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Influence of Phonics Instruction on Reading Fluency and Accuracy

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Influence of Phonics Instruction on Reading Fluency and Accuracy

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Northwestern College

An Action Research Project Presented
in Partial Fulfillment of the Requirements
For the Degree of Master of Education

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Abstract

This action research study investigated the impact that an explicit phonics curriculum had on second grade readers. Blast Phonics was implemented in first grade during the 2018-2019 school year. Thus, data from 2018-2019 second graders provided baseline data from students who did not receive Blast Phonics. Data from 2019-2020 second graders provided data from students who did receive Blast Phonics. The FAST CBM Reading assessment provides data on fluency (WPM) and accuracy (%). The Press Decoding Inventory provided data on accuracy of targeted phonics skills. Comparing data from the two groups pointed to the impact that the phonics instruction had on readers' fluency and accuracy. Although the data did not indicate statistical significance, it did provide data that indicated that the phonics curriculum may be positively impacting readers as they read words with isolated phonics skills.

Influence of Phonics Instruction on Reading Fluency and Accuracy

Literacy is a complicated, yet essential skill that will support children for their entire lives. Maddox & Feng (2013) describe literacy as a fundamental cornerstone. Not only do they believe that limited literacy significantly affects academic success, they also believe it will reduce social and emotional success throughout life. Literacy is an essential skill to life in modern society (Faust & Kandelshine-Waldman, 2011). If literacy does in fact carry such great influence in students' lives, educators have an essential role in providing holistic, thorough, and applicable instruction to develop fluent readers.

Carson, Gillon, & Boustead (2013) present a statistic that up to one in three early readers struggle with proficiency in basic reading and writing skills. Based on the theory of limited internal attention, students have less mental capacity to find meaning in text when they focus so intently on decoding the text (Tracey, 2017). This negatively impacts their comprehension and high-order thinking skills. Due to their slower pace and lower reading capabilities, dysfluent readers usually have fewer opportunities to interact with complex text (Wilson, 2012). This further exacerbates the problem.

The English language is one of great complexity. Campbell, Torr, & Cologon (2012) explain that the English language has a more complex syllabic structure than languages such as German, Finnish, Italian, and Spanish. It also has a less consistent phoneme-grapheme relation, making spelling systems inconsistent. They reference the fact that there are over 500 spelling and sound relationships that our early readers must be familiar with to reach proficiency. English also has 14 vowel phonemes, more than most languages (Ehri & Flugman, 2018). The complexity of the language structure validates the necessity of preparing early readers on how to interact with text that does not always follow the same rules.

Reutzel, Child, Jones, & Clark (2014) explain that the National Reading Panel narrowed the wide-range of literacy skills to five essential, evidence-based skills. Readers must be proficient in phonemic awareness, phonics, fluency, vocabulary, and comprehension in order to be successful. These components must be considered when creating a reading instruction model. According to Pruisner (2009), the reading process, effective reading instruction, and reading assessment all depend on a model. These models guide readers as they develop literacy skills and guide teachers as they identify patterns and develop instruction. There are a variety of approaches to reading instruction, developed with different targeted purposes, but all intending to support learners in reading acquisition (Faust & Kandelshine-Waldman, 2011). However, this variety of reading approaches has caused controversy and debate.

While the need for phonics instruction is evident, there are a variety of approaches to reading instruction. Phonics is described as a component of reading that emphasizes the acquisition of letter-sound correspondences and how they are used in text, (Maddox & Feng, 2013). Literacy experts are in agreement that the foundational knowledge of phonics and phonemic awareness are of utmost importance to reader development; however, disadvantages and advantages exist to each approach. The Reading Wars refers to a controversy that began in the 1960s that revolves around which approach to reading instruction is most effective (Tracey, 2017). This conflict polarized teachers and their instruction (Pruisner, 2009). Ehri & Flugman (2018) concisely explain that the difference comes down to whether the instruction is explicit, implicit, or incidental. The synthetic, analytic, and mixed-method approaches will all be explored throughout this review of literature.

This study will compare data from two student subsets. Both student groups will be in the first month of second grade and assessed using the PRESS Decoding Inventory and the FAST

CBM (Curriculum-Based Measure) tests. The FAST CBMreading assessment will measure reading fluency by number of correct words per minute. The FAST CBMreading assessment will measure reading accuracy by percentage of correct words per minute. The PRESS Decoding Inventory will also measure accuracy as students read word lists that target specific units of sound. This follows Van Norman, Nelson, & Parker's (2018) recommendation to match the assessment tool with the intervention.

The difference between the two student subgroups is that the students that represent data from Fall 2018 did not receive direct phonics instruction through Blast Phonics. However, the students that represent data from Fall 2019 did receive direct phonics instruction through Blast Phonics. The intention of this study is to determine the impact that Blast Phonics has on the accuracy and fluency of incoming second graders. How does an explicit phonics curriculum influence the reading fluency and accuracy of early readers?

Review of Literature

Introduction to Reading

Reading is a complicated process in which the consumer must transform written matter by decoding words and then constructing meaning (Sonnenschein, Stapleton, & Benson, 2010). However, literacy also requires the understanding of transferring spoken language to written language. Exposure to print and awareness of language as a form of thought support early readers in this (Carlisle, 2010). Sonnenschein et al. (2010) explain that decoding and comprehension skills are closely related. The cognitive processes that are accessed are rich and deep.

Literacy engages the brain in a deep and complex process. Tracey (2017) explains that the Parallel Distributed Processing Model is made up of the Orthographic Processor, Phonological Processor, Meaning Processor, and Context Processor. The reading process begins with the Orthographic Processor, which observes print and accesses print knowledge. The Phonological Processor processes sounds and accesses sound knowledge. These two processors are considered the low-level processors, which work together to identify words. Once words are identified, the Meaning Processor attaches word meaning and accesses vocabulary knowledge. The reading process ends with the Context Processor, which constructs meaning, monitors understanding, and rectifies misunderstandings.

Foundations Build a Reader

Foundations of reading must be established so that young readers and authors have the ability to manipulate graphemes, morphemes, multi-syllabic words, sentences, and paragraphs (Ehri & Flugman, 2018). They need the ability to construct and deconstruct writing. According

to Campbell et al. (2012), the English language is a complicated one, filled with inconsistent spelling rules, multiple-meaning words, and irregular verb conjugations. Learners need tools and strategies to navigate the complexities of the language.

McGeown and Medford (2014) found that the strongest predictors of early reading were letter sound knowledge and short-term memory. They found that letter sound knowledge and phonemic awareness are critical skills in initial reading acquisition as well. According to research by Shanahan & Lonigan (2010), six variables proved to be predictors of later literacy: alphabet knowledge, phonological awareness, rapid automatized naming of letters/digits, rapid automatized naming of objects/colors, writing, and phonological memory. According to Cunningham (2017), the use of phonics is to be able to decode unfamiliar words. Once the reader determines the unknown word, they move on to making meaning of the text.

With that to consider, Campbell (2018) reminds educators that decoding skills, including phonological awareness, phonemic awareness, and phonics are only a portion of becoming a reader. Suggate (2016) even suggests that these skills have limitations in their mastery and aids towards reading. Oral language, vocabulary, grammar, fluency, and comprehension contribute to reading development and should be integrated into instruction as well (Beverly, Giles, & Buck, 2009). According to Sonnenschein et al. (2010), early readers begin with letter sound knowledge and decoding strategies. As readers develop in fluency, their understanding and comprehension follow.

Methods of Phonics Instruction

According to Pruisner (2009), philosophies behind phonics instruction vary. While Tyler, Hughes, Beverley, & Hastings (2015) explain that some believe that phonics skills should be

isolated and taught explicitly, Sonnenschein et al. (2010) explain that others believe that phonics should be taught implicitly through text. Noltemeyer, Joseph, & Kunesh (2013) explain that others believe in finding an approach that falls between the two.

McGeown & Medford (2014) suggest that teachers should consider reading instruction methods while processing early reading acquisition and development skills. They state that educators may be able to make testable predictions about the skills that readers will access while decoding, based on the method of reading instruction that has been provided to the child. This approach requires that teachers do not assume anything about students' prior knowledge or acquisition and that they directly instruct and explain everything (Reutzel et al., 2014).

The synthetic method of phonics instruction may also be considered explicit phonics instruction, componential phonics instruction, systematic phonics instruction, or traditional phonics instruction (Campbell, 2018). These terms refer to the method of phonics in which focus is placed on individual skills and sounds. Synthetic phonics instruction teaches isolated grapheme-phoneme relationships to support students with concrete rules as they blend isolated sounds into words, (Campbell, 2018). The rules taught in isolated phonics instruction support readers as they decode complicated words. This approach most closely attends to phonemic awareness, phonics, and decoding skills development (Sonnenschein et al., 2010).

According to Faust & Kandelshine-Waldman (2011), synthetic phonics can be explained as a bottom-up process because students are taught to begin their decoding by observing and linking the smallest units of the language, graphemes and phonemes. They work their way up as they string letters together into morphemes. As letters create words, words form sentences, and sentences develop paragraphs, students begin making meaning. They work from small units

while decoding to large units while comprehending. Repetition and practice in following the bottom-up approach will support readers in memorization of these fundamental components.

Reutzel et al. (2014) explain that there are seven essential components to a systematic synthetic approach to phonics instruction. First, material must be explained directly and clearly in concrete ways. Second, teachers must model the skill, process, or concept through skill-modeling and think-alouds. Third, guided practice will benefit early learners through scaffolding and teacher support. Fourth, students will transition into independent, self-regulated practice to apply the skill, concept, or strategy. Fifth, teachers must provide meaningful, timely feedback to guide student learning. Sixth, discussion around the topic, revolving around student questions and responses should take place. Finally, teachers must monitor the progress of students. These components will optimize the efficacy of the explicit phonics instruction.

According to Faust & Kandelshine-Waldman (2011), in the explicit approach, attention is specifically placed on linking phonemes to graphemes through repetition. It emphasizes the alphabetic principle, helping students understand that written language represents spoken language and supporting their spelling development. This instruction may take place through multi-sensory means, vocal and visual associations, decodable texts, or commercial phonics programs (Beverly, Giles, & Buck, 2009).

Campbell et al. (2012) state that commercial phonics programs refer to curricula that systematically introduce the correlation between graphemes to phonemes. The programs teach isolated phonemic, phonological, and alphabetical skills. Campbell et al. (2012) explain that the industry is growing in English-speaking countries worldwide. They found the programs to be most commonly used in prior-to-school and primary years of elementary school.

According to Campbell et al. (2012), most commercial phonics programs introduce learners to letters, teach readers to synthesize the letters to create a word, and then provide text that targets the phonic skill being taught. Campbell et al. (2012) explain that schools often implement phonics programs to solve the reading deficits present in their readers. However, the curriculum is developed to target phonics. While the school districts find that not all deficits are alleviated, the phonics instruction improves.

According to Reutzel et al. (2014) explicit instruction is highly recommended by the National Reading Panel. The researchers also present information that describes explicit phonics as a powerful and effective model for teaching a vast array of skills and strategies. A study carried out by McGeown & Medford (2014) found that students who are taught with a systematic synthetic phonics approach, they are likely to access letter sound knowledge and short-term memory to blends sounds into unknown words. This suggests that reading instruction methods should be considered and analyzed to develop understanding of the variation in early reader's acquisition and development of reading skills. Furthermore, it should be considered as instruction is developed. The instruction is proven to mold the reader.

An opposing method of phonics instruction is considered the analytic model of phonics. This approach emphasizes comprehension and meaning (Sonnenschein et al., 2010). It may also be considered implicit phonics instruction, whole language instruction, global instruction, holistic instruction, or as the integrated language arts approach. These terms refer to the method of phonics in which phoneme-grapheme relationships are not taught in isolation. They are examined and observed through analyzing patterns and rules through rich text, (Campbell, 2018). This method is explained as child centered as students grapple with, engage in, and manipulate text to decode words and find understanding, (Maddox & Feng, 2013).

According to Faust & Kandelshine-Waldman (2011), the analytic approach to phonics instruction views literacy in the top-down process. Students extract words from context, stripping the paragraph or sentence, into singular words. The learner's comprehension and understanding of the context supports them in determining the word. Through this meaning-based process, the reader becomes familiar with the alphabetical principle, spelling patterns, and morphological meanings. Gaining phonemic awareness, phonological awareness, and morphological awareness takes place through text immersion and independent thinking.

Sonnenschein et al. (2010) explain that this approach takes a student-based approach, in which students are responsible for constructing meaning in text and learning the rules of the English language through emergent, high-level thinking processes. Students become active participants in their literacy development, empowering students to take ownership of their literacy understandings. This approach values authentic literature and writing. In this emergent literacy experience, students will encounter text through books, dramatic play, songs, nursery rhymes, and language play. Rich speaking, listening, reading, and writing becomes especially valuable in academic and social senses (Campbell et al., 2013). Sonnenschein et al. (2010) state that the use of authentic text may be more engaging and motivating to students. Carson et al. (2013) explain that this approach to phonics provides the context and strategies for real literacy experiences.

Mixed-method phonics integrates both analytic and synthetic phonics instruction. It can also be considered blended instruction, merged instruction, or eclectic instruction. Sonnenschein et al. (2010) explain that there is a greater push than ever to combine models of instruction and the ways in which instruction and students' skills develop. Campbell (2018) supports the mixed-method phonics model, which support and complement one another as students decode. Maddox

& Feng (2013) recommend that literacy should integrate both phonics and whole language into one approach; however, they recommend that the greater emphasis lies on phonics development. According to Noltemeyer et al. (2013), mixed-method reading instruction integrates instruction that addresses phonemic awareness, phonics, fluency, vocabulary, and comprehension.

Integrating literacy processes, skill instruction, and authentic assessment requires engaging, balanced planning and instruction. According to Campbell (2018), the mixed-method of phonics instruction is a comprehensive approach with a balance of code-breaking strategies, explicit academic instruction, and child centered reading. It incorporates both bottom-up processes and top-down processes (Faust & Kandelshine-Waldman, 2011). The instruction provides basis on the alphabetical principle and on the whole language level found within authentic texts; it also provides direct and indirect instruction (Faust & Kandelshine-Waldman, 2011). Sonnenschein et al. (2010) share research that phonics instruction coupled with integrated language arts instruction is most effective. This explains the efficacy of the mixed-model approach to reading instruction.

Maddox and Feng (2013) present a viewpoint supporting analytic phonics that shares concern that breaking, isolating, syllabifying, and segmenting words is removing meaning from the English language. This viewpoint points to identifying words and drawing meaning from context, rather than deconstructing words. Maddox & Feng (2013) found that children who are taught from the whole language approach often gain a greater ability to use phonics rules effectively, as opposed to readers who learn phonics rules in isolation.

McGeown & Medford (2018) share a study that supports the idea that the method of instruction greatly affects the method of decoding students use. Those who were taught using the whole language method relied only on whole word decoding strategies. However, those that

were taught with a mixed-method form of phonics were able to use both whole word decoding strategies and phonological recoding strategies.

Cunningham (2017) shares a plethora of phonics strategies that support early readers. He believes that encoding tasks within spelling must be practiced by students to support decoding within text. Students need opportunities to integrate their explicit phonics instruction by applying it to meaningful texts. Inventive spelling in the classroom causes students to access background knowledge, known text, and phonics rules. Phonetic patterns serve a purpose, so instruction must be taught on phonetic patterns and how to manipulate words based on known patterns.

Students have unique backgrounds, experiences, abilities, and prior knowledge. Beverley, Giles, and Buck (2009) explain that a balanced-literacy approach must include skills instruction on word recognition and comprehension, authentic reading experiences, engaging environments, successful teachers, self-monitoring students, and developmentally appropriate practices altered to address student needs. Noltemeyer et al. (2013) state that the lack of adequate reading instruction, the gap between readers widens. Effective phonics instruction takes individual needs of students into account and addresses them at an individual, personal level (Sonnenschein et al., 2010). Differentiation, accommodation, and modification are at the heart of successful instruction.

Different viewpoints and ideas exist about when phonics instruction is most appropriate for readers (Tracey, 2017). Phonics instruction is generally geared toward early learners because it has proven to be preventative, rather than a cure. It is a time-sensitive skill (Tyler et al., 2015). This explains why Reutzel et al. (2014) find value in providing simple instruction to early learners, recommending that phonics instruction be completed in the primary grades. Tyler et al. (2015) report that instruction in kindergarten and first grade were the most impactful. Suggate

(2016) provides specificities, explaining that phonemic awareness should be targeted in preschool and kindergarten and that decoding skills should be targeted in first and second grade. While grade-level guidelines are presented, several researchers emphasize the value in tailoring instruction to student needs.

The amount of classroom time dedicated to reading instruction impacts students' reading skill progression. Tyler et al. (2015) recommend as much intervention time as possible, particularly for students who receive additional tiers of support. They also recommend that assessments take place outside of the instructional time. Shanahan & Lonigan (2010) present research on five types of literacy interventions that support readers: code-focused interventions, shared reading interventions, parent and home programs, preschool/kindergarten programs, and language enhancement interventions. The researchers explain that interventions that merge phonological awareness and print-related activities are highly effective.

A variety of texts are used within literacy instruction. A blend of decodable texts and authentic texts is thought to provide a balanced approach that will address a wide variety of literacy skills (Beverly, Giles, & Buck, 2009). Wilson (2012) explains that oral fluent reading, repeated reading, and assisted reading are all effective fluency interventions. Repeated reading supports the idea of connectionism. Connectionism explains that the more frequently readers encounter print and reading, the more enhanced their reading abilities will be (Tracey, 2017). Connectionism and memorization support automaticity with letter identification, word identification, reading fluency, and comprehension (Ehri & Flugman, 2018). Supporting readers with phrasing and prosody modeling, instruction, and practice will improve their fluency.

Measuring Reading Fluency

Reading fluency speaks to the pace, flow, intonation, and automaticity of a learner's oral reading. Wilson (2012) believes that fluency is a complex process that requires visual, orthographic, phonological, semantic, conceptual, and articulation processes to function together at a high level. However, fluency requires that they work quickly and precisely. The researcher explains that fluency is at the center of reading by linking word recognition to comprehension. It is thought that fluency is an indicator of students' available cognitive capacity for use in reading processes (Reutzel et al., 2014). As students interact with more complex texts, fluency will continue to be additionally valuable.

Van Norman et al. (2018) believe that curriculum-based measures are the most commonly used academic progress-monitoring assessment. They are also the most researched method of progress-monitoring assessments. A variety of curriculum-based measures exist, uniquely designed based on the unit and skill of measurement that they test. They go on to explain that oral reading is the most common type of curriculum-based measure (CBMs). The data is represented by correct words read per minute and accuracy of the reading. Wilson (2012) explains that focusing on words per minute can cause readers to focus too much on speed and not enough on accuracy and prosody. However, Wilson (2012) also believes that this flaw can be combatted by stressing expressive reading, accurate decoding, vocabulary knowledge, comprehension, and phrase boundaries.

While curriculum-based measures are often used as overall reading-proficiency assessments, Van Norman et al. (2018) found that curriculum-based measures can be useful as periodic checks on how students are progressing, as well. This measure ensures that the designed intervention is improving reading proficiency by reporting, modeling, and graphing whether

students are staying on track with their growth goal. The CBM has proved a relationship with broad assessments of reading achievement.

Van Norman et al. (2018) acknowledge that the CBM does not directly measure ability to decode; however, the ability to decode does influence their ability to read fluently. Therefore, it is used to measure response to phonics instruction. The researchers also acknowledge that word recognition and phonological reading influence oral reading. These factors should be considered as data is gathered.

Phonics instruction shapes readers foundationally as it develops phonemic awareness and decoding skills (Sonnenschein et al., 2010). Wilson (2012) explain that decoding skills enable readers to read fluently, which bridges phonics to comprehension. This supports readers as they apply meaning to text, which aids in comprehension (Wilson, 2012). A variety of phonics methods exist (Campbell, 2018). Whether foundational knowledge is taught explicitly, implicitly, or incidentally may impact the strategies applied and the achievement level of an early reader (Faust & Kandelshine-Waldman, 2011).

Methods

Participants

The participants in the study were second graders at Kinsey Elementary, found in a rural community in Sioux Center, Iowa. The population of the community continues to become more diverse because of the influx of immigrant families. Sonnenschein et al. (2010) indicate that students from low-income and minority families often have more limited exposure to text and prior experiences. They may also have less experience with verbal interactions with adults and exposure to adults who interact with text, which may negatively impact their reading proficiency. However, the researchers also state that the primary years of elementary school are the most valuable for modifying the trajectory of learners' reading proficiency.

The action research project was implemented in a second grade classes at Kinsey Elementary. All ethnicity information was accessed through Infinite Campus, the school district's database. Convenience sampling was used to select the participants by reporting on the students grouped in the researcher's homeroom class. The 2018-2019 group of second graders was made up of 18 students. Eight of the students were girls; ten of the students were boys. Nine of the students were considered White, eight of the students were considered Latino, and one student was considered Multi-Racial. Six students received ELL (English Language Learner) services. Nine students received TAG (Talented and Gifted) services, and two students had IEPs (Individualized Education Plans) and received Special Education services.

The 2019-2020 group of second graders was also made up of 18 students. Eight of the students were girls; ten of the students were boys. Ten of the students were considered White, six of the students were considered Latino, one student was considered African American, and one

student was considered Multi-Racial. Five students received ELL services. Four students received TAG services, and two students had IEPs and received Special Education services.

Thus, the two classes have a relatively similar and comparable make-up

Measures

Measurement Instrument

The measurement tools being used to identify the relationship between the independent variable and dependent variables are the Formative Assessment System for Teachers Curriculum-Based Measure (FAST CBMreading) assessment by Fastbridge and the PRESS Decoding Inventory. The CBMreading assessment was being used to measure fluency and accuracy; while the Press Decoding Inventory is being used to assess only accuracy. The data is quantitative.

Validity and Reliability of Measurement Instrument

The CBMreading Assessment by FastBridge substantiates validity through researched evidence that the assessment indicates reading development and predicts student performance on standardized tests. The design of the assessment and the passages that are used aligns with utility and sensitivity. According to Fastbridge (2019), Sixty Level A passages were read by 231 students ($\alpha = .92$) over less than two weeks. Sixty Level B passages were read by 488 students ($\alpha = .90$) over less than two weeks. Sixty Level C passages were read by 513 students ($\alpha = .91$) over less than 2 weeks.

The PRESS Decoding Inventory was designed as a diagnostic assessment to identify and access appropriate interventions. Therefore, the validity and reliability have not been validated through research-based studies.

Limitations of Measurement Tools

It is important to indicate the limitations of the FAST CBMreading assessment and PRESS Decoding Inventory. When the FAST assessment provides a percentage on the reader's accuracy, it cuts off at 95%. Thus, readers who read <95% of the passage accuracy will have a precise percentage report; however, readers who read $\geq 95\%$ will not have a precise percentage report. For consistency, any reader who reads $\geq 95\%$ will be measured at 95% accuracy.

The PRESS Decoding Inventory is designed as a diagnostic assessment for selecting appropriate interventions. It isolates phonics skills; therefore, it does not measure the readers' proficiency in accuracy. Their percentage measures their progression along a continuum of phonics skills: short vowels in CVC words, digraphs with short vowels, consonant blends with short vowels, long vowels: silent e and vowel teams, and variant vowels. Therefore, if a reader is proficient in only CVC words, they are proficient in one of the six skills on the continuum. This indicates their progression along the continuum, not their accuracy proficiency. This explains why the FAST accuracy measure and PRESS accuracy measure cannot be calculated together. FAST measures accuracy proficiency in context of a reading passage; while PRESS measures progression on a continuum of isolated phonics skills.

Variables

The independent variable in the study is implementing the BLAST Phonics curriculum into first grade in the 2018-2019 school year. The dependent variables are the accuracy and fluency of early readers. Accuracy will be measured with the FAST CBMreading assessment and the PRESS Decoding Inventory. Fluency will also be measured with the FAST CBMreading assessment. The variables are quantitative.

Procedures

Beginning of year data between the researcher's 2018-2019 school year class and the 2019-2020 school year class was compared in the Fall of 2019. Parsons, Hewson, Adrian, & Day (2013) acknowledge that not mapping or planning for a research project is when errors and sloppiness take place. To ensure comparable data, the researcher planned the Press Decoding Inventory and FAST assessment on a similar timetable. Even though the assessments are one-on-one assessments, they were administered in a way that allows students full concentration. The assessing did not hinder or inconvenience the rest of the classroom, making it feasible to fit into the school day.

Data from the FAST assessment for the 2018-2019 school year was gathered during in September, 2018. To provide consistency, the FAST assessment data for the 2019-2020 school year was gathered during September, 2019. Assessment time was planned into instruction for the FAST assessment. As each student was assessed individually, the remaining students were in a different classroom. This is a yearly practice at Kinsey Elementary. Removing the other students removes any possible distractions, allowing the student being assessed to have complete silence. This is important for accurate data since FAST is a time-sensitive assessment.

Data from the PRESS Decoding Inventory for the 2018-2019 data was gathered during September, 2018. To provide consistency, the PRESS Decoding Inventory data for the 2019-2020 school year was gathered during September, 2019. The researcher factored time into guided reading instruction to administer the PRESS Decoding Inventory so that it was possible to fit into the school day without inconveniencing the classroom or lessening instructional time. While each student was assessed individually, the remaining students practiced stamina, which is an essential second grade skill and something that is practiced frequently at the beginning of the

year. This provided data to compare the reading fluency and accuracy between students who did not receive BLAST Phonics instruction (2018-2019 school year class) and students who did receive BLAST Phonics instruction (2019-2020 school year class).

Data Collection

The researcher gathered data from the FAST CBMreading test by following the FAST protocol. Each student read three passages. They read each passage for one minute. As students read, the researcher marked any miscues. At the conclusion of the test, FAST provided a report on how many correct words per minute and what percentage of the words that the student accurately read.

The researcher gathered data from the PRESS Decoding Inventory by following the PRESS Phonics Continuum. Initially, the students are assessed based on their letter sound correspondence. If they score ≤ 21 correctly, the inventory is complete. If the students score ≥ 22 correct, the assessment continues onto phonics skills.

The assessment breaks phonics skills down into short vowels in CVC words, digraphs with short vowels, consonant blends with short vowels, long vowels: silent e and vowel teams, and variant vowels. When assessing phonics skills, any time a student scores, ≤ 8 , they will not be considered proficient in that phonics skill. The inventory will be complete. Any time a student scores ≥ 9 , they will be considered proficient in the phonics skill and progress onto the next phonics skill. This data will be tracked in checklist format.

Results

The independent variable in the study was implementing the BLAST Phonics curriculum into first grade in the 2018-2019 school year, and the dependent variables are the accuracy and fluency of early readers. In this case, this points to comparing the data on the FAST CBMreading and PRESS Decoding Inventory from the 2018-2019 school year class and the 2019-2020 school year class.

The data in Table 1 compares: (1) the FAST CBMreading fluency data; (2) the FAST CBMreading accuracy data; (3) the PRESS Decoding Inventory accuracy data. The data (See Table 1) shows comparisons in reading fluency and accuracy between the 18-19 student data and the 19-20 student data. The difference is statistically significant if the p-value is less than 0.05. Since the p-value is greater than 0.05 in all cases, the data is not statistically significant. The findings of the data point to the impact that BLAST Phonics has on our early readers. However, it was not statistically significant, indicating that there was not an effect.

Table 1

Summary of Unpaired t-test Results

	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>d</i>
18-19 Student Data						
FAST CBMreading Fluency	68.44	38.18	2.03	34	0.80	3.8
FAST CBMreading Accuracy	0.87	0.17	2.03	34	0.40	0.3
PRESS Decoding Inventory Accuracy	0.58	0.31	2.03	34	0.94	0.0
19-20 Student Data						
FAST CBMreading Fluency	65.11	38.80	2.03	34	0.80	3.8
FAST CBMreading Accuracy	0.82	0.24	2.03	34	0.40	0.3
PRESS Decoding Inventory Accuracy	0.57	0.35	2.03	34	0.94	0.0

Discussion

Summary of Major Findings

The purpose of this study was to explore whether implementing an explicit phonics curriculum would impact the reading fluency and accuracy of second grade readers. The *t*-tests indicate that the statistical difference between the groups in reading fluency and accuracy are not significant. Despite statistical insignificance, the 18-19 group of students have slightly higher scores on all three measures. This could indicate that these students were higher-level learners.

While results on all three measures show higher scores from the 18-19 group of students, it is worth addressing the differences in what the assessments measure. The FAST Fluency test indicates how many words per minute students are reading. Results show that students in the 19-20 group were reading approximately three words fewer per minute than the students in the 18-19 group. The FAST Accuracy test indicates the percentage of words that students read correctly. The results prove that students in the 19-20 group were reading approximately 5% fewer words accurately. The PRESS Decoding Inventory indicates which isolated phonics skills readers have mastered. The results show that the 19-10 group of students have mastered approximately 1% fewer of the isolated phonics skills.

It is noteworthy that the data between the 18-19 students and 19-20 students are most closely comparable in the PRESS Decoding Inventory Accuracy Results, which may indicate that the BLAST Phonics positively impacted the readers when decoding is being measured in isolation. While both FAST assessments measure readers as they read passages within context, the PRESS inventory measures readers as they read words in isolation. This could suggest that the phonics curriculum did not positively impact readers' overall reading fluency and accuracy,

but that it did positively impact readers' ability to decode and access phonics rules and patterns when examining words in isolation.

This data suggests that while the implementation of BLAST Phonics is not statistically significant, it may have supported readers in accessing phonics skills when reading words in isolation.

Limitations of the Study

Several limitations of the study are present, which could affect the validity and reliability of the results. The sample size of the study was small; thus, it makes it difficult to generalize the results to subjects outside of the study. Another sample size limitation refers to the ability level of the classes. Since the data is gathered at the beginning of the year, it is baseline data. It is possible that one class is, by nature, more advanced than the other. This could impact the results of the study. Another limitation that should be considered is experimenter bias. Since the researcher is the teacher, unintentional instruction or treatment could sway results.

Behavior is a consideration as well. It is possible that students rushed through the assessments. In the case of the FAST assessment, some students become flustered by the one-minute time limitation and race through the passages. While this may increase their words per minute, it may decrease their accuracy. In the case of the PRESS Decoding Inventory, students that rush through may not consider the possibility of nonsense words and call out words that are close, rather than taking the time to study the phonics patterns. These behaviors could skew study results.

There are some limitations in the data from the PRESS Decoding Inventory. The PRESS Decoding Inventory is a diagnostic assessment that uses a continuum. After assessing letter

sounds, the researcher assesses students on short vowels in CVC words, digraphs with short vowels, consonant blends with short vowels, long vowels: silent e and vowel teams, and variant vowels. It does not report on proficiency. Since the researcher only proceeded to the next phonics skill if the reader accurately read ≤ 8 of them, it is possible that a student missed a skill but would have proven to be proficient on the following skill. For instance, it is possible that a student read only six silent e and vowel team words accurately, so the assessment concluded. It is possible that the reader is proficient in variant vowels but did not have the opportunity to prove it. This is a limitation in the design of the assessment.

Further Study

As the district continues to move forward with the roll out of Really Great Reading phonics curricula, further study should take place. It is important to note that Countdown Phonics is the kindergarten curriculum, Blast Phonics is the first grade curriculum, and HD Word is the second grade curriculum. These are all products of Really Great Reading.

In the pilot school year (2018-2019), the curricula were not in full implementation. Three of the seven kindergarten sections integrated Countdown Phonics. Six of the six first grade sections received Blast Phonics, a product of Really Great Reading. However, the 2019-2020 school year brought full implementation. All seven sections of kindergarten integrated Countdown Phonics. All seven sections of first grade integrated Blast Phonics. All six sections of second grade integrated HD Word. With full implementation in kindergarten-second grade, it is possible that the impact would be greater on readers' fluency and accuracy.

Conclusion

The controversy that surrounds reading instruction leads to a variety of philosophies and methods. This study explored the impact that explicit phonics instruction had on the reading fluency and accuracy of second graders. The study was designed to provide guidance within the classroom as teachers plan effective instruction. It was designed to provide guidance to the school district as decisions about phonics curricula implementation are made. This action research has provided useful feedback and information based on the integration of Blast Phonics in first grade within the 2018-2019 school year.

Classroom time is a precious and valuable commodity. Wasted time leaves learners without foundational skills that will build upon reading knowledge and comprehension in the years to come. It is important to determine whether the time and resources spent on phonics curriculum are worthwhile or nonsensical. Although this action research did not point to significant statistical findings, it explores a variety of approaches and provides direction for future research.

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