and sentences intact (Synder & Golightly, 2017). The whole language method stresses the natural process of reading while encouraging the love of literature (Pernai et al., 2000). Teachers act as guides using indirect, contextual, and holistic instruction (Robinson, 2018; Maddox & Feng, 2013).

Balanced literacy can be viewed as a combination of the two polarizing instructional reading strategies. This strategy aims to incorporate systematic phonics while maintaining a focus on reading for meaning (Bowers, 2020). A balanced reading approach can be very diverse and is largely affected by a teacher's individual outlook. Balance can be defined in what one teaches or how one teaches. A common definition and understanding of this term must be used when incorporated into a school-wide curriculum (Fitzgerald & Cunningham, 2002).

According to Robinson (2018), two principles underly both the phonics-based approach and the whole language method to teaching reading. With a strong focus on observable behavior and little regard to mental processing, the phonics-based method mirrors the behaviorist theory.

The teacher is responsible for planning and directing sequential instruction with observable measurements to follow. Whole language is drawn from the constructivist theory (Robinson, 2018), where each individual draws knowledge and meaning from their own experiences. This child-centered, holistic approach places teachers on the sidelines, guiding and helping only when needed. The constructivist belief is that reading does not require direct instruction, but whole world immersion and a focus on meaning.

The process of reading is multifaceted. It involves word recognition, comprehension, and fluency (Leipzig, 2001). Common terms used in developing word recognition include phonemic awareness, alphabetic principle, decoding, and sight recognition. Phonemic awareness consists of the breaking apart and manipulation of sounds in words. The letters used to represent sounds are called the alphabetic principle. When students used what they know about letter-sound relationships to sound out unfamiliar words, they are decoding the words on the page. Being able to identify words automatically is termed sight recognition (Leipzig, 2001). Background knowledge, vocabulary, and an understanding of the English language are essential for students to develop comprehension of a given text—constructing meaning (Leipzig, 2001). Background knowledge is knowledge about a specific topic. As students expand their background knowledge and widen their vocabulary, they can better construct meaning from a text. Furthermore, an understanding of how the English language and print work helps students develop comprehension (Leipzig, 2001). Once students have a solid foundation in word recognition and comprehension, there is a strong focus on fluency—reading automatically and accurately. Teachers will look for brisk rate in readers, as well as phrasing and expression that mimics day to day speech (Leipzig, 2001). These common terms used in the reading process will be present throughout the paper.

Many educators agree that reading instruction should incorporate both phonology and meaning—the disagreement lies in the extent (Bowers, 2020). The solution to combine the two methods of reading instruction could be problematic. Due to the polarizing differences in the underlying principles, one is method is sure to dominate (Robinson, 2018). What are the best reading instructional strategies to use with beginning, at-risk, or struggling readers? What role do phonetic, whole language, and balanced literacy instruction play in teaching young students how to read? Is there a primary strategy that should be used?

Purpose of Study

The purpose of this paper is to examine the differences between reading instructional methods. The relationship between whole language, phonics, and balanced literacy will be examined to identify the primary strategy for decoding and comprehending words. Various factors affecting reading development will also be explored, including educator knowledge, parental support, brain research, gender, socioeconomic status, and ethnicity. The review will focus on beginning and struggling readers, who are not yet proficient for their age. It will help teachers identify the most effective strategies in teaching young learners how to read and aid those who struggle. The following questions will be examined in the research: Is a phonics-based approach more beneficial than whole language instruction? Can a balanced approach to reading instruction meet the specific needs of individual learners?

CHAPTER II: LITERATURE REVIEW

In Chapter II of this literature review, the author will explore the relationship between whole language, phonics, and balanced literacy to identify the primary strategy for decoding and comprehending words. Several factors affecting reading development will also be explored, including educator knowledge, parental support, brain research, gender, reading circumstance, socioeconomic status, ethnicity, language, and disabilities.

Literature Search

To locate the literature for this thesis, searches of Academic Search Premier, ERIC, and ProQuest Education Journals were conducted for publications from 1980 to 2020. This list was narrowed by only reviewing published empirical studies from peer-reviewed journals that focused on reading development, instructional strategies, and curriculum that addressed the guiding questions. The key words that were used in these searches were “reading instructional strategies,” “phonics instruction,” “whole language instruction,” and “balanced literacy.”

Teachers and Parents

As the reading wars continue to rage, educators search for the best and most effective way to teach students how to read. A wide variety of approaches to reading instruction have been used and recycled. Some teachers support a phonics based instruction to reading while others endorse a whole language approach, seeing reading as making sense of the text. The following section examines the attitudes, knowledge, and support of teachers and parents and its effect on student learning.

Attitudes

Teacher attitudes toward learning and instructional practices can have an effect on student learning (Farrell & Guz, 2019). Byrd (2008) surveyed 30 kindergarten through third

grade teachers to determine their beliefs and practices in regard to reading instruction. Participants ranked multiple items in order of importance to reading development. They were then asked to place themselves on a scale of 15 marks with “Phonics Only” at one end, “Whole Langugage Only” at the other end, and “Balanced” in the middle. While it was hypothesized most teachers support a balanced view of literacy, the results revealed the teachers’ beliefs and programs were more whole-language oriented. Teachers used more whole-language practices despite the balanced reading programs implemented in the school. Participants tended to disagree with survey items that highlighted isolated skills. Further studies using a larger and more diverse sample are needed to determine the attitudes of educators toward reading instruction; however, Byrd’s (2008) study revealed teachers use strategies from both whole language and phonics instruction to get the best results for their students.

Bursuck, Munk, Nelson, and Curran (2002) reveal teachers’ attitudes towards explicit reading instruction to be more positive than a whole language approach. A total of 1,500 kindergarten and first grade teachers were invited from diverse regions in Northern Illinois to participate in the study. The Teacher Attitudes of Early Reading and Spelling survey was used to measure the teachers’ attitudes toward a more explicit approach to reading, as opposed to a whole language approach. Teachers responded to various questions using a 6-point scale ranging from strongly disagree to strongly agree. Of the 549 teachers that responded to the survey, 90% had taken one or more reading classes or workshops. Scores were computed for the explicit and implicit factors related to reading. The mean score for implicit, whole language was 31.0. The mean score for explicit, phonemic awareness and phonics was 17.7. Findings reveal teachers hold a significantly more positive attitude toward explicit reading approaches (Bursuck et al.,

2002). Actual teacher practices were not reported in this study. Further research should study the attitudes of a larger, more diverse teaching population.

Teacher attitudes toward learning and instructional practices can have an effect on student learning, as can their own learning experiences. Farrell and Guz (2019) reveal the extent to which teacher beliefs can affect classroom practices. Defined as "tacit, often unconsciously held assumptions about students, classrooms, and the academic material to be taught," (p. 2) teacher beliefs influence instructional practices. Research conducted through a case study explored the beliefs and practices of Luiza, an experienced ESL English for Academic Purposes teacher. The case study attempted to answer three guiding questions. What are the stated beliefs of an experienced EAP teacher in relation to teaching L2 reading? What are the observed classroom practice of this experienced EAP teacher when teaching L2 reading? Are the beliefs the EAP teacher holds about reading consistent with her classroom practices? Data was collected through non-participatory classroom observations, pre-lesson and post-lesson interviews, and a final interview over the course of four 50 minute lessons. Findings showed most of Luiza's beliefs to correspond with her classroom practices. It was found that many of her beliefs and practices were used in her own experience learning Korean in another country (Farrell & Guz, 2019). Luiza's prior learning experience overpowered other research studies supporting the admittance of students to use their L1 in the classroom. Further research is needed to determine the best L2 teaching practices; however, the case study performed by Farrell and Guz (2019) encourages reflection of teacher beliefs and practices as a form of professional development, as they affect classroom instruction.

Fitmaurice's (1976) findings also show that teachers' attitudes directly influence student reading improvement. As a subsidiary analysis of the effects on in-service teacher training, the

study measured teacher attitude changes as a function of instruction. The Minnesota Teacher Attitude Test (MTA) was given to the 24 teachers participating in the study, 12 receiving three extra hours of in-service training than the others. The in-service group of children were found to do significantly better than others. Measured by the MTA, the teachers' attitudes directly influenced the students' progress (Fitmaurice, 1976). Further research is needed to more fully understand the effects of teacher in-service training on students and teachers over the course of time**.**

Knowledge

Parent-teacher knowledge related to reading instruction and development may also have an effect on student learning. Effective teaching requires specialized knowledge and training which many teachers lack (Ehri & Flugman, 2018). Byrd's study (2008) confirmed teachers' familiarity with reading specific terms. More often than not, teachers lack knowledge of necessary components for explicit instruction in beginning reading. According to Brady et al., (2009) "Teachers should understand why discovery of the individual speech sounds spoken in words is essential for understanding the alphabetic principle of the English orthography" (p. 427).

A study focusing on phonological awareness relevant to first grade literacy instruction sought to evaluate the gains in teachers' knowledge through an intensive professional development program. Fifty-seven first-grade teachers from Connecticut participated in the project, the large majority white and female with 43 obtaining a Master's degree. A teacher knowledge survey was administered to assess teacher understanding of phoneme awareness, code concepts, fluency, vocabulary, and oral language. Teachers participated in a year-long PD comprised of weekly in-class mentor support, a 2-day introductory seminar, and monthly

workshops. Prior to training, participants scored an average of 38% correct on the phoneme awareness portion and 48% on the code concepts portion. By the end of the year, the average participant score increased to 70% and 80% respectively. Results support previous studies in professional knowledge with instruction with indication that student achievement and higher levels of teacher knowledge correspond (Brady et al., 2009). Further research should examine whether the increases in teacher knowledge from professional development result in higher level reading performance of students.

Studies performed by Fitzmaurice (1976) and Ehri and Flugman (2018) show that in-service teacher training may produce higher levels of student reading ability. Fitzmaurice's (1976) study consisted of 24 teachers, 12 selected to make up the experimental group and 12 selected to make up the control group. Each teacher provided reading instruction for 25 elementary students randomly chosen to participate. All teachers received one hour of in-service per week. The experimental group received an additional three hours in a diagnostic/prescriptive approach. Students were tested in the Iowa Test of Basic Stills and The Cognitive Ability Test. Results showed the in-service group of students performed significantly better than the control group with higher levels of spelling ability and possibly reading ability (Fitzmaurice, 1976). Further research is needed to follow a program over multiple years to gather more detail on participants in addition to understanding the effects on students and teachers.

Ehri and Flugman (2018) studied the effects of a mentoring program on teacher knowledge and its relation to improved student achievement in reading. Twenty-nine mentors worked with 69 primary grade teachers in urban, low socioeconomic schools. Mentors guided teachers in an Orton Gillingham based phonics instruction during intensive 45-minute sessions twice a week for 30 weeks. Mentors kept monthly recordings of teachers' knowledge and

effectiveness. To test for effects on student achievement, reading and spelling skills were assessed twice during the year—fall and spring. Results were significant and showed increased scores across all grade levels. Effect sizes in K-1 were greater than 3-4 (Ehri & Flugman, 2018). While replication of this study is not financially feasible in most settings, findings point to the need for better teacher subject knowledge through professional development to improve students' reading achievement.

Parental knowledge of reading instruction proves significant as "parents perceive themselves to be as important as the teacher in building academic skills and report themselves as playing an important role in their child's academic development" (Orkin, May, & Wolf, 2017, p. 24). While little research has been done in regard to parental knowledge and attitudes toward reading instruction, Segal and Martin-Chang (2019) investigated parental reading-related knowledge in relation to children's reading scores. The researchers videotaped parent-child reading sessions and coded the content. Participants included 70 well educated, middle-upper class parents who completed a questionnaire to assess phonological knowledge, syllable patterns, and irregular word spelling. Results showed parental knowledge in reading positively impacted children's reading scores (Segal & Martin-Chang, 2019). Parents in the sample seemed to understand reading development and knew when to offer feedback and scaffold learning, rarely ignoring mistakes. The study concluded that as parents often take on the role as a student's second literacy teacher, playing an important part in the reading development of students, more work should be put into strengthening parental knowledge in this area (Segal & Martin-Chang, 2019). Using a more economically and diverse population, future investigations should seek to find if improving parent's reading related knowledge changes the way they interact with their children.

Parental Support

Parental knowledge of reading instruction is necessary to help instruct parental support. Research suggests that parental assistance for struggling readers can do more damage than good (Orkin et al., 2017). While parents aim to develop their children's skills, often compensating for reading or writing deficiencies, they lack knowledge about the "best practices for fostering independent engagement, and unknowingly employ controlling or coercive practices that further contribute to their children's frustration and avoidance of challenging academics" (Orkin et al., 2017, p. 2).

A study consisting of 36 parent-child couples investigated the individual and environmental factors, including parental practices, contributing to helpless behaviors among struggling readers while completing homework tasks (Orkin et al., 2017). The students, ages 6-12, were assessed in reading skills, language ability, and motivation while parents completed questionnaires about their parenting practices. Results showed neither language nor reading ability as a predictor of helplessness. While self-behavior regulation emerged as an intra-individual factor of helpless behavior, intrusive parental practices surfaced as the most significant environmental predictor. Orkin et al. (2017) suggests the continued pattern of corrections during reading or writing may cause struggling readers to resort to helpless behaviors as it sends children the message that they are incapable or incompetent of completing tasks independently, ultimately affecting their efficacy. Further research of helpless behaviors of struggling readers is needed due to the small, homogeneous study of educated participants. A more detailed study of the various environmental factors affecting helpless behaviors may help parents of struggling readers encourage autonomy.

Contrary to Orkin's study, the research of Zhou, Dufrene, Mercer, Olmi, and Tingstom (2019) revealed the benefits of parent-implemented reading interventions. The study consisted of four African American general education elementary students, their reading interventionist, and mothers. Grade-level reading passages were used to assess all students. All students participated in a brief experimental analysis. Upon completion, each parent was trained to implement the chosen intervention through a detailed description, model of the intervention, and feedback. Parents administered reading interventions, scored, and recorded passages for words correct per minute (WCPM) and errors per minute (EPM). Results revealed the integrity of parental interventions to be 82.2% (Zhou et al., 2019). All four students made adequate gains in reading fluency for instruction and progress monitoring passages, consistent with results of previous research. Further research should incorporate a larger, more diverse group of participants and aim to extend findings of Zhou et al. (2019) study to families that receive less training support and reminders to implement the intervention.

Phonetic Instruction

Previous studies reveal both teachers and parents possess reading-related knowledge and specific attitudes toward reading instruction. There is much debate on the best instructional strategy for teaching young learners to read and supporting struggling readers. Some teachers prefer to use a whole language approach to reading, while others emphasize phonetic instruction. The following section examines the benefits of phonics based reading instructional methods for beginning, struggling, and English Language learners.

Benefits

The debate to explicitly teach phonics or not has continued since the 1960s at the national, state, and local levels (Appleton, Karlson, & Mendez, 2002). Without early reading instruction,

the reading gap between low performing readers and their peers grows with time. It has been suggested to begin reading instruction at the kindergarten grade level through explicit, systematic instruction in phonological awareness and word decoding (Noltemeyer, Joseph, & Kunesh, 2019). More explicit approaches to teaching phonics lead to more positive decoding outcomes (Jenkins & O'Connor, 2001) and more significant improvement in text comprehension (National Reading Panel, 2000). Phonics based instruction is usually taught explicitly, focusing on the relationship between sounds and letters with emphasis on word recognition (Byrd, 2008).

Mesmer and Griffith (2005) suggest phonics to be a system for encoding speech sounds into written symbols. In education, this refers to the practice of teaching students the relationship between letters and sounds and students using that system to recognize and read words. Phonics is used to recognize words, the first part of reading. Reading involves recognizing words and then understanding the individual and whole meaning of those words (Mesmer & Griffith, 2005). Reading fluency and comprehension can be negatively affected if students demonstrate difficulty in automatic word recognition (Macaruso, Hook, & McCabe, 2006). Fast and accurate word recognition increases fluency. The more fluent the reader, the more space for comprehending the meaning of texts (Manset-Williamson & Nelson, 2005). Therefore, Appleton et al. (2002) claims phonemic awareness to be a powerful predictor of success in reading.

In line with previous research valuing phonetic based instruction, Michuad, Dion, Barrette, Dupéré, and Toste (2017) tested the role semantic information plays in decoding words by teaching students the meanings of a small selection of words. Students from 24 first grade classrooms participated. Over the course of 10 weeks, students were instructed in two 20 minute individual sessions per week. The first session of the week presented 8 words through exclusive decoding instruction. The second session presented 8 different words through decoding and

meaning instruction. Each word was assessed at both a pretest and posttest. Results revealed word meaning did not increase student ability to decode words (Michuad et al., 2017).

Beginning Readers

Phonetic instruction has been shown to be especially beneficial for beginning readers. To examine the effects of a phonics instructional approach on word reading skills, Noltemeyer et al. (2019) randomly assigned 6 kindergarteners to one of two experimental groups. These students were identified by classroom teachers as having low emergent reading skills. Each participant was individually assessed to establish a list of words unknown by all six students. Noltemeyer et al. (2019), then delivered phonetic instruction to one group by displaying a card, pronouncing and blending sounds, and reading them as a word. Sessions took place once a week over the course of five weeks. Results of the study revealed students with phonics instruction recalled more words compared to pre-test and control word performance. While the small sample size limits the external validity of findings, it may encourage educators to implement short intervention sessions throughout their class day as phonics instruction can improve kindergartner's early reading skills (Noltemeyer et al., 2019).

O'Rourke, Olshtroon, and O'Halloran (2016) also found phonetic instruction to be beneficial to primary age students. The study examined the effects of the phonics program Toe-by-Toe on a group of 24 primary-age struggling readers in Ireland. The average age of participants was 8 years old. The intervention was administered 15-20 minutes per day for 5 months, starting with basic letter-sound patterns to decode and advancing to longer, more complex words. Students were assessed in six literacy-related assessments prior to the intervention as well as after. The assessments measured word reading, reading fluency, reading comprehension, non-word attack, spelling and spelling of sounds. O'Rourke et al. (2016) found the systematic synthetic phonics

program Toe-by-Toe resulted in large improvements in the reading and reading fluency skills of young, struggling readers. The largest gain was found in the ability of participants to decode words with an average gain of 17 months over the 5-month long intervention. Reading fluency gains were also significant, with an average of 14 months (O'Rourke et al., 2016).

A similar study performed by Thompson and Johnston (2007) found kindergarten students given phonics instruction read less familiar words more accurately than students not instructed in phonics. Participants in the study included 21 children in the phonics sample and 29 children in the non-phonics sample with a mean age of 5.8 years old. Children selected were in the normal range of word reading attainment. Both samples of students received 9 months of school instruction. Results showed students receiving phonics instruction to read less familiar words with greater accuracy than students without phonetic instruction. Phonetically instructed students read pseudowords with 54% accuracy compared to the non-phonetically instructed students who read these words with 13% accuracy. Thompson and Johnston (2007) suggests these students were not using letter identities at all and instead focused on random or other visual features.

Through an active research study of four first grade students, Wall, Rafferty, Camizzi, Max, and Van Blargan (2016) also studied the effects of phonetic instruction on young readers. The study sought to examine a color-coded, onset-rime decoding intervention in relation to reading mastery and transferability of word reading skills. Baseline data was collected individually using instructional word probes. Students were taught the intervention in one-to-one instructional sessions that focused on decoding all short vowels, onset-rime patterns, CVC, and CVCC words from the Rime to Read series for beginning readers. Color coated flashcards were also used for word sorting activities. Sessions lasted 20 minutes, three times a week for three weeks. Wall et al., (2016) revealed all participants performed better during the post intervention conditions

compared to their baseline performance levels. Results indicate that the color-coded, onset-rime, decoding intervention was effective in teaching young readers to read instructional words. Explicit phonetic instruction was a main component of the intervention. Limitations of this study include the unknown generalization of reading skills, the small number of participants, and potential bias of data collectors during data collection. Wall et al. (2016) suggests teachers use the intervention as supplemental instruction for students struggling with decoding skills.

Mesmer (2005) studied the effects of highly decodable text and phonics instruction on the word recognition strategies of first grade students. Twenty-three students participated in the study and were divided into 6 small groups, three receiving the treatment and three the control. The 14, 20-minute-long interventions took place outside the regular classroom using The Phonics Readers—highly decodable on LLTM, regularity, and number of syllables. All participants received the same phonetic instruction; however, the treatment group read highly decodable texts following instruction. Results revealed the treatment group was better able to apply letter/sound knowledge to their reading than the control group (Mesmer, 2005). While a short intervention phase and small number of participants limited the study, Mesmer (2005) suggests, “Decodability is not a long-term solution: like the training wheels on a bicycle, it is designed to facilitate future independence” (p. 3). Implications of the study may encourage educators to pair phonetic instruction with highly decodable texts when teaching young students to read in effort to maximize student application.

A study of twenty-two first grade students aimed to determine the difference in effect of whole language instruction versus phonics instruction on reading fluency and spelling accuracy (Maddox & Feng, 2013). Students were randomly assigned to either a phonics instructional group or a whole language instructional group and baseline data with pretests scores were

recorded using the Aimsweb Reading Curriculum Based Measure. Posts test were administered after four weeks of treatment. Results revealed greater growth in both reading fluency and spelling accuracy from the phonics group (Maddox & Feng, 2013). The data collected encourages teachers to use phonics-based instruction to best support the reading development of beginning readers.

Older Struggling Readers

Research reveals a large number of students in upper-elementary and middle school grades struggle greatly in their ability to read. These students are in need of immediate, intense intervention. Manset-Williamson and Nelson (2005) studied the impact of balanced reading instruction on 21 students with significant reading difficulties randomly assigned to two treatment conditions, one much more explicit in instruction. Results showed progress in student's decoding and fluency skills. Upper grade students with reading delays were responsive to instruction. Additionally, Manset-Williamson and Nelson (2005) highlighted the importance of individualized reading instruction, finding a balance between constructivist approaches and direct instruction that works best for each student.

Similar to the study of O'Rourke et al. (2016), Jeffes (2016) explored the effects of the phonics-based reading intervention program Toe by Toe on secondary age students demonstrating severe difficulties in reading. The intervention was intended to improve student phonic decoding skills and word recognition accuracy—areas vital to the process of successful reading and areas struggling readers show deficits. Thirty children from inner-London secondary schools were selected on the basis that their reading age was 18 or more months behind the expected reading age. Half of the students received the Toe by Toe intervention for 60 minutes a week for 10 weeks. The control group, comprised of the other half of students, continued

receiving their usual lessons without any additional support. Results showed significant improvements in student word recognition and phonic decoding accuracy (Jeffes, 2016). A limitation of the study may be the possibility of improved results by participants who were aware of the observation. Additionally, the short time frame did not allow for the program to be used in its entirety. Jeffes (2016) suggests phonetic based intervention programs like Toe by Toe can help improve critical reading skills in secondary aged students.

Henry's (2020) action research study added to the importance of providing phonics instruction to older, struggling readers who face difficulties well beyond the early primary grades. Fifth and sixth grade participants demonstrated significant delay in reading skills. During the 8-week long intervention, students were pulled out of class in groups of two or four for phonics instruction. Henry (2020) ensured the program was explicit, multisensory, and systematic. The program incorporated a set of vowel team picture cards to provide a visual. Students worked through a systematic process of writing vowel patterns, sorting word cards, and reading word cards. Student performance on a word reading assessment of vowel team patterns prior to the intervention and after the intervention was compared. Results showed 15 of the 19 students made improvements in their word reading following the phonics intervention suggesting phonics based intervention to be beneficial to older, struggling readers (Henry, 2020).

Denton, Fletcher, Taylor, Barth, and Vaughn (2014) suggest explicit, structured instruction in listening and reading comprehension may benefit students with learning difficulties. Students who struggle with reading after first grade likely need intensive intervention. Macaruso et al. (2006) supports these findings as the systematic, rigorous practice of word-attack strategies in their study allowed for the Title 1 children in the treatment group to outperform Title 1 students

in the control group. This opportunity allowed struggling readers to advance more than students not given intervention.

Computer-based Phonics

Macaruso et al. (2006) found the implementation of phonics based programs emphasizing word-attack strategies to be beneficial to young readers. Ten first-grade classes participated in the study examining the relationship between computer-based phonics programs and student reading skills. Results revealed significant gains in reading for both the treatment and control students; however, post-test scores of treatment students were higher than those in the control group (Macaruso et al., 2006). Another study revealed that students exposed to a balanced curriculum with synthetic phonics activities made large improvements in blending words, listening, and reading comprehension in the posttests when compared with children in a control group (Savage, Abrami, Hipps, & Deault, 2009).

Blythe (2006) also found computer-based treatment programs to be beneficial to struggling readers. In his study, 10 students referred by the support teacher were screened and randomly assigned to a control or treatment condition. Participants in the control group received their regular school-based instruction. Students in the treatment group continued their school-based instruction in addition to the 10-week long computer-based training program focusing on phonemic awareness and decoding skills (Blythe, 2006). The program consisted of 12 modules, each taking 15 minutes to complete. Students were asked to repeat each module at home until they reached a 90% mastery level of correct responses. At school, 30-minute, individual sessions took place for direct teaching and assessment of student progress. Results of Blythe's (2006) study revealed every measure of reading ability tested increased more for the treatment group than the control group. The score difference between pre and posttests included 3.4 months on

the Word Reading task, 18 months on the Reading Comprehension task, and 20.2 months on the Pseudoword Decoding task. Over a 10-week period, students spent approximately 11.5 hours on the computer, working on improving their phonics skills. Student enjoyment, immediate feedback, and the ability to repeat tasks appeared to be strengths of the computer program. Limitations of the study include the small sample size, poor participant motivation for the at-home component, and the high level of variability within the sample (Blythe, 2006). Chambers et al. (2008) suggests that incorporating computer technology in instruction can help accelerate children's learning.

English Language Learners

The controversy over the best reading instructional method remains true for English Language Learners. A study of 110 first grade students and 83 second grade students sought to evaluate phonics-based instruction and whole language learning for English Language Learners (Robinson, 2018). Standardized reading achievement scores were taken prior to the intervention. Students were split into three groups and observed for reading differences. Participants in group 1 had a direct, phonics-based reading program. Participants in group 2 had a whole language program with read alouds, discussions, and projects woven into class time. Group 3 had the same phonics-based program as group 1, with an additional 10 minutes of practice and direct skill instruction. Robinson's (2018) results showed English Language Learners responded best to the phonics-based reading program. With the number of diverse students rising, the study recommends further research of the best reading instructional programs on ELLs.

Kovelman, Salah-Ud-Din, Berens, and Petitto (2015) investigated the hypothesis that the best literacy approach for English Language Learners is dependent on the age of their first bilingual exposure. Participants included 56 second and third grade Spanish-English children

who were all exposed to Spanish at birth and to English at between ages 0-2 or 3-4. All students attended Spanish-English bilingual elementary schools. Some students received a phonics-based instruction and others whole-language reading instruction. Each student completed two 30-minute testing sessions in each of their languages, completing phonological, decoding, and reading tasks (Kovelman et al., 2015). Results showed students with later exposure to English to benefit from the phonics-based approach to reading instruction. Students with later exposure to English demonstrate non-native language organization in the brain. The repetition, organization, and regularity of phonics instruction is helpful to English Language Learners with later bilingual exposure as they are still learning the foundations of a new language (Kovelman et al., 2015).

Whole Language Instruction

While some studies reveal the value in explicit phonetic instruction to improve reading skills and comprehension, there is a growing amount of research indicating the importance of other reading components such as syntactic awareness, a key element of whole language instruction. The following section examines the value of whole language instruction, its effect on reading comprehension, and benefits for English Language learners.

Benefits

Brimo, Apel, and Fountain (2017) define syntactic awareness as a student's ability to change and think about the grammatical structures of language. Manset-Williamson and Nelson (2005) argue that comprehension, not decoding, is reading—at the word, sentence, and passage level. Appleton et al. (2002) adds, "Understanding is the goal, not word accuracy" (p. 31). Research shows a whole language approach supports students in developing comprehension skills and drawing meaning from the literature (Maddox & Feng, 2013).

In a study of 179 ninth and tenth grade students, both syntactic awareness and syntactic knowledge was measured as participants read passages and answered related multiple-choice questions (Brimo et al., 2017). Syntactic knowledge alone contributed 1-3% of the reading comprehension variance as both syntactic knowledge and awareness aided significantly in reading comprehension. Michaud et al. (2017) found students enjoyed decoding instruction more when word meanings were given. With traditional decoding instruction, students may learn to read words without understanding their meaning.

Bowers (2020) clarified many whole language programs teach phonics, but view it as only one of three cuing systems used to read—graphophonemics, semantic, and syntactic. Any phonics related instruction comes second to meaning-based strategies. In his article, Bowers (2020) critiqued 12 meta-analysis studies of systematic phonics supporting its effectiveness. Flawed results and designs, including reports from the NPR, have mislead many readers.

Reading Comprehension

Snyder and Golightly (2017) conducted a case study examining a whole-language reading intervention used in hope of improving the reading skills of a second grade student with specific learning disabilities. The whole-language reading program used was Edmark (EM). Using both visual and non-visual information to make meaning of written symbols (Synder & Golightly, 2017), the intervention used four types of lessons: pre-test/review, word recognition, picture/phrase cards, and story books. Five sessions were administered per week for 7 weeks during the normal school day. Comparison of pre-and post-intervention performance show the student improved her decoding, sight-word recognition, and reading comprehension skills as a result of the intervention. A 23% increase in sight-word recognition on the final EM word

recognition test was made in addition to a 6-point increase in reading comprehension (Synder & Golightly, 2017).

In a longitudinal study, Decan and Kieffer (2018) examined the ways in which syntactic awareness affects reading comprehension. Participants consisted of 100 students in grades 3 and 4. A variety of reading related tasks, including reading comprehension, syntactic awareness, morphological awareness, word identification, and vocabulary were administered individually to students. Results of Decan and Kieffer's (2018) study revealed a direct, important relation of syntactic awareness to reading comprehension. Additionally, it was concluded that syntactic awareness predicts an increase in reading comprehension between grades 3 and 4. Findings point to the significance of the role syntactic instruction plays in reading development.

English Language Learners

Semantic and syntax focused instruction is beneficial to English Language Learners as well. In a quasi-experimental design, Proctor, Silverman, Harring, Jones, and Hartranft (2020) used CLAVES, an intervention focused on language with explicit instruction in syntax, morphology, and vocabulary. A sample of 239 bilingual students in grades 4 and 5 participated in the study. Half of the students were assigned to the intervention group, and the other half were assigned to a control group. The intervention was administered in 30 minute lessons to students in small groups of 4-6 students. Results showed a difference of 24.8% of a standard deviation for academic language compared to the control group, and a difference of 16.6% of a standard deviation for reading comprehension. Limitations of the study include a small sample size and failure to complete the intervention due to scheduling conflicts. An implication of Proctor et al. (2020) study is to focus more broadly on language in literacy instruction.

Kovelman et al. (2015) investigated the hypothesis the best literacy approach for English Language Learners is dependent on the age of their first bilingual exposure. Participants included 56 second and third grade Spanish-English children who were all exposed to Spanish at birth and to English at between ages 0-2 or 3-4. All students attended Spanish-English bilingual elementary schools. Some students received a phonics-based instruction and others whole-language reading instruction. Each student completed two 30-minute testing sessions in each of their languages, completing phonological, decoding, and reading tasks (Kovelman et al., 2015). Results showed students with early exposure to English to benefit from the whole-language approach to reading instruction. Additionally, children with whole-language instruction showed better performance on all literacy tasks in Spanish. Kovelman et al. (2015) study shows English Language Learners have differing learning needs that need to be taken into account based on their age of bilingual exposure; however, a whole language approach works well for those exposed under the age of 2.

Similarly, Appleton et al. (2002) research suggests poor readers are produced when teachers chose to use limited strategies and single out specific reading abilities, such as explicit phonetic instruction. Pan Ling (2012) lists additional benefits to using the whole language approach in his journal article exploring the application of the approach in teaching English reading in China. Ling (2012) argues the whole language approach makes it easier for students to understand the whole text as it blends listening, reading, speaking, and writing together.

Research has also found focus on word meaning to be beneficial for students with dyslexia. Johnston (2019) reveals, “students with dyslexia benefit from morphological instruction and that they process the information differently than students without dyslexia; they rely on meaning because of their deficits in phonological processing” (p. 343). Students with

dyslexia respond best to multisensory activities in all areas of reading and writing including phonology, orthography, syntax, semantics, and morphology (Johnston, 2019).

A Balanced Approach

Some research supports phonics-based instruction and other whole language instruction, yet further research supports a more balanced approach to reading instruction. This method involves teaching both phonics skills and whole-language skills. According to Snyder and Golightly (2017), both phonics- and whole-language approaches aim for accurate word identification as their end goal. “Word identification includes decoding skills; it also involves the ability to identify words using strategies such as sight words, context clues, and structural analysis” (Snyder & Golightly, 2017, p. 54). Maddox and Feng (2013) suggest the whole language approach be combined with explicit phonics into one language arts curriculum. They encourage educators to use original and meaningful texts to create a whole language environment while incorporating explicit phonics lessons into daily instruction.

To test the effectiveness of a balanced approach to reading instruction Synder and Golightly (2017) examined the partnership of a phonics-based reading intervention with a whole-language reading intervention to improve the reading skills of a second grade student. Multiple reading assessments revealed the student performed below grade level and was diagnosed with a specific learning disability in reading. After receiving one-on-one intervention for 30 minutes, daily, for seven weeks, results showed improvements in decoding, word identification, and comprehension (Synder & Golightly, 2017). While future studies should be conducted with larger sample sizes with focus on longitudinal effects of balanced reading instruction, this study supports the research that improvement in reading skills can be made through a balanced intervention approach.

Pernai et al. (2000) agree that a curriculum combining both phonics and whole language is most effective and reaches the most students. A study of 121 first grade students was conducted to determine significance of incorporating a phonics program to an existing literature-based curriculum. Students were assessed in letter identification, word identification, concepts of print, and words in context prior to and after the intervention. Results showed student growth in all four areas tested with the greatest amount of growth occurring in pre-primer word identification. In comparison to students in previous years, the same amount of growth usually made by the end of the year had been made by January. Pernai et al. (2000) recommend teachers use a variety of reading instructional strategies that incorporate both a literature and phonics program to best meet the needs of all learners.

Reading Their Way, a balanced approach to reading instruction, incorporates both phonics and whole language into instruction. Phonemic awareness, phonics, contextual reading, and writing were four components addressed. Donat (2006) suggests this balanced approach allows teachers to build on individual student strengths while addressing the needs of students who learn best through phonetic instruction and those who learn best through whole language strategies. In the Augusta County school district, about 40% of students qualified for additional reading support services. As the balanced program, *Reading Their Way*, was implemented, only 19% of students required additional services. Data also revealed that students participating in the program at a young age had higher instructional reading levels by third grade compared to other schools (Donat, 2006).

After noticing a dip in reading fluency that affected comprehension, Brander, Magneli, Oetjens, and Seagren (2001) studied the effect of a balanced approach of whole language and phonics to teach reading. Over a five-month period, first, second, and third grade students were

given a curriculum involving a wide variety of activities, literatures, and teaching methods including Reader's Theatre, paired reading, multiple intelligence strategies, and cooperative groupings. Parents were encouraged to participate in modeling oral reading skills.

Results confirmed the hypothesis that to successfully teach reading, a number of components, including comprehension, phonics, vocabulary, and oral reading, must be incorporated into instruction (Brander et al., 2001). Comparison of pre and post-intervention assessments showed the balanced centered intervention had a significant, positive effect on reading fluency of the targeted students. Students showed growth in reading comprehension and decoding skills. Additionally, students increased in their ability to draw conclusions, use context clues, and make predictions. Student survey results revealed the comfort level of oral reading in class rose 58% in all three sites receiving intervention (Brander et al., 2001).

Factors to be Considered

Numerous factors have been found to influence student achievement in reading. Some of these factors, including instructional strategies, teacher effectiveness, and resources can be under greater control of school districts and individual teachers. Other factors, such as the gender, socioeconomic status, ethnicity, and language of students are out of the control of educators. Regardless of the degree of control, awareness of these factors influence on student achievement in reading is crucial.

Brain Research

There is a lack of empirical research on instructional reading strategies related to how the brain works. Eberhard-Moscicka, Jost, Raith, and Maurer (2015) examined neurocognitive processes of learning to read—specifically neural tuning for print. Eberhard-Moscicka et al. (2015) reveal the reading process encompasses a number of brain regions including the occipito-

temporal, temporo-parietal, precentral and inferior frontal. In a study of 68 first grade children, it was found that individual differences in print tuning related not to phonological processing, but to semantic knowledge and reading fluency. Of the reading components measured, only vocabulary—a measure of semantic knowledge—revealed variance in print tuning. Eberhard-Moscicka et al. (2015) suggest "top-down influence at the initial stages of learning to read might be of a semantic rather than phonological nature" (p. 115). Further studies are needed to pinpoint factors contributing to print tuning.

Other brain research reveals reading acquisition produces structural and function changes in the brain, depending on how phonological information is stored (Cachia et al., 2018). Cachia et al. (2018) found an indicator in the left OTS predicted reading skills in adults. Sixty-two participants were divided into three groups by their literacy proficiency. After a wide measure of reading assessments, structural MRI's were taken and examined. Cachia et al. (2018) found adults with an interrupted left OTS had greater reading fluency than those with an uninterrupted left OTS. Limitations of this study include the examination of a single variable and the need for a longitudinal study to prove a direct causal link. Researchers suggest neurodevelopmental factors to be a secondary predictor of cognitive development such as reading, behind educational and socioeconomic factors which are of greater tangible change within school systems and communities (Cachia et al., 2018).

Milin, Divjak, and Baayen (2017) reveal previous research indicating semantics plays a large role in the reading process. Neuroimagining and neurpsychological studies show children are better able to spell words they know. "Brain areas involved in semantic processing are routinely active during word reading, even when semantic judgments are not required" (Milin et al., 2017, p. 1731).

Kovelman et al. (2015) investigated the hypothesis that the best literacy approach for English Language Learners is dependent on the age of their first bilingual exposure. Brain research showed students with early exposure to phonological information was linked with the left inferior frontal and superior temporal gyri in the left hemisphere. Contrastingly, children with later bilingual exposure show non-native language organization in the brain (Kovelman et al., 2015). It is not until children processes language in the brain automatically that they are able to use and comprehend more complex sentence structures which require space for memory.

Gender

Brain differences also contribute to the gender gap in reading. According to the National Assessment of Educational Progress 2019 Reading Assessment (NAEP Report Cards, 2019), average fourth-grade reading scores across student groups were lower for male students. Camarata and Woodcock (2006) compared the cognitive abilities of males and females in over 10,000 participants to find that females had higher processing speed than males. Students were assessed in a variety of abilities including verbal skills, short-term memory, auditory processing, long-term retrieval, visual spatial thinking, and general intelligence. The only study results showing a significant difference between genders was processing speed, although the gap narrowed with older participant age (Camarata & Woodcock, 2006).

Geske and Ozola (2008) conducted a study to determine the various factors behind low levels of reading literacy in elementary aged students. Participants consisted of 3,019 fourth grade students who completed numerous literacy tests and surveys. Students with the highest and lowest 10% of results were put into groups labeled A and Z respectively. Factors making the biggest difference between the two student groups were explored. Results showed girls to have better results in reading literacy as there were almost twice as many girls than boys in group A,

65% girls and 35% boys. Students with the lowest literacy results made up group Z, with the majority being boys, 37% girls and 63% boys (Geske & Ozola, 2008).

Decades of research reveal girls outperform boys in reading, regardless of age. Price-Mohr and Price (2017) suggest the way in which students approach learning to read could play a role in the gender gap. Ismail, Karim, and Mohamed (2018) add there is a distinction in the strategies used by males and females in their approach to reading. Even when taught the same strategies, females tend to be better at applying them qualitatively. To test this hypothesis, Price-Mohr and Price (2017) conducted a study of 372 children who participated in a three-armed controlled trial. The first group received intervention using mixed teaching methods with non-phonetically decodable vocabulary. The second group received intervention using mixed teaching methods and phonically decodable vocabulary. The third group received intervention using exclusively synthetic phonics and decodable vocabulary. Teacher training and learning materials were provided. Students participated in a wide variety of pre and post assessments (Price-Mohr & Price, 2017).

Results showed a mixed approach to teaching methods narrowed the gender gap. “There was a positive impact from the use of non-decodable vocabulary and mixed teaching methods in addition to synthetic phonics on both word decoding and reading comprehension” (Price-Mohr & Price, 2017, p. 618). Gender preferences were also observed during assessment—girls preferred to sound out words while boys preferred to use a whole-word strategy. Price-Mohr and Price (2017) suggest phonics not be used as a single teaching method of early reading development, but instead be incorporated in a more balanced approach as each gender responds differently to various approaches.

Contrasting other research, Ismail et al. (2018) study found gender does not predict learners' reading age. Independent samples t tests of the READS results from 2,608 diverse university undergraduate participants found males: M = 4.78, SD = .655; females: M = 4.76, SD = .680. Data gathered proved the insignificance of the hypothesis suggesting gender predicts learners' reading comprehension and age (Ismail et al., 2018).

Reading Circumstance

Geske and Ozola (2008) suggest the circumstance of student reading both inside and outside of school can play a role in reading development. Their study explored various factors behind low levels of reading literacy in elementary aged students. Participants consisted of 3,019 fourth grade students who completed numerous literacy tests and surveys. Students with the highest and lowest 10% of results were put into groups labeled A and Z respectively. Results showed 15% of students from group A do not read at home or read sometimes, while 62% of students in group Z do not read at home. Collaboration between parents and students in group A was found to be much higher with adults telling stories to children, writing words or letters, and playing with literacy related toys (Geske & Ozola, 2008). Parental involvement is associated with increased learning and academic achievement (Wilder, 2014). Reading habits at home differed between the two groups as 94% of students from group A read for personal enjoyment once or more a week. Only 62% of students in group Z performed this same habit (Geske & Ozola, 2008).

Geske and Ozola (2008) also studied student reading at school. Reading support and environment are important factors to consider in beginner's reading development. While it was observed that students from both groups read silently to themselves during reading time each day, the rate was higher in group A, 86%, in comparison to group Z, 70%. Results showed

teachers of students in group Z to use more texts from magazines or newspapers. Teachers of students in group A read more advanced literature, required students to explain the text and their opinion of it, related material to personal experiences, and encouraged students to make predictions (Geske & Ozola, 2008).

Teacher effectiveness, in regards to instruction, classroom management, assessment and feedback is another circumstantial factor relating to reading development. Effective teachers offer access to a wide variety of texts, use differing methods to present information, and create a safe environment for students (Allington, 2002). Competence in content, differentiating instruction, and creating high expectations of students are also qualities found in effective teachers (Creemers & Kyriakides, 2013). Professional development courses, professional learning communities, and literacy coaching can increase teacher effectiveness, in turn affecting student achievement in reading (Perkins & Cooter, 2013; Miller & Stewart, 2013).

Socioeconomic Status

Socioeconomic status, dependent on parental education, occupation, and income, arguably affects students reading ability. “Family income indicates the resources available to a family, and parental education level and occupation indicate intellectual resources and social status” (Ismail et al., 2018). Research suggests that students from higher socioeconomic backgrounds have a larger vocabulary, with language mirroring the language used in school. Additionally, poverty has been found to negatively affect students academically (Ismail et al., 2018).

Brander et al., (2001) agree that students from low socio-economic environments may have a more difficult time processing information, may start school with lower skills, and may not receive the same support as students from higher socio-economic environments. According

to the National Assessment of Educational Progress 2019 Reading Assessment (NAEP Report Cards, 2019), students eligible for free and reduced lunch had lower reading scores than those not eligible. Additionally, homes that encouraged nightly reading saw an increase in their child's reading ability (Brander et al., 2001).

Geske and Ozola (2008) explored the socioeconomic factors behind low levels of reading literacy in elementary aged students. Participants consisted of 3,019 fourth grade students who completed numerous literacy tests and surveys. Students with the highest and lowest 10% of results were put into groups labeled A and Z respectively. Results showed 3% of fathers and 8% of mothers of children from group Z had higher education while 37% of fathers and 49% of mothers from group A had higher education (Geske & Ozola, 2008). Further comparison of the two groups revealed students from group A had more access to books. All students from group A reported ownership of personal books. Only 78% of students from group B gave the same response. It was also found that both mothers and fathers of students in group A worked full time more than parents of students in group Z, 74% to 47% respectively. Parents of students in group A reported being in a better financial position and reported smaller family size on average (Geske & Ozola, 2008). In overview, students' parents from group A provided more access to books outside of school, worked more, and had a higher level of education than students' parents from group Z.

Contradicting previous research suggesting SES to be a strong predictor of student's language and cognitive development, Ismail et al. (2018) study of 2,608 ethnically and socioeconomically diverse university undergraduates found socioeconomic status to be an unimportant predictor of reading comprehension. Participants were categorized into one of five

groups based off their family's monthly income. Results of the READS test performed showed no significant differences between scores and income groups (Ismail et al., 2018).

Ethnicity

Research shows children from European-American families develop stronger literacy skills than children from Latino or African American families (Ismail et al., 2018). Ismail et al. (2018) study of 2,608 ethnically diverse university undergraduates found ethnicity to be influential in predicting reading comprehension. Participants represented five major ethnic groups in addition to other minority groups. Results of the READS test showed by $p < .05$ ($p = .048$ related to ethnicity), indicating ethnicity to be a large predictor of reading age in addition to playing a significant role in the developmental skill of reading (Ismail et al., 2018).

According to the National Assessment of Educational Progress 2019 Reading Assessment (NAEP Report Cards, 2019), reading scores for fourth grade students identifying as Black or Hispanic were lower than those identifying as White or Asian. Brander et al., (2001) suggest teachers are often unable to understand cultural differences of students and how they can affect academic performance. Language, dialect, and culture are brought into the classroom by each student and ultimately affect reading.

Language

English Language Learners are the fastest growing student group in the nation (Robinson, 2018). The general student population is increasing at a rate of 7%, and ELL student population is increasing at 60% while their reading performance scores have remained at lower levels than non-ELLs. Brander et al. (2001) suggests English Language Learners do not receive the same support at home as native English speakers. Parents are often unable to assist students in reading and are limited in the resources to help.

Robinson (2018) suggests problems can be most severe for ELL students when a change is made in the reading curriculum from the direct instruction of phonics to a more indirect teaching of whole language. ELLs have an expectation, usually due to their culture, of the teacher to explicitly and directly take control of their learning. Asking for help when needed is often uncomfortable for them (Robinson, 2018). According to the National Assessment of Educational Progress 2019 Reading Assessment (NAEP Report Cards, 2019), average fourth grade reading scores were significantly lower for English learners than students who were not English learners. In 2019, the average reading score for fourth grade students identified as English learners was 191, not yet meeting the NAEP Basic level, but showing a steady increase since 2002. In comparison, the average 2019 reading score for fourth grade students not identified as English learners was 224, falling between the NAEP Basic and Proficient levels but showing very little increase since 2002 (NAEP Report Cards, 2019).

It is important to note that reading test scores can underestimate English Language Learners reading comprehension and knowledge due to the wording of language and format of the test (García & Pearson, 1994). In a study of 104 fifth and sixth grade students reading test results, differences in Spanish-speaking Hispanic students and non-Hispanic white students were found. With no analysis of the reading test scores relating to vocabulary, prior knowledge, test-wiseness, and time constraints, results would assume the bilingual Hispanic children scored significantly lower than their peers. A closer look revealed Hispanic children did not perform worse than their peers on passages in which their prior knowledge was strong, relating to their culture. In addition, their performance on textually implicit and explicit questions was not significantly different than their peers (García and Pearson, 1994). While this study does not help identify the relationship between ELL reading test performance and literacy performance, it

brings awareness to the language and content of reading tests and encourages additional research in this area.

Disabilities

Whether or not a student has been identified with a disability can play a factor in reading development. Dyslexia is a learning disability which affects various language skills, particularly reading (The basics of teaching reading and writing, 2020). Students with dyslexia usually have a difficult time identifying different sounds within a word and learning how letters represent those sounds. According to the International Dyslexia Association, 15-20% of all people have dyslexia to some degree; however, Woods and Graham (2020) suggest this disability can be helped by a teacher "trained in using a multisensory, structured language approach" (p. 2). These structured literacy programs, most effective for students with dyslexia, help students decode words in a systematic, explicit manner (Woods & Graham, 2020).

In addition to dyslexia, executive functioning has recently been found to be a major factor contributing to reading difficulties (The basics of teaching reading and writing, 2020). While typical students are able to manage their impulse and emotional control, maintain their working memory, plan and organize tasks, and self-regulate, students with executive function issues cannot. Problems resulting from short attention spans, guessing, and decreased working memory has been found to affect reading development as students are unable to learn and participate in the reading process as effectively as other students (The basics of teaching reading and writing, 2020).

Kieffer, Vukovic, and Berry (2013) studied the effect of attention shifting and inhibitory control—two dimensions of executive function—on reading comprehension. Participants included 120 fourth grade students. Students were given the Gates-MacGinitie Reading

Comprehension test to assess reading comprehension, the Wisconsin Card Sorting Test to assess attention shifting, and a quantity inhibition task to assess inhibitory control (Kieffer et al., 2013). Multivariate path analysis was used to control the multiple variables tested. Results showed both attention shifting and inhibitory control had significant effects on reading comprehension (Kieffer et al., 2013). Further research is needed for educators to better understand the effects poor executive functioning has on student reading development.

CHAPTER III: DISCUSSION AND CONCLUSION

Summary of Literature

Research shows teachers use strategies from both whole language and phonics instruction to get the best results for their students (Byrd, 2008). However, the debate continues over which method should take prominence in the classroom. Teacher attitudes toward learning and instructional practices can have an effect on student learning (Farrell & Guz, 2019). Teachers hold a significantly more positive attitude toward explicit phonetic reading approaches (Bursuck et al., 2002). Research also suggests effective teaching requires specialized knowledge and training, which many teachers lack (Ehri & Flugman, 2018). Studies show student achievement, and higher levels of teacher knowledge correspond, and that teacher in-service can be beneficial to student learning, producing higher levels of student reading ability (Brady et al., 2009; Fitmaurice, 1976; Ehri & Flugman, 2018). More work should be put into strengthening parental knowledge as well, as there are many benefits to parent-implemented reading interventions (Segal & Martin-Chang, 2019; Zhou, 2019).

Phonemic awareness is a powerful predictor of success in reading as it helps in automatic word recognition and fluency, increasing space for reading comprehension (Appleton et al., 2002). Phonics instruction is especially beneficial for beginning readers (Noltemeyer et al., 2019). Students receiving phonics instruction read less familiar words with greater accuracy than those without and were better able to apply letter/sound knowledge to their reading (Thompson & Johnson, 2007; Mesmer, 2005). Students showed growth in reading fluency and spelling accuracy from receiving phonics instruction (Maddox & Feng, 2013). Additionally, English Language learners responded best to phonics-based reading programs (Robinson, 2018).

Whole language supports students in developing comprehension skills and drawing meaning from the literature (Maddox & Feng, 2013). Students found more enjoyment in decoding instruction when word meanings were given, which was especially beneficial for students with dyslexia (Michuad et al., 2017; Johnston, 2019). Whole language instruction was also found to increase reading comprehension, as it combines a variety of skills instead of limited strategies that single out specific reading abilities (Decan & Kieffer, 2018; Appleton et al., 2002).

Research supports the idea that a balanced intervention approach can help students make improvements in reading skills (Synder & Golightly, 2017). Teachers using a variety of reading instructional strategies that incorporate both a literature and phonics program are able to best meet the needs of all learners (Pernai et al., 2000). Balanced reading interventions had a significant, positive effect on reading fluency, reading comprehension, and decoding skills (Brander et al., 2001).

Several factors affecting reading development are suggested in the literature including brain research, gender, reading circumstance, socioeconomic status, ethnicity, language, and ability. Research showed girls had higher processing speed than males and preferred a phonics-based approach to learning (Camarata & Woodcock, 2006; Price-Mohr & Price, 2017). Reading support and environment were also important factors in beginning reading development (Geske & Ozola, 2008). Students from higher socioeconomic status had higher reading scores than their peers and students identifying as Black or Hispanic scored lower than those identifying as White or Asian (NAEP Report Cards, 2019). Research showed the incorporation of computer technology in reading instruction can help accelerate children's learning (Chambers et al., 2008).

Professional Application

Across the globe, reading is arguably one of the most important predictors of academic success. The most recent report from the National Assessment of Educational Progress revealed 34% of fourth grade students in the United States read below the basic reading level (NAEP, 2019). A closer look at reading instructional strategies by school districts across the country should be strongly encouraged.

The current research on reading instructional methods helps teachers identify the most effective strategies in teaching young learners how to read and aid those who struggle. Research points to the need for better teacher subject knowledge through professional development to improve students' reading achievement (Ehri & Flugman, 2018). Through professional development, teachers can learn about the benefits of different reading instructional strategies to choose one that best fits their students' current needs. All educators, especially primary grade teachers, need to be given the skills, knowledge, and resources they need to most effectively teach young children to read. The information in this literature review is also practical for parents to better support young readers at home and advocate for the best reading instructional strategies to be used in school.

It is important for teachers to be aware of their attitudes and beliefs toward instructional strategies and remain open to trying new methods in their students' best interest. The research shows that both phonics based reading instruction and whole language instruction are beneficial for beginning and struggling readers; however, no two students are exactly alike. Every student in every class has different needs and learns differently. Teachers using a variety of reading instructional strategies that incorporate both a literature and phonics program are able to best meet the needs of all learners (Pernai et al., 2000). Class demographics, student needs, and

learning preferences should be taken into account when choosing how to best incorporate elements of different reading instructional strategies.

Limitations of the Research

Several studies in the research highlighted the importance of reading curriculum and interventions; however, very few studies directly compared phonics instruction to whole language. Additionally, very few studies explored the effects of a balanced reading curriculum. With the reading debate continuing for over 100 years, I assumed there would be more research exploring the relationship between whole language, phonics, and balanced literacy.

Limited research was found relating specific reading instructional strategies to various sub groups. What effect does class size have on the chosen instructional strategy or intervention? Are small group or individual pull out sessions more effective? How does the environment, home, school, online, or other, change the instructional strategy chosen? The literature contains very little data relating reading instructional strategies to these sub groups.

Small sample sizes and time constraints are another limitation of the research included in this review. Numerous studies gathered data from only a handful of participants, while others performed research using single participant case studies. In many studies, data was gathered in a short amount of time, with some studies unable to continue collecting data over the intended amount of time. To add to the validity of the results and findings, a larger pool of participants should have been studied over a longer period of time.

Due to the limited research found specific to reading instructional strategies in the United States, the literature included international studies. While they may be similar, these studies do not accurately reflect the United States school system. Even results of studies performed within the states are not transferable to other parts of the country due to differences in curriculum,

student and teacher demographics, available resources, and situational factors. Unfortunately, the literature relating to reading instruction in specific countries or regions needs to be kept in its original context.

Implications for Future Research

While there is ample research on the various factors affecting reading development, minimal research shows how these factors relate to the different reading instructional strategies. Do students of different ethnicity respond better to phonics based reading instruction or whole language? Should reading instruction be altered depending on the number of boys or girls in the classroom? How do phonics and whole language instruction affect readers in their home environment? Which reading instructional strategy best supports students of low socioeconomic status? Research relating these various factors to the different instructional strategies would help teachers, reading interventionists, school administrators, and parents choose the best reading instructional strategy to help young learners in the reading process.

The current research leaves teachers without guidance in choosing specific reading curriculums. Further research should be done to determine the best phonics, whole language, and balanced curriculums for practical use in the classroom. Studies relating instructional methods to various student needs would help teachers alter their methods year to year depending on the strengths and weaknesses of the class. Longitudinal studies should be performed comparing the results of reading assessments taught with different reading strategies. What is the feasibility of differentiation in reading instruction? Information of this type would be of great value to teachers as they make decisions in their classroom that best meet their students' needs.

More extensive brain research should be performed to better understand how the reading brain works. How does the brain process phonetic and whole language instruction? Does it vary

from student to student? Can examination of the brain reveal student learning disabilities? What further information can be found about the brain and English Language learners? Studies of the brain in relation to the reading process would be helpful for both educators and parents of struggling readers.

Conclusion

For decades, teachers worldwide have struggled to find instructional strategies that best meet all their students' needs. Some teachers have found a phonics-based approach to be most beneficial while others support whole language instruction; however, not all students learn in similar ways. Not all students learn at the same rate. Not all students have shared resources and experiences. No one method will fit all students. Once teachers can determine the needs of the students in their class, they should implement a balanced approach to reading instruction, combining whole language and phonics to varying degrees depending on current student needs. "Effective teachers of reading understand that different students require different methods at different times" (Brander et al., 2001, p. 36).

Research supports phonetic instruction to be beneficial in the decoding, word recognition, and fluency. Whole language instruction has been found to increase reading comprehension skills in students. Both phonics and whole language instruction have a place in teaching students how to read. Each strategy's extent and focus should be determined by trained and knowledgeable teachers, who ultimately know their students best.

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