

Sponsoring Committee: Dr. Richard Grove, Moravian College
Dr. Tristan Gleason, Moravian College
Mrs. Kristina Fontanez, Bethlehem Area School District

**Let's Get Our "Hands-On" Learning:
Using Multisensory Activities in Student Centers**

Taylor Lutri

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ABSTRACT

The purpose of this qualitative action-research study was to investigate thoroughly the effects of adding multisensory activities into independent learning centers during English Language Arts to increase first grade students phonemic awareness and phonics skills. Participants were 19 heterogeneously grouped first grade students in an open-concept, Title I, urban elementary school in Bethlehem, Pennsylvania. The student population consisted of two English Language Learner students and 17 regular education students.

The study was administered over an 11-week span with first grade students who were beginning readers. Beginning of year assessments showed that there were deficits in the areas of phonemic awareness and phonics, the necessary skills in becoming literate. The study included explicit instruction in the areas of phonemic awareness and phonics by way of a district mandated reading program called, Wonders. Multisensory activities were created and implemented during independent learning centers for students to practice the current weeks' phonemic awareness and phonics skills.

Methods of analysis and data collection include, student surveys, student/teacher conferences, observations, anecdotal notes, weekly assessments, and progress monitoring.

Findings suggest that adding multisensory activities to student independent learning centers can be beneficial and aid in phonemic awareness and phonics acquisition. Utilizing more than one sensory modality helps in making an abstract idea more concrete.

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To say that this Master's thesis process was a long, intense, grueling one would be an understatement. There is no way that I would have been able to complete this program without some very special and important people in my life.

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Paige, thank you for always being there for me when I need to vent, and talk things out. You are a great listener and you always know what to say to ease my mind and bring me back down to earth.

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RESEARCHER STANCE

The focus of my action research study pertains to the following question:

“What are the effects on students’ phonemic awareness and phonics skills when multisensory activities are implemented into student centers in a first grade ELA classroom?”

The start of my own public school career was like many other students’, waking up excited for the first day of school anxiously awaiting what was in store. My elementary days were memorable and exciting. I loved school and everything it had to offer. After all, we had parties and took field trips, so what was not to love? When it came to academics I absolutely adored reading and couldn’t wait to have SSR or go to the library to take out the next American Girl or R.L Stine book. I was and continue to be open to a variety of genres, enjoying the opportunity to explore all the wonderful places reading can take you. Math was fun for me too, since we were always manipulating items, counting, grouping, and sorting them in different ways to help make an abstract idea more concrete. I can recall many times playing competitive games of “Around the World” and “24” in math class, always trying to get better. It was during these precious elementary school years, that I discovered I wanted to be a teacher. I have vivid memories of my sister and me playing school

at home, and, of course, I was always the teacher. We had the whole set up in the basement: a table with chairs, a chalkboard with an easel that came with a pointer that resembled a big pencil, and stickers; I knew that every teacher had to have stickers. We had all the bases covered. As my educational journey continued into middle school, the feeling of pure excitement on the night before school started, sadly turned into a night of shaky nerves and fear about how the first day would play out.

The night before the first day of middle school was significantly different from that of elementary school. I was more nervous than excited. The school was much bigger than the one I was used to being in, and to make things worse, I had a locker. Gone were the days of completing quick and easy homework assignments and having my parents sign my planner. Now, homework assignments were longer and required more effort. However, those three years of middle school passed quickly enough and prepared me for high school.

Even though I felt that I was prepared for high school, the night before the first day of school was still a little nerve wracking, but I had a solid group of friends and played on the volleyball team so that helped ease my nerves, as did the fact that I mastered using the locker. The assignments were now lengthy papers and I can remember the long hours

of studying for tests. One would think this experience alone, would make one want to not consider to be an educator, however that was not the case for me, the desire to be a teacher still remained. I excelled in my academics and participated in clubs and sports throughout my middle and high school careers.

In the later part of high school I was able to double up on math and science classes so that I could participate in work study with one of the elementary schools in the district. I assisted an elementary school classroom teacher and helped out where I was needed. I especially liked doing read alouds and running centers. Reading to children allowed me to share my passion for reading with them. Every story or book we read took us on an exciting journey or life lessons were learned. Together, we grew to enjoy books. Working in centers on specific skills with small groups of children was a rewarding experience. I was able to experience firsthand the moments when a student “got it.” The sheer look of joy on their faces when they fully understood a skill and grasped a concept was and continues to be something to be remembered and celebrated. It was those two years of working with third and fourth graders that I made the decision to pursue a degree in elementary education and decided on Kutztown University as my destination.

The night before the first day of college was much more similar to the feeling I had on the night before the first day of elementary school. I was back to being excited and was eagerly anticipating my first actual classroom experience. Unfortunately, I had to wait a little while for that to happen. During that time I was exposed to many different theories and styles of pedagogy and was able to practice and develop my own teaching strategies with my fellow classmates. The time finally came for the student teaching placements to be announced and I could not wait to get my assignment. I had hoped to get either third or fourth grade because I worked with and enjoyed both grade levels. Eight and nine-year olds tended to understand my personality and sense of humor, and I loved where they took their thinking. I found myself, though, assigned to second grade and then fifth grade for my student teaching placements. I have to admit that I was a little disappointed when I saw second grade, but to my surprise, I thoroughly enjoyed it, and it turned out to be the best student teaching experience I could have ever had. My cooperating teacher was absolutely amazing, and she even more solidified my passion and desire to be a teacher. She had a sincere desire for each and every one of her students to learn and grow socially. She put her all in each lesson and made it her goal to teach to the needs of her students. She created a

caring classroom community of trust and celebrated her students' achievements and milestones. I admired her and learned so much about the art of teaching and about myself from this experience.

Thinking back, I realized on my very first day of student teaching that I knew I was meant to pursue a teaching career. I couldn't get enough of being in a classroom filled with eager children excited to learn. Seeing them sitting there hanging on your every word anticipating what is coming next proved to be very fulfilling to me. I can remember the many late nights of planning and preparing what I hoped would be the perfect lesson, and hoping for it to go exactly as planned when executed. There were times when it did go that way, and yet there were times when it did not. My first cooperating teacher called them, "Grows" and "Glows". It was those "grows" that drove me to be a better teacher, to dig deeper in myself so that I could better serve the students I was teaching. To this day, I still feel the same way, and I continue to dig deeper, explore, and develop different ways to improve my teaching to better serve my students, hence this action research study.

After all the years of practicing and refining my teaching, I was hired by the same district that I had attended as a child and adolescent. My educational journey had come full circle, and I finally had a classroom

to call my own. I started off my teaching career in fourth grade and fell in love with it, just as I knew I would. I enjoyed my students and I shared my passion for reading with them. We learned from each other and had a wonderful time doing so. Three years into my teaching career, a grade level change occurred, and my new assignment was first grade. I had limited experience teaching in the primary grades, but I was excited and ready for the challenge. This grade level change occurred during the same time that my school district transitioned into a new reading program in response to an important initiative to have all students reading on grade level by grade three. This fact alone made me nervous. I was coming from a grade level where students came to me already knowing how to read. Could I really do this? How does one actually teach a child to read, for there are so many components that go into it? I was forced to change gears and develop new teaching strategies to serve my new student population of beginning readers. My instruction needed to be more explicit, direct, and required a lot of repetition and practice.

The McGraw-Hill Wonders reading program my district has adopted is a rigorous and cyclical one with high demands and expectations. These are all good qualities of an effective program, but I realized that I was having trouble making it my own, and I also noticed that student

engagement was lacking. Upon deep reflection and professional conversations among colleagues regarding those issues, I began to worry that one of the many factors contributing to a decline in reading scores within my district was the lack of student engagement. When I observed my students, they seemed to be “going through the motions” and were not actively engaged and motivated in the ways I wanted them to be during English Language Arts (ELA). The activities provided in the Wonders program, namely independent learning centers, failed to tap into the many different learning modalities students possess to make sense of and learn new skills, and too many of the activities used to reinforce these skills neglected to include any type of movement or manipulation. I hold a fundamental belief that students learn best by doing, and by doing, I mean physically moving and manipulating items.

Since becoming a first grade teacher, the process of teaching reading has intrigued me, and I wanted to know how I could better serve my students in the process of becoming literate. Reading is such an abstract concept for young minds to understand, and I observed many of my first grade students struggling with reading. One does not simply just start to read, it is a process that needs to be practiced and explicitly taught. Before a child is able to read it is important for them to be

exposed to the sounds in words and how they work. An understanding of these sounds and how they are used in words are the beginning stages of reading development or phonemic awareness and phonics (Armbruster, Lehr, & Osborn, 2006). Phonics and phonemic awareness skills are practiced and explicitly taught in whole group, and I wanted to ensure that my students had multiple opportunities to practice those skills independently or in small groups.

During small group independent centers, the students who are not directly working with a teacher are working independently on various literacy skills, and I wanted these literacy activities to be meaningful in content and structure, as well as enjoyable and motivating for my students. One way of doing this was to incorporate multisensory activities into my literacy centers that fulfilled those desires. A multisensory approach is one that integrates sensory activities and uses more than one learning modality (visual, auditory, kinesthetic, and tactile) to practice and refine a skill. Since not one child learns in the same way, it made sense to use activities that tapped into the other learning modalities so that all had an equal opportunity to learn (Walet, 2011).

I set goals for myself when this action research journey began. I wanted to know what the effects were going to be on students phonemic

awareness and phonics skills when multisensory activities are implemented into student centers in a first grade English Language Arts classroom. I began by researching the history of multisensory instruction and the notable names behind it. I quickly came to realize that this method of instruction has been around since the early 1900s beginning with Maria Montessori in 1912 and up to the current day with the workings of Dr. Samuel Orton and Anna Gillingham, who together have created multisensory teaching programs for teaching reading (Birsh, 1999). The importance of these foundational skills coupled with the belief of incorporating different learning modalities lead me to my research question: *What are the effects on students' phonemic awareness and phonics skills when multisensory activities are implemented into student centers in a first grade ELA classroom?* With my support and the implementation of multisensory activities, students will have access to and will be participating in various activities to reinforce and practice those skills necessary in learning to read.

LITERATURE REVIEW

The research question guiding my study is: *What are the effects on students' phonemic awareness and phonics skills when multisensory*

activities are implemented into student centers in a first grade English Language Arts (ELA) classroom?

Did you or anyone you knew growing up fear being called on to read aloud in class? Students around the country face this fear everyday. Learning how to read is no easy feat, and it takes practice and patience. The ability to read is essential in life and for students' academic success. The English language is phonetic, in that there is a direct correlation between the spelling and the sound in words. According to North (1992), "Every phonetic language develops from speech, to letters which represent speech sounds, and then to words and sentences" (p.112). Because the English language is phonetic, it is imperative that students' phonemic awareness and phonics skills are taught and mastered at a young age because those skills are necessary when decoding and reading. Not all students possess the skills necessary to read, thus causing below grade level readers. According to the United Way of the Greater Lehigh Valley one in three students in our community are not reading at grade level by third grade (2017).

The National Reading Panel (2000) identified five components of effective literacy instruction, which include phonemic awareness, phonics, fluency, vocabulary, and comprehension. Of those five essential

components, my study will focus on phonemic awareness and phonics because these are the foundational skills that are appropriate for kindergarten and first grade students, of which my class consists. These two skills are also the focus of my district's first grade literacy program. Students who struggle with learning phonics and phonemic awareness are considered "at-risk" (Churchill, Durdell, & Kenney, 1998), because of how foundational these skills are in learning to read. Both systematic and explicit instruction of these skills can aid in catching up some of these at-risk students; however some students may require additional interventions in order to be successful. One way to address this gap is to incorporate multisensory elements to the explicit and systematic instruction already being done (Campbell, Helf, & Cooke, 2008).

A multisensory approach is one that integrates sensory activities and uses more than one learning modality (visual, auditory, kinesthetic, and tactile) to practice and refine a certain skill. Because everyone learns in different ways it makes sense to include activities that incorporate all learning pathways and not just one so that all students have an equal opportunity to learn (Walet, 2011). The task of reading is a cognitive and complex one. Neuroimages have shown the inner workings of the brain while performing reading tasks: they show the multiple connections made

in different parts of the brain when performing multisensory reading tasks (Birsh, 2011; Shaw & Sundberg, 2008). See *Figure 2.1* below of brain images. The multisensory approach is a multimodal approach that reaches all children.

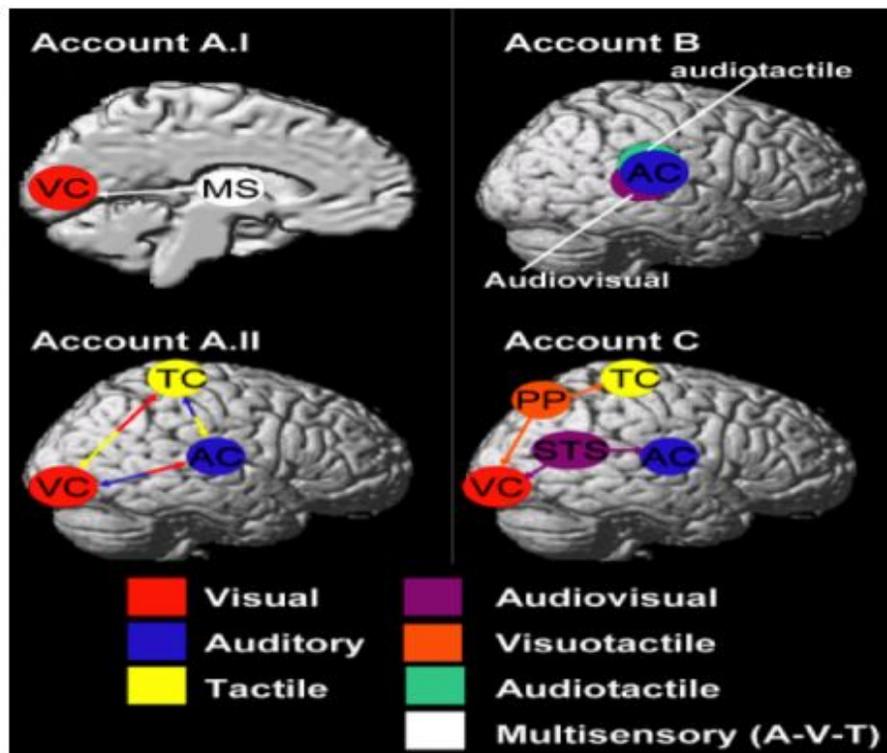


Figure 2.1 Image courtesy of Orton-Gillingham Online Tutor. This neuroimage shows brain activity after a multisensory activity was completed.

In my efforts to address the problem of students not possessing the early basic skills necessary to read, I will focus on increasing students'

phonemic awareness and phonics by implementing multisensory activities into student centers in first grade.

In the sections that follow, I will discuss the historical background of multisensory instruction, the five essential components of reading instruction namely phonemic awareness and phonics instruction, and using the multisensory method to support these early reading skills.

Historical Background of Multisensory Instruction

The notion of multisensory instruction is not new; it dates back to the 1900s to the works of Maria Montessori, Dr. Grace Fernald and Helen B. Keller, Alfred Strauss and Laura Lehtinen, and Dr. Samuel Orton and Anna Gillingham (Birsh, 1999). Maria Montessori worked with children ages three to seven and believed in phonics instruction, instruction pertaining to the phoneme-grapheme relationship. When teaching letters and sounds she used letter cards as a visual while orally making the letter's sound of whichever letter was being taught. The student would then repeat the letter and its corresponding sound aloud while writing it on a piece of sandpaper, making a muscular connection (Birsh, 1999). Dr. Grace Fernald and Helen B. Keller had a different belief when it came to teaching reading. They believed in the whole-word or whole-syllable approach. They worked with non-readers and believed that when learning

whole words, retention and learning rate increased when children were engaged in tactile activities, like finger tracing (Birsh, 1999). Strauss and Lehtinen incorporated both whole-word and phonics instruction and worked with children with brain injuries. When whole words were being instructed, visuals would be used as well as oral blending of the word. The child would then use letter stampers to create and orally blend the word given. Other kinesthetic and visual alternatives were used such as crayons and chalkboards (Birsh, 1999). Dr. Samuel Orton, a child neuropsychologist and Anna Gillingham, an educator and psychologist developed an instructional approach for reading that encompasses the use of multiple senses. This approach was then turned into a program that many school districts use to this day for reading remediation. Orton and Gillingham were also proponents of phonics-based instruction and believed that instruction should be multisensory, which is a key characteristic in the Orton-Gillingham (OG) approach (Richey, & Goeke, 2006). These pioneers of multisensory instruction have paved the way for using an alternative technique in teaching students to read, a skill necessary for academic success. A multisensory approach along with effective literacy instruction that focuses on the foundational skills of reading will assist in students becoming fluent readers.

Five Essential Components of Reading Instruction

The National Reading Panel (2000) identified five components of effective literacy instruction. These components include phonemic awareness, phonics, fluency, vocabulary, and comprehension. Each skill is necessary and plays an important role when learning to read.

Phonemic awareness is the ability to hear, understand, manipulate, and produce the individual sounds in words. *Phonics* is the understanding that the letters of the alphabet stand for phonemes or sounds, and that these sounds are then blended together to form written words. *Fluency* is reading orally with automaticity (ability to decode) and prosody (use of appropriate expression and reading with ease). *Vocabulary*: the words one knows or needs to know and understand in order to communicate effectively. The final essential component of reading instruction is *comprehension*: the ability to process what is being read and to construct meaning of it in order to make connections to what the reader already knows and understands (Learning Point, 2004). These five components are not to be taught separately or in any certain order, but are to be woven into a balanced literacy curriculum.

Phonemic awareness and phonics. These two foundational skills are essential for students to master in the lower elementary grades.

According to Birsh (2011), “phonemic awareness is the most critical of all the phonological processing components during the early reading process” (p.116) and students who are lacking in these such areas are considered either “at-risk” (Churchill et al., 1998), or “treatment resisters” (Campbell, et al., 2008). These terms refer to the student population who have failed to demonstrate and or acquire the basic reading skills like letter/sound associations. There are many factors that contribute to this problem like a lack of literacy materials and appropriate language at home, the quality of teaching in schools, stressful home environments, a cognitive delay or weakness, and family background to name a few (Churchill, et al., 1998; Joshi, et al., 2002). For example, students who are not exposed to a language or literacy rich home environment run the risk of below grade level reading (Rosenkoetter, & Barton, 2002).

Phonemic awareness. Phonemic awareness is the ability to hear, understand, manipulate, and produce the individual sounds in words; for example the word *cat* has three phonemes or sounds /k/ /a/ /t/. It is important to note that phonemes are speech sounds and not letters. Furthermore, phonemic awareness is the ability to recognize words that are alike or different in sound. Poor development of phonemic awareness is a good predictor of future reading problems; however, if it is taught to

young children and practiced, their reading achievement will increase (Learning Point, 2004).

A successful method of teaching phonemic awareness to young children is by way of the Elkonin box created by D.B. Elkonin (Birsh, 2011). This multisensory strategy helps children think about and identify the sounds heard in spoken words. This activity is scaffolded, the teacher models the activity first while the student observes (I do), then the activity is repeated together (we do), and finally the students does it independently (you do). To effectively execute this multisensory activity, the teacher displays a picture card of a simple word to the child and models how to segment the word sound by sound while moving small chips or tokens up into the Elkonin box for each sound said or heard. These same steps are repeated at each phase for each word (Birsh, 2011; Griffith, 1992). See *Figure 2.2* below for an example of the Elkonin box along with effective implementation of the exercise.

Using Elkonin Sound Boxes

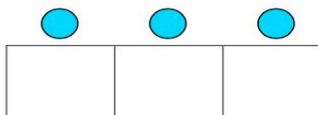
- Have children draw three boxes on a sheet of paper or dry-erase board.



- Distribute counters to children. Have them place counters above the boxes. Model the activities before children begin.
- Follow the same procedure as in Say It and Move It. For each phoneme, children move a counter to each box in a left-to-right progression.

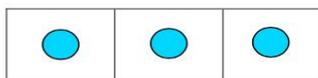
For example:

Say the word “let”.



Children move the counters that represent the sounds they hear in the word:

/l/ /e/ /t/



Children say the word again, sliding their finger below the boxes from left to right: “let”.

Figure 2.2 Image taken from Building RTI found at <https://buildingrti.utexas.org/lessons/phonological-awareness-english-spanish-elkonin-boxes>

Phonics. Phonics is the understanding that the letters of the alphabet stand for phonemes or sounds, and that these sounds are then blended together to form written words. Automaticity in decoding words is key in phonics acquisition. Instruction in phonics is meant to assist children in using the alphabetic principle, which is defined by Birsh (2011) as, “the concept, understood by readers, that the letters on the page

represent or map onto the sounds in spoken words” (p.700). Multisensory activities where students are forming words by manipulating magnetic letters and letter combinations are successful activities for teaching phonics (Birsh, 2011; Shaw, 2001). When students are engaged in multi-modal activities that utilize more than one sensory modality the retention of a skill is increased. For example, a teacher in Orem, Utah is using a multisensory phonics program called “Touchphonics”, to assist in teaching phonics to her students. This program was tested at Brigham Young University and had positive results. It consists of letter and letter-combination tiles that are color-coded to show patterns and word structures that are easy to identify. This program calls for students to see, touch, and hear each tile(s) as they are manipulating them, thus increasing the chances of retention (Baumann, 1996). In sections that follow, I will discuss specific studies that support the relationship between the multisensory approach and these two reading constructs. Before that there are two instructional methods, systematic and explicit that are addressed when teaching phonemic awareness and phonics.

Systematic and explicit instruction. Both systematic and explicit instruction of these skills can aid in catching up some of these at-risk students; however, some students will remain at-risk. One way to address

this gap is to incorporate multisensory elements to the explicit and systematic instruction already being done (Campbell, et al., 2008). Using multisensory activities allow students to see, hear, touch, and manipulate items in a meaningful way. Implementing this approach along with balanced reading curriculums has been found to be more successful than traditional teaching of phonological awareness and phonics where students are not fully engaged (Birsh, 2011; Murphy, 1997). For example, Murphy (1997), found an increase in students' spelling scores when multisensory activities like tracing words with their fingers was implemented into their daily practice.

Instruction is *systematic* in that the concepts and skills being taught are done in a planned and logical manner. For example, certain letter and or sounds are taught before other ones because certain letters are used more frequently in words than others. Clear objectives are stated for students to understand and opportunities for practice are plentiful and meaningful to assist in learning and mastering new skills. Instruction is *explicit* in that the teacher effectively models how skills are used.

Scaffolding is an example of this type of instruction. For example a teacher will demonstrate how to correctly segment or blend a word as students watch (I do), the activity is repeated together (we do), and finally

students practice on their own (you do) as the teacher observes. This can be repeated as many times in a lesson to increase retention (Learning Point, 2004).

Phonemic awareness and phonics are two of the five necessary foundational skills of becoming a fluent reader. They are key predictors of later reading success and are important for young students to master (Birsh, 2011). For instruction to be effective, it is to be both systematic and explicit, however students who fail to master these skills may require additional support. Multisensory activities have been shown to increase phonics and phonemic awareness for the most at-risk students; therefore, I expect it can help everyone. Implementing multisensory activities where students are physically manipulating materials in a meaningful way has the potential to increase the retention of these early literacy skills (Churchill, et al., 1998). Multisensory activities engage more than one learning modality (visual, auditory, kinesthetic, and tactile) and the chances of retention are increased, for the brain is making multiple connections.

Using Multisensory Approach to Support These Early Reading Skills

Multisensory activities have had a positive impact on student learning of phonemic awareness and phonics. Adding multisensory

activities into the literacy curriculum where students are physically manipulating items aids in students attainment and retention of early basic reading skills, namely phonemic awareness and phonics (Campbell, et al., 2008; Churchill, et al., 1998).

Two different teams of researchers conducted experiments consisting of control and treatment groups to determine the effectiveness of a multisensory teaching approach with first grade children (Joshi, et al. 2002; Scheffel, Shaw, & Shaw, 2008). A study done by Joshi and colleagues (2002), tested first grade participants in the areas of phonological awareness, decoding, vocabulary, and comprehension skills. Both groups were given assessments in those areas at the beginning of the experiment and again at the end, using alternate versions in the post-test. The scores were then analyzed and compared to see if there was an effect on student learning. The treatment group being instructed by way of the multisensory method used a specific program, with roots in the Orton-Gillingham (OG) approach. Although there is no mention of which of the four types; visual, auditory, kinesthetic, and tactile multisensory activities used, it is appropriate to assume that two or more sensory modalities were used, as that is the idea behind the OG approach and the term multisensory. These researchers found that the treatment

group receiving instruction in a multisensory manner made significant gains in both phonemic awareness and decoding and or phonics skills. Phonemic awareness scores increased by nine points and there was a 14 point gain in phonics. The control group made gains too, which is to be expected, considering instruction still occurred. The difference between the treatment and control groups was statistically significant in this study. The control group showed the most gain in the area of comprehension, with a nine point increase. The results of this experiment demonstrate the positive impact a multisensory component can have on student achievement particularly in the areas of phonemic awareness and phonics because in comprehension, actually, the control group was better.

Experimental research done by Scheffel and colleagues (2008), also found significant increases in the areas of phonemic awareness and phonics in first grade students. To gather data and measure student progress, the Dynamic Indicators of Basic Early Literacy (DIBELS) reading assessment was given to all participants in the fall, winter, and spring during the experiment. This type of assessment measures the acquisition of the basic literacy skills in children. Both the control and treatment group received their regular core instruction, however the treatment group's core instruction was supplemented with the Institute of Multi-Sensory Education

(IMSE) reading program. This program is similar to the one used in Joshi et al. (2002), in that it is also based on the OG method of utilizing more than one sensory modality to learn a skill. Some of the multisensory methods used in this program were sand trays, where students would practice writing letters and or words in the sand and dry erase boards. These materials were used to review the already known phonetic concepts as well as to introduce the new ones. The overall findings from this study suggest that students in the treatment group receiving the supplementary multisensory instruction performed better and achieved the phonemic awareness and phonics skills more effectively than that of the control group. Even though growth was made, it was not statistically significant. Taken together, these two experiments further support the use of multisensory learning in literacy, namely phonemic awareness and phonics skills because gains were made in both areas and students displayed proficient levels of performance.

Unlike Joshi, Dahlgren, and Boulware-Gooden (2002); Scheffel, Shaw, and Shaw (2008), who used an experimental method to see the effects of the multisensory approach on literacy skills, other researchers used a baseline approach to test the efficacy of a multisensory approach. A study conducted by Campbell and colleagues (2008), used multisensory

activities in meaningful ways to aid in letter-sound correspondences, segmenting, and word reading. For example, students participated in multi-modal activities like finger tapping, forming letters on carpet squares, and manipulating magnetic letters. When these modes were used student achievement in nonsense word fluency increased. Similar to the data collection method used in the experiment done by Scheffel et al. (2008), these researchers also collected data using the DIBELS reading assessment to determine the effectiveness of adding multisensory activities to a systematic and explicit supplemental reading program on the decoding skills of six second grade students who have been labeled “treatment resisters” (Campbell, et al., 2008). To ensure reliability, interobserver agreement was used to ensure accuracy when monitoring student progress on the DIBELS assessment. Once baseline data was collected, students were placed in two groups depending on score trends. For example, students who read nonsense words below the DIBELS benchmark were placed in the low words/low sounds group and students who met the benchmark were placed in the low words/high sounds group, so that instruction would match their needs. Each student still received core instruction as well as the supplemental instruction assigned based on individual needs. The results of this study suggest that students’ ability to

fluently decode CVC (consonant vowel consonant words e.g., cat) words and VC (vowel consonant words e.g., up) words and VC nonsense words increased when multisensory components were added, as did the fluency of sound recognition within CVC and VC words. As supportive of the multisensory component that this study is in relation to its successful findings, I do however see some limitations. This study only included a small sample size of six participants and each participant was seen and worked independently in a separate room with a person other than their classroom teacher. I am not trying to negate the findings of this study, instead I am trying to imagine the impact on the scores had the sample size been larger, instruction was to a larger population, and done by their classroom teacher. I however, plan on using the multisensory activities that were used in this study in my own study to increase students' literacy skills since there was a positive impact when they were used.

A study done by Churchill and colleagues (1998), goes a step further than all the others in this literature review by identifying and aligning the multisensory activities to students' learning styles. I will not give my student participants a learning styles survey in my study, instead all students will be participating in the multisensory activities that tap into more than one sensory modality, so all learners will benefit. In this

particular study it is thought that in order for learning to occur, there is a need for teachers “to gain information and modify practices that will accommodate students’ most efficient learning channel” (Barbe, 1988, as cited in Churchill, et al. 1998). It is because of this notion that the parents of the kindergarten and first grade participants were given surveys on their child’s learning style as well as their reading habits outside of the school setting. This data was used to gather additional information on the child’s experiences with print and their learning modality in order to better service them in the study. Children were given an assessment on phonemic awareness skills and a checklist was used to observe and document students pre-reading readiness (book handling, directionality, rhyming words, and letter/sound correspondence). These assessments were also given at the end of the study to measure growth. The participating teachers followed explicit instruction in phonemic awareness and also had to create activities that supported the multisensory strategies which included hand signals, magnetic letters, visual picture cards, fingerplays, rhyming activities, songs, and chants.

This study found that when students’ learning styles were taken into account and multisensory activities were added to enhance their learning, there was an increase in prerequisite reading skills and phonemic

awareness. This study has informed my research in that incorporating multisensory components into an explicit reading curriculum will aid in pre-reading skills and phonemic awareness. This particular study matched the multisensory activities to each student's learning style. Differentiating instruction based on the learners needs is both important and beneficial, however, doing so in the way as it was done in this study is an unlikely scenario for my study because I will be working with a class size of 25. Instead of tailoring each multisensory activity to individual students, all students will be included in the implementation and will be interacting with the multisensory activities. I do however, plan on using some of the multisensory activities that were used in this study since there was a positive impact on students reading ability.

A study conducted by Dev and colleagues (2002), with 11 "at-risk" first graders used one of the Orton-Gillingham programs as their multisensory component to aid in literacy instruction of these students. Students still received instruction in their classroom as well as specialized instruction in a resource room along with the new implementation of the Orton-Gillingham multisensory program. Before the implementation, all students were performing below grade level in reading and spelling. After the implementation of the OG program, all of the students displayed

improvement in reading and all but one achieved above grade level in the area of spelling. These students were also able to maintain the gains they made and were no longer considered “at-risk” by the end of the study. This particular study made no mention as to how data or progress was collected, which is a limitation. This study, along with some others in this review used specific multisensory programs to increase students’ phonemic awareness and phonics skills. I however, do not have the ability to use or purchase specific educational programs. Instead, I plan on creating and developing my own multisensory activities to use with my students to aid in their phonemic awareness and phonics acquisition.

Taken together, all the studies that were reviewed, as similar and different as they were in their methods reported like results, that the incorporation and implementation of multisensory activities into a reading curriculum has to ability to increase students literacy skills, namely phonemic awareness and phonics. These important skills are the building blocks in learning to be literate and need to be nurtured in meaningful ways that engage students in the learning process. Neuroscience has even shown the multiple brain connections that are made when performing multisensory reading tasks and the benefits of those connections in the phonological processing that goes on during reading.

The studies and experiments that were reviewed reported a range of gains, but no study reported any losses.

Summary

The research question guiding my study is: *what are the effects on students' phonemic awareness and phonics skills when multisensory activities are implemented into student centers in a first grade ELA classroom?* The Multisensory approach and reading instruction together has scientific backing. The brain's involvement in the reading process, namely phonological processing, is a complex one and when multiple sensory paths are used there is an added benefit in learning to read (Birsh, 2011). The brain is making more connections, thus retention and recall of a skill are increased due to the multiple modes being used.

There are many skills one needs to master in order to become a reader, phonemic awareness and phonics are two on the five essential reading components of reading instruction (NRP, 2000). Without mastery of these skills reading success is low and students are at risk of future problems in reading (Birsh, 2011). Instruction in these areas are to be both explicit and systematic in order to be effective. As effective as these strategies are in teaching those skills, there will still be some students who are not reached and may require additional methods. Additional methods

such as the use of multisensory activities where students are physically manipulating letters to practice segmenting words can aid in student learning and retaining these skills necessary for becoming literate.

Researchers have conducted experiments and studies with children who are beginning readers in relation to the effectiveness of a multisensory approach when teaching reading. These studies reported findings that have supported the use of multisensory activities to aid in phonemic awareness and phonics skills in children. All this taken together, adding multisensory components to my existing reading curriculum to assist in students' phonemic awareness and phonics acquisition will result in positive academic growth.

RESEARCH DESIGN AND METHODOLOGY

Research Goals

The goal of my research was to observe how adding multisensory activities into independent learning centers affected my first grade

students' phonemic awareness and phonics skills during the English Language Arts (ELA) instructional block. The 140 minute ELA block rotates between small group and whole group instruction. During small group instruction, students who are not working directly with a teacher are working independently in learning centers on current weeks' skills. Since students are working on their own I wanted to make the learning centers engaging and meaningful to all of my students. In doing so, I created and implemented various hands-on or multisensory activities into these centers and expected to see an increase in their phonemic awareness and phonics. As my study progressed I quickly came to observe that not only were these skills getting stronger but my students were also highly motivated and engaged during the implementation. There was a decrease in off-task student behavior and very minimal teacher redirection was needed.

Setting and Participants

My study took place in an open concept, Title I, urban elementary school in eastern Pennsylvania. Students are heterogeneously grouped and split between two grade level teachers. The demographics of the

student population at William Penn Elementary School consists of 47% hispanic, 11% black, 34% white, and 8% two are more races. 76% of the student population are from low income families who receive free or reduced lunch. 7% of student population is identified as special education. Current student enrollment is 236 students. This school district is the sixth largest in Pennsylvania and consists of 16 elementary schools, four middle schools and two high schools. There are approximately 14,000 students and 1,500 teachers in the district.

All data collection for this study occurred from participating students in my first grade ELA classroom. Of the 20 students enrolled in my class, only one student's parent declined their child to participate in the study. Of the 19 student participants whose ages range between seven and eight years old eight were boys and 11 were girls. Two student participants were English Language Learners.

Data Gathering Methods

A variety of data collection methods were utilized throughout my research study to gather both qualitative and quantitative data. My data collection methods consisted of a field log, assessments, namely DIBELS

and McGraw Hill Wonders weekly assessments, student surveys, and non-directive interviews.

Field Log: An ongoing field log of my observations was used to monitor and document the student participants when working in the independent learning centers. This log was updated as often as possible on a weekly basis to ensure proper documentation was being collected. Direct student quotes and actions were recorded here to log the interactions of the participants during the study. Anecdotal notes and reflections were kept and were also used to initiate the conversations during the student and teacher interviews.

Assessments: The DIBELS Next Assessment and weekly Wonders assessments were utilized to gather quantitative data on students' phonemic awareness and phonics skills. Prior to the start of the implementation of the multisensory activities in independent learning centers, baseline data was collected on these such skills. In the initial assessment on the beginning of year benchmark, students were assessed on three phonics components; Phoneme Segmentation Fluency, Nonsense Word Fluency, and DIBELS Oral Reading Fluency. Each assessment is given by a trained test administrator using a scripted dialogue with each task lasting one-minute. The DIBELS Next

assessment progress monitoring assessments were used throughout my study to document and monitor student growth and achievement in those areas. Student achievement was assessed and documented either weekly, bi-weekly, or monthly depending on which tier the students were in. Students' tiers and need for support were decided after the beginning-of-year benchmark assessments were given and data was analyzed.

The Wonders reading program comes with reading assessments that are taken online. The weekly assessments consist of 15 questions where reading comprehension, grammar, phonemic awareness, and phonics are assessed. Of those 15 questions five of them focused on phonemic awareness and phonics. My study focused on phonemic awareness and phonics skills, so when analyzing data from this source I only reviewed the information pertaining to those skill sets.

Student Surveys: Student surveys were written in student friendly language and were explained both in advance as well as each time they were given. The surveys were used to assess students on their attitudes and feelings regarding the independent learning centers they participated in during independent learning centers. The first survey was given prior to the implementation of the multisensory component to establish baseline

data on students' experiences of the center rotations they participated in on a daily basis. The same student survey was used throughout the study as each multisensory component was added to the independent learning centers. The data collected from each survey was analyzed and compared to each one that was given. The Information gathered from these surveys was used to support me in my planning of the center activities my students rotated to in regards to student engagement.

Non-Directive Interviews: Student responses on the surveys as well as the observations from my field log were used to initiate and open up the conversations I had with individual students throughout my study. These interviews took place weekly throughout the study with randomly selected student participants. In these interviews, my students were able to elaborate on their responses from the surveys and the behaviors that were observed. Notes were taken during the interviews so that their opinions and experiences were taken into consideration when planning and creating the activities they participated in. Student input had a positive effect on the activities they participated in and they felt validated when they noticed they were taken into account.

Research Design

To begin my action research study, I planned and completed my proposal to the Human Services Internal Review Board (HSIRB). I then requested permission from my building principal to conduct my research study. I introduced my action research study to my students using “student friendly” language and informed them that their parents were going to be receiving a consent form. To get the permission for my students to participate in this study, I created a parental consent form that described in detail what my action research study entailed in both English and Spanish to accommodate the home language of some of my families. Upon receiving permission from all necessary parties I was able to begin my action research study. The study took place over an 11-week time period during the English Language Arts (ELA) block namely independent learning centers.

The following is a week-by-week timeline of my study:

Week One - 8/27/2018-8/31/2018: Smart Start

- Beginning of year DIBELS benchmark administered to all students and logged as baseline data
- Setting classroom routines, procedures, and expectations for working independently in learning centers during ELA

Week Two - 9/4/2018-9/10/2018: Smart Start

- Explained intended study to students in language they would understand
- Handed out and explained the parent consent forms to be taken home for parents to complete and return. A Dojo message was also sent out to parents informing them of the consent form.

- Collected and filed parent consent forms
 - Continue with routines, procedures, and expectations for independent learning centers where students began to participate
 - Observations kept using field log on students during independent learning centers
 - Beginning of year DIBELS benchmark data analysis done to establish need for support
- Week Three - 9/11/2019-9/17/2018: Smart Start
- Continue with routines, procedures, and expectations for independent learning centers with student participation
 - Observations kept using field log on students during independent learning centers
- Week Four - 9/18/2018-9/25/2018: Unit One Week One
- Adaptions made to the independent student activity cards provided by the McGraw Hill Wonders program due to complexity and level of difficulty
 - Model and explain the weeks independent learning centers to students
 - Word Work Center- Identify rhyme
 - Phonics Center- short /a/
 - Observations kept using field log on students during independent learning centers
- Week Five - 9/26/2018-10/2/2018: Unit One Week Two
- Model and explain the weeks independent learning centers to students
 - Word Work Center- alliteration
 - Phonics Center- short /i/
 - Observations kept using field log on students during independent learning centers
 - Explain and give first student survey
 - Progress monitor students using DIBELS Next
- Week Six - 10/3/2018-10/10/2018: Unit One Week Three
- Model and explain the weeks independent learning centers to students
 - Multisensory activity
 - Build-a-Word
 - L-Blend Twister
 - Word Work Center- contrast vowel sounds
 - Phonics Center- I-blends

- Observations kept using field log on students during independent learning centers
 - Explain and give second student survey
 - Student/Teacher conference
 - Progress monitor students using DIBELS Next
- Week Seven - 10/11/2018-10/17/2018: Unit One Week Four
- Model and explain the weeks independent learning centers to students
 - Multisensory Activity
 - Sandboxes/Wikki Stix
 - Sentence Strips
 - Spin-a-Sound
 - Word Work Center- phoneme categorization
 - Phonics Center- short /o/
 - Observations kept using field log on students during independent learning centers
 - Explain and give third student survey
 - Student/Teacher conference
 - Progress monitor students using DIBELS Next
- Week Eight - 10/18/2018-10/24/2018: Unit One Week Five
- Model and explain the weeks independent learning centers to students
 - Multisensory Activity
 - Clip and Spell
 - Beginning Sound Sort
 - Word Work Center- phoneme categorization
 - Phonics Center- r-blends and s-blends
 - Observations kept using field log on students during independent learning centers
 - Explain and give fourth student survey
 - Progress monitor students using DIBELS Next
- Week Nine - 10/25/2018-10/31/2018: Unit One Week Six
- Complete unfinished work from week
 - Word Work Center- Review skills
 - Phonics Center- Review skills
 - Observations kept using field log on students during independent learning centers
 - Student/Teacher conference
 - Progress monitor students using DIBELS Next
- Week Ten - 11/1/2018-11/8/2018: Unit Two Week One

- Model and explain the weeks independent learning centers to students
- Multisensory Activity
 - Phoneme Blending Elkonin Boxes
 - Sentence Strips
- Word Work Center- Phoneme blending
- Phonics Center- Short /e/
- Student/Teacher conferences
- Progress monitor students using DIBELS Next
- Wonders weekly assessment

Week 11 - 11/9/2018-11/15/2018: Unit Two Week Two

- Model and explain the weeks independent learning centers to students
- Multisensory Activity
 - Build-a-Word
 - Rhyming Clip Cards
- Word Work Center- Identify and generate rhyme
- Phonics Center- Short /u/
- Observations kept using field log on students during independent learning centers
- Explain and give final student survey
- Student/Teacher conference
- Progress monitor students using DIBELS Next
- Wonders weekly assessment

Trustworthiness Statement

Prior to beginning my action research study, I followed the appropriate guidelines and safeguards necessary in order to ensure my action research study was both trustworthy and ethical. I was granted

documented approval and given permission to implement my study by Moravian College's Human Subjects Internal Review Board. This decision was based on the detailed information given to the board in a research proposal document where I included descriptions of the study in regards to the setting of the study, it's objectives, design, data collection methods, interview protocols, and procedures taken to reduce risk to the participants in the study. Along with this document the board also received a signed principal consent form, a parent consent form, and student surveys to be used in the study. The principal consent form described to my principal my intended research and practices. Parent consent forms were distributed to each of my students' families. This form described the intentions of my study where I explained the importance of participant confidentiality and the right to withdraw at any time without penalty. This consent form also informed the parents of the procedural safeguards that were going to be taken with the data collected throughout the study. Any and all data collected and information used was kept in a secure location only known by myself and upon the study's completion it will all be destroyed. Due to the young age of my students, a student assent form was not used. I did, however, take the necessary time to explain in detail

to them the intentions of my study and what they will be a part of throughout the duration of my study.

Upon receiving the signed consent forms from my principal and students' families, I was able to begin my action research study and collect and analyze my data. In this study data was collected through various methods: DIBELS Next Assessment, Mcgraw Hill Wonders student assessments, student surveys, and non-directive interviews were used. The use of various data collection methods allowed me to triangulate my data and gather multiple viewpoints in my study (McNiff, 2017). The methods of data collection used in my study increased my studies credibility and validity in that it adhered to the trustworthiness criteria set forth by Lincoln and Guba, where a trustworthy research study needs to be credible, transferable, dependable, and confirmable (Hendricks, 2017). The student scores on the DIBELS Next assessments and Wonders assessments were stored on district approved databases. These scores were analyzed with my colleagues in weekly debriefing meetings where alternative interpretations were pointed out and discussed. These meetings aided in creating new paths for my study and to check for instances of bias. This ensured that the data collected was detailed and recorded accurately. A schedule was made and adhered to

for when each type of data collection was to take place in order to monitor student progress and to keep my study trustworthy. Member checks were used to increase my studies' credibility, especially when collecting and analyzing the information gathered from the student interviews and surveys. To make sure students fully comprehended the survey, it was explained and written in student friendly language, and was read aloud to them each time it was given. The participants were included in the analysis of this data, as a member check. I wanted to make sure that I was interpreting their responses correctly and representing them in an honest way. Persistent and prolonged observations and reflections occurred throughout my study where anecdotal notes were logged as data. This log was analyzed and discussed with my debriefing group to look for themes, biases, and areas of new information or problems. The data collected was documented and analyzed to support the theory on the benefits of adding multisensory components to independent learning centers in the English Language Arts curriculum; namely phonics skills acquisition.

I remained open to any new research findings regarding my study and embraced others opinions while collecting and analyzing my data. I established a teacher researcher support group with trusted peers,

professors, and colleagues who assisted me in this endeavour and to provide guidance and feedback to help eliminate any biases throughout my study. As mentioned before, it was my intent to design and implement a trustworthy and valid action research study in an ethical way.

RESEARCH NARRATIVE

My Story

In my six years of teaching at the elementary level, I have had the pleasure of working with both the primary and intermediate grades. I started off my teaching career in fourth grade and enjoyed my time there greatly. A grade level change occurred three years into my teaching experience and I found myself in first grade. As eager and excited as I was to tackle this new assignment, I was also experiencing waves of other emotions. I was nervous, anxious, and terrified about teaching such young children. I was used to teaching children to read for meaning and to learn something from it, not teaching children the art of reading and how to do it. I was apprehensive about it to say the least. I had to change gears quickly and adapt to my new setting. I found myself reading academic articles, journals, and books on teaching reading to beginning readers as well as seeking out guidance and support from my colleagues to help me get a better understanding of what I was about to embark on. Now, three years into teaching first grade I am still learning about the art of teaching reading to young children.

I teach in an urban, open concept, Title I school with many students entering first grade not reading ready. In response to this, my district has adopted an initiative to have all students reading proficiently by grade three. The purchase of a new reading program by McGraw-Hill called

Wonders, was one of the many solutions they had in achieving this goal. Since using this scripted program, I have found that as effective and rigorous as it is, it lacks the physical engagement of the learner. Students seem to be “going through the motions” and are not actively engaged or motivated during English Language Arts (ELA), namely independent learning centers. Our core instruction for ELA is 140 uninterrupted minutes. That 140 minutes is broken up into whole group and small group instruction. In small group instruction, students who are not working directly with a teacher are rotating to various learning centers throughout the classroom in designated areas. Yes, students are moving from center to center and from whole group to small group instruction; but that is the only physical thing they do during this time. Much of the instruction is done by the teacher and the activities used to build and reinforce these skills neglect to include multisensory techniques to fully engage students.

I quickly came to the topic of my research study after observing my students during their independent learning centers. Many of the center activities the program provided were difficult for my students to complete on their own. I also found myself adapting many of the “workstation activity cards” provided by the program so that they were more appropriate for my student population. Since there was little teacher input

I could do during whole-group core instruction, I realized that I could make changes to what they were doing when working independently in their centers. To address this problem, I planned and implemented various multisensory activities in the classroom during independent learning centers. These new activities were modeled and explained to my students before they had the opportunity to participate in them.

During the new independent learning centers, students rotated to designated places around the room to practice the phonics and phonemic awareness skills that were pertinent to the weeks lesson. Incorporating movement and involving the other senses during independent time increased student learning and engagement. The use of tactile kinesthetic teacher created centers were used to engage all learners and reinforce the literacy skills. I decided to focus on students' phonemic awareness and phonics skills because these are the foundational skills needed when decoding and learning to read. Students who lack in these skill sets are also considered "at risk" (Churchill, Durdel, & Kenney, 1998), so I set out to plan multisensory activities that would enhance these necessary skills in becoming literate.

Getting Started

Prior to the initiation of my study's multisensory component, I spent the first five weeks collecting baseline data and establishing the necessary classroom routines and procedures to ensure student success. Beginning on August 27th to the 31st, each student was given the beginning-of-year DIBELS benchmark assessment (mCLASShome.com) in the areas of Letter Naming Fluency, Phoneme Segmentation Fluency, and Nonsense Word Fluency. The data from this assessment was logged and analyzed to determine students' need for support. Based on this data, certain students were progress monitored either on a weekly, bi-weekly, or monthly basis using the DIBELS Progress Monitoring Assessments. Of my 19 student participants five students were progress monitored weekly, seven students bi-weekly, and six students monthly. *Table 4.1* is a screenshot of the beginning-of-year benchmark scores.

BOY benchmark for Comp Score is 113

Bethlehem Area School District, William Penn Elementary School
Wawrzyniak, Taylor

2018-19 WPES Literacy 01 Room 104
Grade 1 - BOY

Name	Comp Score	DIBELS Next®				
		BOY	LNF	PSF	NWF CLS	NWF WWR
<i>Quinn Zamparo</i>		46	43	32	5	
<i>Alfred Wyzanski</i>						
Rivera Gonzalez, Dylann	84	29	29	6	0	
Mayers, Lillie	72	25	27	20	0	
Peterson, George	76	23	35	18	0	
Wofford, Cataliya	83	22	45	16	0	
Gari, Luwa	105	40	39	28	8	
Carrasquillo, Caiden	117	38	53	35	7	
Brown, Saleem	120	42	46	32	7	
Segarra, Sarah	124	53	35	36	0	
Calderon, Maya	126	60	24	42	9	
York, Cor'Raye	133	63	52	38	0	
Ramirez, Kaylin	138	45	48	45	0	
Rodriguez, Kyoto	138	42	49	47	14	

Any @ who scores below the 50%ile nationally - will have the skill inventory done

50%ile is the safety net for bubble kids

Don't include in study

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Bethlehem Area School District, William Penn Elementary School
Wawrzyniak, Taylor

2018-19 WPES Literacy 01 Room 104
Grade 1 - BOY

Name	Comp Score	DIBELS Next®				
		BOY	LNF	PSF	NWF CLS	NWF WWR
Rodriguez, Vincent	138	64	42	32	3	
Loyer, Matthew	144	57	42	45	1	
Buezo Cordon, Christopher	149	50	22	77	15	
Lopez, Selena	149	46	51	52	14	
Martinez, Somaya	151	56	57	38	0	
Thompson, Aubrey	180	67	42	71	18	
Rodriguez, Lyric	209	53	44	112	39	
Carolán, Tobias	223	77	73	73	18	

Table 4.1 Beginning-of-year benchmark scores

The first three weeks in Wonders is called, “Smart Start” and consists of a review of letters and their sounds as well as other phonics and phonemic awareness skills learned in kindergarten. Actual ELA instruction at this time during the school year is 30 minutes, leaving time to establish classroom routines and procedures. During this baseline data collection time of my study, observations were done to monitor students working in their independent learning centers. I set the expectations for my students when working independently in learning centers. I modeled for them how to properly rotate to each center as well as how to work in each center. This routine was practiced daily along with constant

feedback and praise to reinforce the expected behavior. Setting the scene early for my students was necessary so that more time was spent working on skills and little time would be spent on redirection.

During this time, I obtained permission from my principal (Appendix A) and I also introduced and explained my study to my students and distributed the parent consent form (Appendix B) that was to be taken home to their parents. A message was sent regarding the permission slip on Class Dojo, a communication application I use in my teaching practice so that they were on the lookout for this document.

Wonders Unit One Weeks One and Two

The week of September 18th, kicked-off the first unit and week of the Wonders reading program. The Wonders program consists of six total units with six weeks in each unit and runs on a day one through five cycle. As stated earlier, my study focuses on the independent learning centers students work in during the ELA block.

For the first two weeks in unit one I utilized the Workstation Activity Cards provided by Wonders as the activities my students worked on for the independent learning centers. I used these cards because I wanted to see how this group of students both worked and liked the activities Wonders provided for them. A student survey (Appendix C) was created

to gather data on my students feelings about the centers they worked in and was used throughout my study to compare their feelings to the new multisensory implementation. These surveys also initiated the non-directive interviews (Appendix D) that occurred during my study. Each workstation activity card has a color-coded border identifying the level of the activity so that students know which activity they should be working on when at that specific center (approaching level, on level, and beyond level). Many of my students had a difficult time remembering which activity they were supposed to do when at the center. To correct this problem I recorded the color-coded level of each student on their desk folders that they carried with them to each center. I found that even after recording the color-coded level on their desk folders, many still continued to have a hard time completing the assigned activities.

The centers for week one were writing, computers, phonics, and assigned pages in their independent practice book. The phonics center for the on-level students, of which all but four students are considered; was for them to use word-building cards to build words that end in: -ats, -ans, -at, and -ad. They then had to select one of the words they built, record it, and draw a picture or write a sentence to show what the word meant. The approaching level phonics activity had students reading eight

words that followed the week's phonics skill along with two of the week's high frequency words. They then had to record the words that had the short /a/ sound, and then tell a partner two other short /a/ words they knew.

The centers for week two were writing, computers, spelling, and assigned independent practice pages in their practice book. As stated earlier I used the Wonders workstation activity cards for each center. Due to the observed student frustrations in the writing center, I created my own writing activity that was written in kid friendly language because the ones Wonders provided were too difficult for my students to read and understand what to do. I found myself being interrupted multiple times in my small group to help students understand what was being asked of them. Students were also observed not completing the writing assignment and simply just sitting there talking or doodling on their papers. The on-level Wonders phonics center for the week was to have students make a two-tab foldable labeling the one side -it and the other -ill. On those inside tabs they were to write words with -it and -ill spelling. Since they have never created a two-tab-foldable I made a sample one for them to use as a reference. This did not go over well, as many of my students came up to me asking for help on folding their papers. I decided to forgo

the foldable and have them make a T-chart instead, because this was familiar to them and easier for them to do. The activity for the approaching level was for students to read and say their HFW (very, out, up), think of words that rhyme with the words pin or will, and then write the missing words from two sentences that were given to them on the card. There was only a handful of students whom I observed refer to the list of their spelling words to come up with the -it and -ill words.

In my observations over these past two weeks, students were having a lot of trouble reading and understanding the activity cards provided by Wonders. The cards are not written in student friendly language and are not engaging all the students. Many students were observed off-task and not getting their work done. I was taken away from working with my small groups many times to address the issues students were having. I found myself answering questions, re-explaining to students what to do, re-reading directions, and correcting behaviors, all while I was supposed to be working with a small group of students. It had come to a point where I adapted and had to include templates with examples of the workstation activity cards because they were too difficult for many to read and understand what to do. I also had to carefully select

which workstation activity cards I was going to use each day due to the fact that some of the skills had not been taught yet.

At the culmination of these first five weeks, students were progress monitored (Appendix E) and the student survey (Appendix C) was explained to the whole class while sitting at the back carpet before giving it to them. A discussion was held and explanations were made about each item on the survey. I did this for multiple reasons; one to ensure accuracy for my data collection, another was to clear up any confusion because this may have been the first time any of them had completed a survey where they had to respond by placing an X along a continuum. Once there was a clear understanding of what was being asked of them I distributed the student survey to all students. The survey was displayed on the board where I read each item aloud to them and modeled how to complete it properly. Each prompt was done in this way to ensure accuracy. I informed my students that they would be seeing this same survey multiple times throughout the study as the multisensory activities were added to the centers. I told them that I wanted to compare each survey and use the responses to initiate conferences with students.

Multisensory Implementation

The multisensory component in my study was implemented during the third week of unit one in Wonders and continued until the fifth week in unit two. Before beginning the multisensory activities, I called my students to the back carpet where we had a discussion on what multisensory was. We broke-down the word and talked about what the words “multi” and “sensory” meant. Many hands when up when asked if anyone knew what the word, “multi” meant. Toby’s had shot up first and he had a huge smile on his face.

When I called on him he answered in a complete sentence by saying, “Multi is fancy word for many.”

When asked about what the word sensory meant another student, Vinny replied with, “ Like your five senses.”

I then expanded on his answer by informing them on how I was going to use this new technique in our learning centers. I could tell they were hooked right away, as they sat up a little straighter, with their eyes a tad wider, and big smiles on their faces. They all were very excited and eager to start something new and different.

Wonders Unit One Week Three

The phonics skill for this week in Wonders focused on I-blends and the two multisensory activities students participated in were Twister and Build-a-Word. Before breaking into the first small group rotation, I explicitly modeled and explained each multisensory activity with students at the back carpet.

The build-a-word center *Figure 4.1* consisted of a cookie sheet with pictures and the word associated with the picture of items that followed the I-blend phonics pattern. The picture was used as a scaffold to help the students who may not have been able to read the word themselves. They were able to look at the picture to identify the item and then associate it with the word. Students then used the color-coded letter magnets to build the word in the open space next to it on the page.

The I-blend twister activity *Figure 4.2* consisted of individual words with I-blends written on index cards and taped to the twister mat. To play, the spinner was spun and the caller called out the directive for the student whose turn was up. The student then had to select a word on the correct color, segment and blend the word before they placed the correct body part down on it. Then it was the next student's turn to go and so on.

The level of excitement and engagement was extremely prevalent in the classroom during independent learning centers. Students had smiles on their faces and they were seen working collaboratively together. I observed students in the build-a-word center segmenting and blending some of the words they were building. This is something we do on a daily basis and for them to just do it on their own without being instructed to do so was nothing short of amazing. As I was walking around observing them, I asked some students how they liked the activity.

Trevor, a below level reader said, "I like that we don't have to use our pencils."

Another student Sarah responded that, "This helps us learn how to read and it was fun!".

Some of the things I heard my students saying about the twister center was, "This is so much fun!" and "This is the best day ever!".

I asked one student, Toby what was fun about it and his response was, "Well, because you get to read the word in a different way. You have to try not to fall, so you need good balance."

Another student, Kayla said that, "It was fun and exciting because we don't need to use our pencils."

One other student commented about how it helps them know their left from their right. I could hear students laughing and enjoying what they were doing; and they were learning! From those quick observations and comments from my students I could tell that I had them and they were engaged.

At the end of unit one week three in Wonders, the second student survey (Appendix C) was given following the same procedure as the first time it was presented to them. Prior to taking the survey I reviewed the multisensory activities that they participated in for the week and then distributed and took the survey whole group. Completing the survey the second time went much better than the first, for it was familiar to them now and took much less time and redirection than before.

I selected three random student surveys and held a student/teacher conference based on the responses given on their surveys. My first question to them was in relation to the Wonders centers and the new multisensory centers as to which one they enjoyed better. I also asked them if there was anything they did not like or if something could be made better. All students responded that the multisensory centers were more enjoyable to them.

When asked why Trevor explained that, “You got to stretch and do cool stuff.” He also mentioned how they worked as a team by helping out their peers, “We helped each other with the left and right and it feels good to help because sometimes you know more stuff and sometimes you don’t.”

When I asked Emily what she liked about the centers she worked at this week she told me, “I liked that we didn’t have to write, we do a lot of that already and we got to move and read together which was funner.”

“I liked them because they were different and a lot more fun.”

Lylah said.

When I asked her if there was anything in those activities that could be made better she had a very good suggestion for the build-a-word activity that I changed right away.

She said, “Maybe if you highlighted or underlined the I-bends in the words it would be easier to know the rule.

I was so impressed with the honest and meaningful feedback my students were giving me and quickly made the changes.



Figure 4.1 Build-a-Word

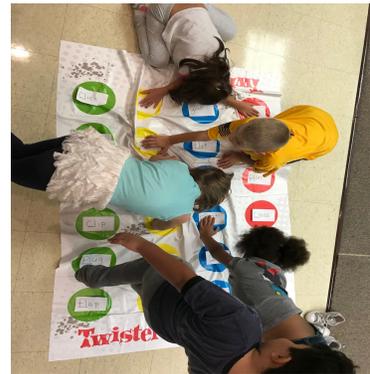


Figure 4.2 I-Blend Twister

Wonders Unit One Week Four

The multisensory activities for this week that followed the skills of phoneme categorization and short /o/ were sandboxes and Wikki Stix, sentence strips, and spin-a-sound (Conversations in Literacy, 2018). Prior to the first small group rotation, I explained and modeled each activity for my students and they were eager to get started. The looks on their faces was of pure excitement when they saw that colored sand was in the snap boxes! I carefully and firmly set my expectations for acceptable behavior as well as the consequences, and they definitely rose to the occasion.

In the sentence strips activity *Figure 4.3* students were to put premade sentences back together, record them on paper, and then to pick out their favorite sentence and draw a picture that went with it. The

spelling words that follow the phonics skill for the week as well as the high frequency words (HFW) were used in the sentences.

In the spin-a-sound activity *Figure 4.4* (Conversations in Literacy, 2018) students had to spin a spinner that included beginning, middle, and ending sound, as well as a players choice. Once the part of sound was spun students had to select a picture card from the pile and say the word associated with the picture and then identify the sound that was spun.

The sandboxes *Figure 4.5* and Wikki Stix *Figure 4.6* were available for students to practice the weeks phonics spelling pattern in a fun multisensory way. In the sandbox and Wikki Stix activity students practiced the phonics skill for the short /o/ by writing and creating the words that followed the spelling pattern. As an extension, students were able to come up with their own words that followed the pattern. They were able to use their finger or a toothpick to make the words that followed the weeks pattern. They could also do the same using the bendable sticky sticks. A list of their spelling words along with additional words was at the center for students to reference when working.

Before the first small group rotation all students were called to the back carpet for each activity to be explained and modeled. I kept a field log (Appendix F) throughout my study and was able to set time aside to

observe my students interacting and working in their centers. I noticed changes in students' attitudes and work ethic. They were engaged and working together harmoniously. They were helping one another out when they were stuck and many times I observed students playing a "teacher role" by asking for the beginning sound of a word and what the letter was that was associated with a certain sound. It was a beautiful sight to see to say the least. While walking around I asked students what they liked about the activities they were participating in and they offered responses like, "I like writing words in the sand, it feels cool on my fingers." "The sticks are fun because they bend and stick to each other." "I like that we can pick what we want to do here, like we don't have to do it all."

At the culmination of this week in Wonders, I again distributed the same student survey (Appendix C) and it was given in the same manner as the previous surveys were to ensure accuracy and to clear up any confusion. I selected two students, Kayla and Toby to conference with after the surveys were taken to talk about this week's centers and how they liked them. In talking with Kayla I learned that the sentence strips were hard for her and that's why she responded that she didn't like the spelling center on the survey. When I asked what was hard about it she said,

“Putting them together is too hard. Can’t they all be together already like real sentences?”.

I then explained to her why they were broken apart and she suggested that I include an answer key in the center with sentences on it so they can check it when they are all put together.

In my conversation with Toby he informed me that he did not really enjoy the sentence strip activity.

He said, “There is too much writing.” and suggested that, “After the sentences are put back together we can use some of the words in the sentences to make our own sentence and draw a picture for it and share it with a friend in our group.”

Both students were very honest and offered up great suggestions to make the centers better and more enjoyable for their peers. I did heed their advice and made the changes to the sentence strip activity that they recommended.

In the clip and spell activity *Figure 4.7* students used clothespins with letters written on them to clip onto painters sticks to make their spelling words that follow the week's phonics spelling pattern of r and s blends. Once the words were made they had to segment and blend the word.

The beginning sound sort *Figure 4.8* (Vines, 2013) consisted of picture cards and two sorting mats. Students had to choose a picture card from the pile, say the name of the picture, and say the beginning sound. If they were correct they placed that card on the corresponding mat and if they were incorrect the card was placed on the try again mat. When all cards were gone, students had to practice the ones they did not know.

When it was time for the first round of centers, I called students to the back carpet to explain and model the new activities. They were very attentive during my modeling and once they were released to begin their independent work I heard one of the boys yell, "YAY! I'm at the phonics center!" he was so excited to get there and get to work. As I was observing students in the clip and spell center I saw them working cooperatively with each other as they were trying to find certain letters. There was a little boy looking for the letter "v" and when he asked his classmate if they had seen one she prompted him to give her the sound it

made. Once he did, she gave him the letter! This happened a few more times with this small group of students during this center rotation and was totally unprompted by me. They were clearly picking up on the things we do in whole group instruction.

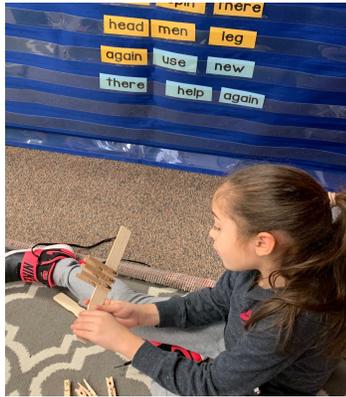


Figure 4.7 Clip and Spell



Figure 4.8 Beginning Sound Sort

Wonders Unit One Week Six

The final week of each unit consists of a review of all skills and strategies taught throughout the entire unit. A summative assessment on the computer is to be given at this time to evaluate student learning and mastery of skills within the entire unit. As per my district's guidelines and the programs rigor, the assessments in the first unit of Wonders are to be taken as an "I do", where the teacher models for the students how to take the tests. This follows the gradual release model as in the second marking period or unit two the assessments become a "we do" where the

assessments are taken together as a group, and then finally by the third marking period it becomes a “you do” where the students are on their own taking all the assessments. With this being an “I do” assessment, I did not record or use any of this data at this time in my study.

Wonders Unit Two Week One

The phonics and phonemic awareness skills for the week were short /e/ and phoneme blending. There were two phoneme blending activities implemented to support these skills and both included the use of Elkonin boxes. These instructional aids were familiar to my students as they were used multiple times throughout the day during both small and whole group instruction. Each activity consisted of photographs of common items that they had to segment and then blend together.

One of the activities had a single picture on it with the Elkonin boxes underneath *Figure 4.9* for students to complete the activity (Drenser, 2014). The other activity was broken down by vowel sound and had a spinner on one side with multiple pictures of familiar items *Figure 4.10* (Smith). Students were to spin the spinner, identify the image, and segment and blend the word using the Elkonin box included on the card. Both chips and dry erase markers were included in this center for students to use when segmenting the words. The chips were used for segmenting

each sound in the words and the markers were used as an extension for students to record the letter associated with each sound in the boxes.

Prior to the start of the first small group rotation students were called to the back carpet for an explanation of the week's multisensory activities. As soon as I tell them that it's time to share the week's center activities they immediately get excited. Their faces light up and I can hear soft cheers and comments from my students like, "Yay, I love center time!" and "I hope I go to phonics first!". In my observations kept in my field log (Appendix F), students were engaged and were working in meaningful activities and enjoying it. The time spent with my small groups was increasing as students were able to work independently. Not only were they independently working but they were also working cooperatively with their peers.

A student in particular, Trevor, an approaching level student was observed having difficulty identifying certain pictures on the spinner so Emily, an above level student decided to stop what she was working on and helped Trevor work on his activity. Below is an account of the beauty that unfolded right before my very eyes.

Emily, "Let's take turns spinning, you can go first and I'll help if you get stuck, OK?"

Trevor, "OK, here I spin!" The spinner lands on a picture of a red crayon and Trevor responds with, "Crayon, there's no e there."

Emily, "Yea, but what color is the crayon?"

Trevor, "Red!"

Emily, "Do all the sounds in red and put the chips in the boxes."

Trevor, "rrr-eee-ddd, red!"

Emily, "Good, there are three sounds in red. My turn." and then she spun and this continued for the entire 15 minute center rotation time.

The sentence strip activity was the other center for the week, and although this was a familiar one to them I had made some changes to it as per my students' request. This time I included an answer key. The answer key was placed in a yellow folder that read, "Top Secret Sentence Key" and a student was selected from each group to be the folder holder. Their job was to keep the folder closed until all the sentences were put together. Once together they could take out the key to check their work. Instead of having them record all the sentences that were put back together I had them use the key words and make their own sentences along with a picture to share with their group mates. The looks of

validation on the faces of Toby and Kayla when they realized that I took their suggestions to heart and made changes was beyond gratifying to me.

Toby came up to me at the end of ELA with a big smile on his face and said, “That was so much better than before, thank you!”

At the end of this week in Wonders I orally reviewed the multisensory centers students participated in before completing the fourth student survey. This survey (Appendix C) was distributed and taken in the same manner as it was done in the past; whole group, modeled, and read aloud projected on the whiteboard.

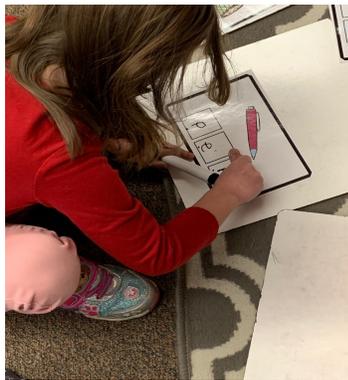


Figure 4.9 Elkonin Box



Figure 4.10 Spinner Elkonin Box

Wonders Unit Two Week Two

The phonics and phonemic awareness skills for the week were short /u/ and identify and generate rhyme. The two multisensory activities for the week were build-a-word and rhyming clip cards (Hier, 2018). Students were called to the back carpet for an explanation and modeling of the center activities for the week. They are always so eager to come to the carpet to see what the new activities are going to be. They all sit at attention anticipating what is up my sleeve. When I reveal that one of the activities is one that was already done before hands shoot up as they try to take guesses as to which one it is going to be. Up until this point only one activity had been repeated and that one was the sentence strips. I repeated that activity because there were students who made suggestions as to how to make it better and I wanted to validate their opinions and suggestions. Since there was a suggestion made in regards to the build-a-word activity I wanted to use it again. This time the build-a-word activity included the phonics pattern for the week. It was bolded and underlined within the word that was next to the picture. This was done to make clear the phonics spelling pattern to the students. When this change was noticed by Lylah, she was happy and beaming with pride.

She came up to me with a smile on her face and said, "I see that you did what I said to you about the build-a-word center."

I smiled back at her and replied with, “Yes I did and I Thank you.”

In the rhyming clip cards activity *Figure 4.11* (Hier, 2018) students select a card and identify the larger image pictured at the top of the card. Next, they identify the three smaller images at the bottom of the card and have to select the one that rhymes with the larger pictured item by placing a clothespin on the rhyming picture. This was an activity that everyone could do as we have had a lot of practice with rhyming. Student motivation and confidence was at an all time high. Students were working collaboratively and enjoying it. I even observed many students coming up with additional rhyming words that went along with the pictured item on the card they selected. I sat down next to Mya as she was working with the rug picture card and asked her to give me some other words that would rhyme with that word.

“Slug, plug, chug, hug, club.” flew out of Mya’s mouth with such ease and no hesitation.

I was happy to hear words that consisted of blends and digraphs.



Figure 4.11 Rhyming Clip Cards

Wrapping it all Up

At the end of unit two week two, the unit right before Thanksgiving break, I gave the final student survey (Appendix C) and conducted some final thought conversations with students. Prior to distributing the survey I reviewed all the multisensory activities they had participated in throughout the study. I also made mention to the ones that were changed due to peer suggestions. Again, for the last time the survey was distributed, projected onto the board, and read aloud to students.

I randomly selected two students to share their final thoughts on the multisensory activities they participated in throughout my study.

Corrie, a bubbly student enjoyed the multisensory activities and stated, “They were more fun.” “I liked using my hands better than writing and doing papers.” When asked if she thought I should

continue to use these multisensory activities she told me, “Yes, they are really fun and I think that everybody enjoys them. I like when learning is fun and not so much writing or work, it’s like we don’t know we are working when it’s fun!”

Lena, a hard worker with a positive attitude liked the multisensory activities a lot she stated, “I definitely like the multisensory centers because they were a lot more fun because we were actually doing something and not just writing or worksheets.” She asked me if the centers were “going away” now that my study was over and when I asked her if she wanted them to “go away” she was firm in her response by saying,

“Please, please, please, keep these centers! These centers help us learn better because we are having fun!”

Trevor, a wiggly, fun loving student shared his feelings with me about the activities he participated in by saying, “These were sooooo much fun! My friends helped me and I could even help my friends sometimes.”

I asked him if it felt good to help out his friends and he said, “Well yea, I mostly need help but when I helped it made me feel smart.”

Incorporating activities that are engaging to all learners and that all learners can do has done so much for my students' confidence and motivation. To see my students working collaboratively, helping one another out, those ah-ha moments when it clicks, and their smiling faces makes all the struggles about teaching worth it. I am here for them and they make me a better educator. As much of a challenge this journey has been, I have learned and continue to learn a great deal about myself, the art of reading, and the science behind it. I have also learned that if you are able to engage and motivate your students, they have the undying ability to make tremendous strides in becoming literate.

DATA ANALYSIS

In my study data was collected through various methods: DIBELS Next Assessments (mclasshome.com), McGraw Hill Wonders student

assessments, student surveys (Appendix C), non-directive interviews (Appendix D), and a field log (Appendix F) were used. The use of various data collection methods allowed me to triangulate my data and gather multiple viewpoints in my study (McNiff, 2017). The methods of data collection used in my study increased my studies credibility and validity in that it adhered to the trustworthiness criteria set forth by Lincoln and Guba, where a trustworthy research study needs to be credible, transferable, dependable, and confirmable (Hendricks, 2017). After analyzing each data source I was able to see the impact the multisensory implementation had on my students' learning.

DIBELS Next Assessments

This district mandated assessment was used throughout my entire study. It was first used to gather baseline data on all students in the beginning of the year, the middle of the year, and was also used to monitor student progress. In the beginning of the year benchmark assessment students were assessed on three phonics components; Letter Naming Fluency, Phoneme Segmentation Fluency, and Nonsense Word Fluency. See *Table 4.1* for students' scores on the beginning-of-year benchmark assessment. The middle-of-year benchmark assessment measured students Nonsense Word Fluency and Oral Reading Fluency.

Progress monitoring (Appendix E) was done in students areas of need to close the deficits. The student scores were documented and analyzed against the national percentile to determine which students would need support.

Of these measures I focused on Phoneme Segmentation Fluency and Nonsense Word Fluency. The Phoneme Segmentation Fluency Assessment measures students' ability to segment three and four phoneme words into their individual phonemes or sounds. For example, if given the word *trap* the correct student response would be /t/ /r/ /a/ /p/. The Nonsense Word Fluency Assessment measures students' alphabetic principle which includes letter-sound relationships. On this assessment randomly generated nonsense words are used that follow the vowel consonant (VC) and consonant vowel consonant (CVC) spelling pattern like; sig, mip, and ak. Students are presented with a list of these words and are asked to orally produce the individual letter sounds in each word or to read the whole word.

The goal in the area of Phoneme Segmentation Fluency was 43 correct sounds when segmenting given words. Of the 19 student participants 11 students did not meet the benchmark. The goal in the area of Nonsense Word Fluency included two scores, one for correct letter

sounds which was 32 and another for whole words read which was three. Of the 19 student participants six students did not meet the goal for correct letter sounds and nine did not meet the goal for whole words read. Since this measure calculated two scores seven of those students met at least one of the two goals. Any student who scored below the fiftieth percentile in these areas would require progress monitoring in those areas.

The DIBELS assessment system includes assessments to monitor student progress. Based on the individual students' need for support determines how often and what type of progress monitoring measure they receive. Intensive students were progress monitored weekly in their areas of need, strategic students bi-weekly, and core students monthly. Students were progress monitored in the areas of Phoneme Segmentation Fluency, Nonsense Word Fluency and Oral Reading Fluency depending on their needs. The Oral Reading Fluency Assessment measures students' accuracy and fluency on a connected piece of text. Of the 19 student participants four were considered intensive, one strategic and 14 core. A spreadsheet with all progress monitoring (Appendix E) scores was kept and used as data to track students' progress from September 24 to November 19.

A middle of year benchmark assessment using the DIBELS Assessment was given to all students and they were assessed in two areas Nonsense Word Fluency and Oral Reading Fluency. The new goal for Nonsense Word Fluency correct letter sounds was 53 and 15 for whole words read. Of the 19 student participants seven students did not meet the goal for correct letter sounds and seven failed to meet the goal for whole words read. Of those students two of them met at least one of the two measures. *Table 5.1* shows the student scores on the middle-of-year benchmark assessment.

Name	MOY	DIBELS Next®				
		NWF CLS	NWF WWR	DORF Flu.	DORF Acc.	DORF Retell
Rivera Gonzalez, Dylann	24	15	0	9	35	0
Peterson, George	36	31	2	3	21	0
Mayers, Lilee	51	36	7	8	42	0
Carrasquillo, Caiden	54	38	7	8	42	10
Wofford, Catalaya	55	32	11	10	50	25
ulwa	115	53	18	12	67	27
Martinez, Somaya	132	46	13	23	74	27
Brown, Saleem	141	43	11	25	81	13
Aviles, Jayden	142	51	15	26	76	15
Loyer, Matthew	142	54	11	33	72	21
Ramirez, Kaylin	155	79	19	19	70	6
Segarra, Serlah	162	59	20	27	77	17
Rodriguez, Vincent	177	77	24	38	70	19
York, Cor'Raye	215	55	17	63	89	11

Name	MOY	DIBELS Next®				
		NWF CLS	NWF WWR	DORF Flu.	DORF Acc.	DORF Retell
Rodriguez, Kyoto	244	84	28	40	95	8
Lopez, Selena	265	94	33	52	93	29
Calderon, Maya	276	85	26	73	97	4
Thompson, Aubrey	281	59	20	104	100	39
Buazo Cordon, Christopher	311	115	39	71	92	15
n, Tobias	334	103	35	98	99	70
Rodriguez, Lyric	393	141	48	106	98	40

Table 5.1 Middle-of-Year Benchmark Scores

McGraw Hill Wonders Weekly Assessments

The Wonders reading program comes with weekly, unit, and benchmark assessments which students take on the computer. My district follows the gradual release of responsibility when taking these assessments. In the first marking period or unit one all assessments were done as an “I do”. The teacher models for the students how to take the test on the computer as well as what good test taking strategies look like. The second marking period or unit two is a “we do” and the assessments were taken together as a whole group. During this time students were selecting their own answers to each question that was read aloud to them. Finally, during the third marking period or unit three and for the remainder of the year it becomes a “you do”. Students are listening/reading the assessment and answering the questions on their own.

My data collection occurred during the beginning of the year where majority of the assessments were taken as an “I do”. There were two weekly assessments in unit two where students were answering the questions on their own. Since my study focused on students phonics and phonemic awareness I only used the data in those areas from the assessments. There were two questions on each assessment that measured phonemic awareness skills and three questions on each assessment that measured phonics skills.

An item analysis was completed on each of these questions.

Questions eight and nine measured phonemic awareness and questions ten, 11, and 12 measured phonics skills. Below is a comparison of the two assessments on those five test questions.

<u>Unit Two Week One</u>	<u>Unit Two Week Two</u>
Question 8: 78%	94%
Question 9: 63%	83%
Question 10: 100%	100%
Question 11: 89%	94%
Question 12: 89%	94%

There was an increase in both the phonemic awareness and phonics questions on the tests as the data shows.

Student Surveys

Students took a total of five surveys (Appendix C) throughout the study to show their feelings on the activities they participated in during independent learning centers. Each survey consisted of six statements where students placed an X along a continuum from agree to disagree, with somewhat in the middle. The reason for the survey was to show if their feelings changed when the new multisensory activities were added into the centers. These surveys were also used to initiate the interviews I had with individual students throughout my study. The same survey was

used and presented in the same manner each time so that it was familiar to them and gave accurate and valid responses.

The first survey was used to gather baseline data on students' feelings in regards to the centers prior to the multisensory implementation. The center activities during the baseline data collection period were the ones provided by the Wonders reading program my district has in place. There were 16 students who took the initial survey and the results are as follows:

I like when it's time to work in centers.

Agree-3 Somewhat-7 Disagree-6

I don't understand the work at the centers I go to.

Agree-4 Somewhat-9 Disagree-3

I don't like the activities I do when at the spelling center.

Agree-9 Somewhat-2 Disagree-5

I like the activities I do when at the phonics center.

Agree-4 Somewhat-3 Disagree-9

I have trouble doing the work at the spelling center.

Agree-7 Somewhat-4 Disagree-5

I can do the work at the phonics center.

Agree-5 Somewhat-6 Disagree-5

The data represented in this initial survey showed me that many of my students did not like when it was time to work in centers nor did they

enjoy the activities they were participating in. When it came to being able to do the work at the two centers my study focused on, spelling and phonics, many also had difficulty completing the assigned tasks. I was eager to start my multisensory implementation after this initial survey was analyzed.

The second survey was given at the end of the week after the new multisensory activities were introduced into their centers. All students were present and took the survey, their responses are below:

I like when it's time to work in centers.

Agree-12 Somewhat-7 Disagree-0

I don't understand the work at the centers I go to.

Agree-2 Somewhat-11 Disagree-6

I don't like the activities I do when at the spelling center.

Agree-2 Somewhat-2 Disagree-15

I like the activities I do when at the phonics center.

Agree-15 Somewhat-2 Disagree-2

I have trouble doing the work at the spelling center.

Agree-3 Somewhat-4 Disagree-11

I can do the work at the phonics center.

Agree-16 Somewhat-3 Disagree-0

When the data collected from this second survey was analyzed I was not surprised to see that more students liked the new multisensory centers. They were engaged and motivated when they were observed working in them. I was also interrupted much less than I was before, as they were now able to complete the activities more easily. There were less students not understanding the work they were supposed to do and more students being able to do them. It was a win-win for us both.

The student responses in the third and fourth surveys that were given were very similar to one another. Students continued to enjoy center time and were able to complete the activities much easier than before the implementation. Below are the responses of the those two surveys.

Third Survey:

I like when it's time to work in centers.

Agree-17 Somewhat-2 Disagree-0

I don't understand the work at the centers I go to.

Agree-1 Somewhat-6 Disagree-12

I don't like the activities I do when at the spelling center.

Agree-3 Somewhat-1 Disagree-15

I like the activities I do when at the phonics center.

Agree-18 Somewhat-1 Disagree-0

I have trouble doing the work at the spelling center.

Agree-3 Somewhat-3 Disagree-13

I can do the work at the phonics center.
Agree-18 Somewhat-1 Disagree-0

Fourth Survey:

I like when it's time to work in centers.
Agree-15 Somewhat-4 Disagree-0

I don't understand the work at the centers I go to.
Agree-1 Somewhat-8 Disagree-10

I don't like the activities I do when at the spelling center.
Agree-6 Somewhat-2 Disagree-11

I like the activities I do when at the phonics center.
Agree-17 Somewhat-2 Disagree-0

I have trouble doing the work at the spelling center.
Agree-5 Somewhat-6 Disagree-8

I can do the work at the phonics center.
Agree-18 Somewhat-1 Disagree-0

The final survey was given at the culmination of my study. Now that they had experienced and worked with all the multisensory activities, I wanted to see how they felt about them. Below are the responses of the final student survey:

I like when it's time to work in centers.
Agree-13 Somewhat-4 Disagree-1

I don't understand the work at the centers I go to.
Agree-1 Somewhat-5 Disagree-12

I don't like the activities I do when at the spelling center.
Agree-3 Somewhat-4 Disagree-11

I like the activities I do when at the phonics center.

Agree-17 Somewhat-1 Disagree-0

I have trouble doing the work at the spelling center.

Agree-4 Somewhat-3 Disagree-11

I can do the work at the phonics center.

Agree-14 Somewhat-4 Disagree-0

I was pleased to see that so many students' feelings had changed from the initial survey to the final one. Not only did they now like working in centers but they were also able to understand the work they were doing. This impacted their confidence greatly, for there was very little if any student frustration when the multisensory activities were used in centers. The peer collaboration that was observed helped fostered a warm classroom environment where all learners felt validated.

Non-Directive Interviews

Non-directive interviews (Appendix D) were conducted at various times throughout my action research study after analyzing the responses on the student surveys as well as observations kept in my field log. Interviews were conducted on a one-on-one basis with randomly selected students. These interviews were done in confidentiality and included casual conversations in regards to the responses given on the student surveys. The purpose of the interviews was to gain a better

understanding of their feelings and attitudes about the activities they participated in. In these interviews students were able to elaborate on their responses from the surveys and the behaviors that were observed as well as offer suggestions about the activities they worked in.

Notes were taken during the interviews so that their opinions and experiences were taken into consideration when planning the activities they participated in. There were two specific activities where adaptations were made based on student input. The sentence strips and the build-a-word activities were both changed as per student suggestions and the changes were received well. Not only did the students who offered the suggestions notice but so did other students. When the change was made, students were more eager to do the work. This was displayed in my field log and the student surveys. Student input had a positive effect on the activities they participated in and they felt validated when they noticed they were taken into account.

Field Log

Throughout my action research study I kept an ongoing field log (Appendix F) that included detailed observations, actual statements made by students, as well as reflections and insights on the activities, and student participation. The anecdotal notes that were taken were used to

initiate the conversations during the student non-directive interviews. I would take what I had observed in my log and talked to individual students about what I observed. From here I was able to get a better understanding of their opinions on the activities they were participating in. I made changes to two of the activities because of these conversations. I also made special references to each multisensory activity that was implemented and reflected on what activities went well as well as what modifications could be done to make them better for my students. I realized that using too many high energy activities during the week caused instances of extreme excitement, and although good it did cause some off-task behavior. Due to this insight, I made sure to balance the activities I was going to use each week.

It was here where I noticed an increase in my students' motivation and participation. I took careful documentation on how my students interacted and worked before my multisensory implementation and noticed that many were not engaged and had difficulty completing the work. Due to this, I made changes to the groups the students worked in and included more on and above level students in the groups that had more of the approaching level students. This did help alleviate the droves of students coming to me with questions, as they had their peers to assist them.

Codes and Bins

With all the data that was collected throughout my study, I had to organize it so that it could be analyzed and understood. I had an abundance of data and needed to make sense of it. As I was going through my data sets I created codes. I quickly came to notice many overlappings and connected codes in my data. These codes helped me link my data sets together to make bins. This process made analyzing my data a much less daunting task.

All data sets were kept in one document on my computer so that it could be accessed easily. I made notes and coded in the margins of my field log and interviews, and I created a spreadsheet to code the data collected on the surveys and assessments. Of all the codes I created, I was able to organize them into four bins with related codes.

My centers bin included the codes multisensory, time, routines, phonics, phonemic awareness, and engagement. I logged each center activity students participated in both prior to and during the multisensory implementation. Here I also made reference to the time students spent on-task as well as student engagement. Routines was a code that was seen a lot in my data, as each week the routines were reviewed before breaking into small groups.

The assessments bin covered the codes pertaining with student achievement, growth, surveys, DIBELS, and conferences. Each item where students were expected to complete a task was logged in this bin. I kept track of beginning-of-year, middle-of-year, and all progress monitoring scores on my student participants when DIBELS was used. I included two Wonders weekly assessments and focused on the five questions dealing with phonemic awareness and phonics on each test. These scores were analyzed for links between improved scores in phonemic awareness and phonics skills and the use of multisensory activities.

The bin entitled attitudes mainly consisted of the student surveys and conferences that occurred throughout my study. The other related codes fell under the topic of student behavior and consisted of frustration, confidence, motivation, excitement, confusion, and ownership. These attitudes were observed and logged as data in my field log as well as documented by the surveys and the non-directive interviews. Here is where I was able to gain keen insights on how my students felt. I was also able to make links to these behaviors both before and during the multisensory implementation. In the beginning, prior to the implementation of multisensory activities I noticed instances of frustration

and confusion when students were working in centers. Once the implementation was introduced, students were more motivated, excited and confident.

The final bin, entitled differentiation pertained to all of the modifications, modeling, scaffolding, clarifications, and directions that occurred during my study. In order for each multisensory activity that was being introduced to be successful for all students, it needed to be modeled and clear for them. I documented in my field log what each activity was, when it was introduced and how it was modeled.

Finally, I created a graphic organizer for all my bins and codes along with my research question at the bottom. See *Figure 5.1* below for my coding graphic organizer. This visual aid not only helped me make sense of all the data I collected, but it also assisted me in creating my theme statements.

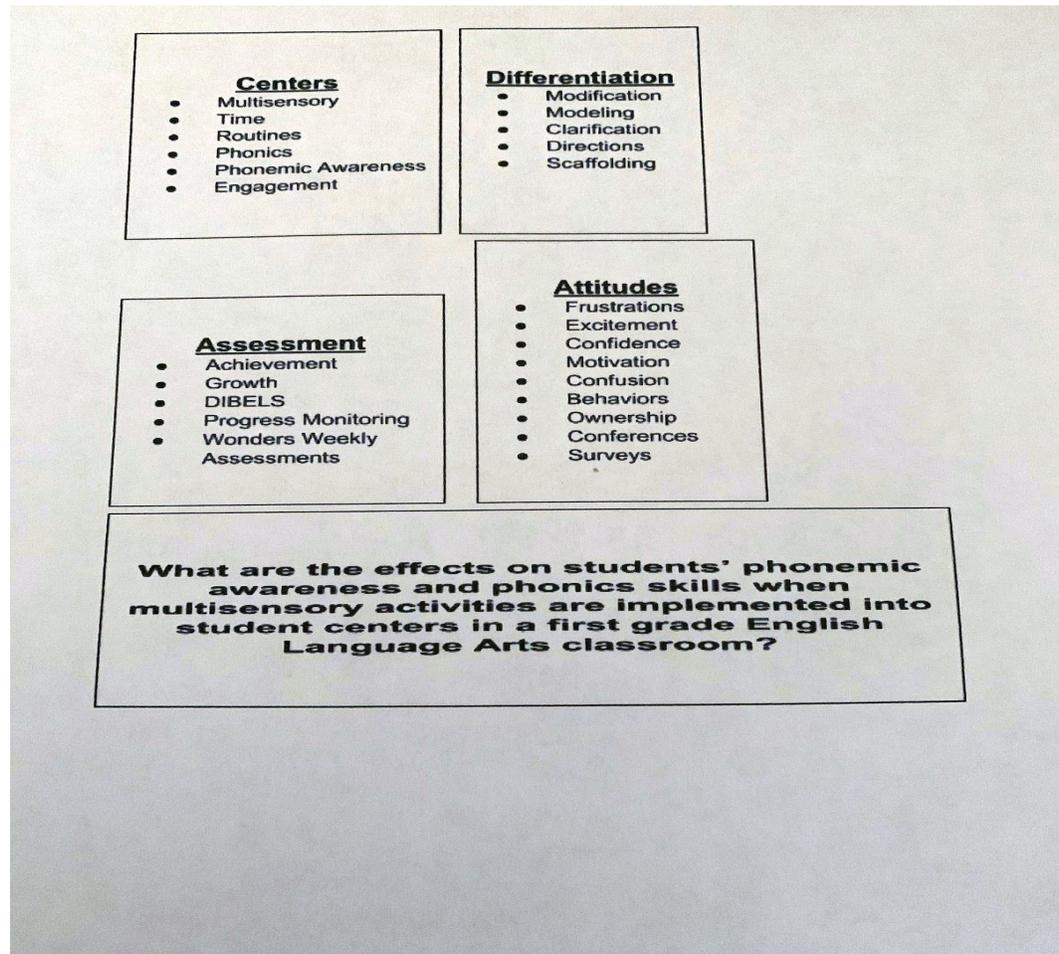


Figure 5.1 Coding Graphic Organizer

THEME STATEMENTS

The process of creating the codes and bins while analyzing my data allowed me to develop big ideas or theme statements based on my study's findings. I created a statement based on each bin and the codes inside it and supported each of them with the findings of my study.

Centers

Centers were designed for students to independently practice learned skills that were explicitly taught previously. For them to be effective, routines and procedures needed to be established and followed. Careful planning of the multisensory activities and time management were essential when centers were used. The incorporation of the multisensory activities in centers increased my students' phonics and phonemic awareness skills, as they were highly engaged, eager to learn, and excited to participate in them.

Vygotsky (1978) mentions the works of Maria Montessori in relation to teaching reading and writing by saying, "Montessori is particularly in favor of teaching reading and writing at an earlier age. In the course of game situations, generally through preparatory exercises, all the children in her kindergartens in Italy began to write at four and can read as well as first-graders at age five" (p. 117).

Maria Montessori believed in teaching the skills of reading and writing to the very young. She also believed and used fun, engaging, game-like scenarios to teach these skills. The young four-year-old children she worked with were able to write and read just as good as the first graders. Montessori is one of the key players that I mention in my literature review for she is known for teaching children using a method that builds on the natural way children learn and experience life. These methods are done through play and game like situations that engage the child. I have taken what I have read about Montessori and some of the other key players like Samuel Orton and Anna Gillingham to inform my practice and study. I have created and implemented numerous “game-like” activities to reach my students in a way that is enjoyable for them.

My first grade students are immersed into a rigorous reading program with demands and expectations set on them that were once unheard of at such a young age. They are expected to be on task and focused for a whole 140 uninterrupted minutes each day. Before the implementation of the multisensory activities I could see the sheer boredom on their faces, first grade was no longer fun and I wanted to bring that fun back. The only part of the ELA block where I felt I could

express myself as an educator was during the independent learning centers because there was not a script that I needed to follow. These game like activities that my students participated in brought back the fun in learning. They got excited when it was time to work in centers. This was prevalent in their responses from the surveys (Appendix C) and the non-directive interviews. More got accomplished and my students were given the opportunity to cooperate with their peers in a more student-centered environment. Students were both playing and learning simultaneously.

Each week, the phonemic awareness and phonics skills were explicitly taught during whole group instruction and the multisensory activities that were used and implemented during my study focused on those skills. Student learning was at an all time high during centers, as they were all engaged in meaningful activities they were able to complete independently. Vygotsky (1978) supports this notion by saying, “What a child can do with assistance today she will be able to do by herself tomorrow” (p. 87). When children are learning and gaining new skill sets in education the instruction and modeling done by the teacher follows a gradual release of responsibilities. The teacher instructs or models for the student the skill which then allows the student to imitate it and do it

independently the next time. This quote holds true in so many ways. As teachers we are constantly modeling and scaffolding our instruction so that our students will eventually be able to do it independently. When a student is able to perform a skill on their own without the assistance of a teacher they have achieved that skill and it is a rewarding feeling for both the student and the teacher. For students to be able to complete skills independently modeling and gradually releasing responsibilities are necessary. I modeled everything for them from my thought process when comprehending a story to the phonemic awareness and phonics skills of segmenting, blending, isolating, and deleting sounds in words. Through this kind of instruction I was able to observe who “had” it and who was not quite there yet.

Each center they rotated to was a review of a skill that was taught and modeled by me. While observing my students working in the literacy centers during my multisensory implementation I noticed many of them imitating my gestures and questions. In the phonics centers where students were using letter magnets to build words I saw students asking others in their group for the beginning, medial, and final sounds in words. This was totally unprompted! On another occasion in the word work center when students started to feel comfortable and were grasping the

content they were seen attaching print to the sounds when using the Elkonin boxes. It's moments like this when you get to see that your students "get it".

Assessment

Monitoring and assessing student progress as well as evaluating the effectiveness of the multisensory implementation played a significant role in guiding my study to meet the needs of my students. The data gathered by the DIBELS assessments and the Wonders weekly assessments showed growth in the areas of phonemic awareness and phonics skills for all student participants when the multisensory activities were implemented into independent learning centers. Individual goals were set and students' progress was monitored to track their achievement. The five questions that dealt with phonics and phonemic awareness on the weekly Wonders assessments also increased each week as the multisensory activities were being used.

Student growth was monitored and documented throughout my action research study and Dewey (1938) makes a bold statement in regards to growth that resonated with my study. He states, "Hence, it is argued that "growth" is not enough; we must also specify the direction in which growth takes place, the end towards which it tends" (p. 36). The

meaning I have taken away from this powerful quote is that the term “growth” is a word that tends to be thrown around too often with little meaning attached to it when it is used. We hear and say it all the time at teacher inservices, trainings, data meetings, and even to our students but do we really know what it means, do our students? Simply using the word is not enough, more meaning and emphasis needs to be attached to the word in order for it to be understood. The way in which we want to see growth occur needs to be established as well as how we intend to get there.

This reminds me of habit number two of the Seven Habits of Highly Effective People by Stephen Covey, to begin with the end in mind. If we want “growth” to occur then there needs to be a plan with an end in sight. This quote by Dewey relates to my action research study in that I monitored students’ academic “growth” in regards to phonics and phonemic awareness acquisition. To, as Dewey (1938) puts it, “specify the direction in which growth is to take place” (p.36). Baseline data was collected on students phonics and phonemic awareness skills using the DIBELS assessment where each student was given a battery of assessments in those areas. The data was then deeply analyzed and goals for student growth were established for each student. Each goal

was set using the DIBELS Pathways to Progress formula as well as professional input. These growth goals were student specific and were monitored either weekly, bi-weekly, or monthly depending on the students' needs. When I progress monitored student growth in these areas, students were made aware of where they were currently and where they were to be by the next benchmark assessment. Each time a student was progress monitored, their achievement was tracked, documented, and shared with them so that they, too, were aware of the goal and growth that had been made. In order to ensure that growth was made for each student, all students participated in the multisensory activities during independent learning centers.

My students were not the only ones who displayed growth, I did too for I grew professionally as an educator. Throughout my action research study I kept a field log where I documented and reflected on what had been observed, heard, and felt either daily or every-other-day. It is here where I was able to see my own personal growth and made the necessary changes due to themes that are noticed in my log.

Attitudes

Attitudes and feelings can play a significant role in the learning process. Frustrations and confusion can hinder students' confidence and

motivation, especially when working independently. Implementing the multisensory activities changed the negative feelings to positive ones. Students were now able to successfully complete the center activities with ease on their own.

Students were no longer interrupting me in small group to clarify directions or to explain what they were to be doing. Attitudes and excitement were prevalent and student confidence as well as motivation increased as phonics and phonemic awareness skills were mastered. Each multisensory activity supported the week's skill and each activity was explicitly modeled before they started the first small group rotation. The surveys and conferences helped me understand my students' thoughts and feelings on the activities they participated in. The conversations with individual students also aided in the changes that were made to some of the multisensory activities that were used. When the students noticed that I took their suggestions to heart and made the changes they mentioned they were more motivated and took ownership of their work.

Freire (1970) mentions the importance of both the teacher and the students need to be in constant dialogue and to be co-invested in the learning process. He states that, "The problem-posing educator constantly re-forms his reflections in the reflection of the students. The

students-no longer docile listeners-are now critical co-investigators in dialogue with the teacher. The teacher presents the material to the students for their consideration, and re-considers her earlier considerations as the students express their own” (p. 81). The “problem-posing educator” is one who is constantly evolving and changing, while at the same time taking their students into account. They are learning, reflecting, and changing together. There is a constant dialogue that exists between the teacher and the student and they in turn learn from one another. The teacher is no longer the one in control or power; instead they are invested in their learning as a whole solid unit. The teacher and student are both reflective and active seekers of knowledge and growth.

This quote resonated with me because as I implemented each new multisensory activity I was in constant dialogue with my students regarding what they were doing and whether or not they were enjoying it. When I would be observing my students working in their centers independently I paid careful attention to what was going on and made some generalizations on what was seen. I would then go over and be part of the activity with them. I did this to get an understanding on how they liked the activity they were doing. I also asked questions on how they liked the

activity and how it could be made better. Some informed me that there was nothing they would change and there were some others who made some suggestions about using brighter colors or larger pictures, and even extending center time! Since they were the ones completing these activities, I took their suggestions seriously and included those changes for the next time the activity was used. For example, a student thought that the I-blends on the two new activities I created (building words with magnetic letters on cookie sheets and I-blend Twister) should be either written in boldface type or a different color, so that it stuck out. I re-created the words in both activities and continued to use this new suggestion for the next time this activity was used. That was the first thing this student noticed the very next day when working at the word work center. The look of pure pride and satisfaction on his face was priceless. He felt validated and that made me happy.

The dialogue between students and teachers also supports in creating a positive classroom community where all voices are heard and valued. This type of dialogue is important in my teaching practice and I continue to include them in the classroom choices that we make so that they are validated individuals.

Differentiation

Modifications to my instruction and center activities were made to ensure that all students were being reached. Teacher modeling, explicit directions, and scaffolds were in place to aid in my students' ability to participate in the multisensory activities. There were extension activities available for students who were grasping the skills with ease as well and there were familiar scaffolds available for students who were not quite ready to move to print, who were still working on sounds. For example, as an extension instead of moving chips into the Elkonin boxes to segment words students were able to use dry erase markers and write the letter associated with the sounds in the boxes.

In order to effectively plan and implement the multisensory activities I was using, I had to really know my clientele and their needs. As Dewey (1938) puts it, "He must survey the capacities and needs of the particular set of individuals with whom he is dealing and must at the same time arrange the conditions which provide the subject-matter or content for experiences that satisfy these needs and develop these capacities. The planning must be flexible enough to permit free play for individuality of experience and yet firm enough to give direction towards continuous development of power" (p. 58). Here, Dewey talks about the importance of keeping in mind the students we are planning for and what they are

capable and able to do. He also mentions the importance of paying attention to the subject being represented and how it will be presented for learning to occur. Planning should also have the ability to be easily changed and modified to respond to the students who are learning, but not to sway away from the goal.

Planning is something all teachers do, and it takes a lot of time and thought to be done well. Throughout this action research study I have observed my students, collected baseline data on their basic literacy skills, and have carefully planned and created many different kinds of multisensory activities that my students participated in based on their needs.

My study focused on developing their phonics and phonemic awareness skills which are necessary in becoming a fluent reader. In the very beginning stages of my study, I observed my students during English Language Arts while using the independent workstation activity cards that came along with the Wonders reading program that my district implemented. I saw first-hand the looks of frustration and confusion on my students' faces when they were working independently in the learning centers. The work they were doing was not meaningful to them and many times it was difficult for them to understand what they were supposed to

be doing. This independent time was not productive for them or for me, as the work was not being completed and I was constantly pulled from my small groups to help. When I noticed these frustrations I first created samples for the students to reference. When that did not work I modified the activities and re-created them in student-friendly language with clear, concise directions they could understand. Again, not all students were being reached and many still were not completing the work.

I decided to make changes to the independent learning centers my students were working in. The idea of movement and making the activities in the independent learning centers multisensory came to mind when I reflected on my students' interactions and their enjoyment when they were manipulating and playing with blocks, cubes, and other manipulatives throughout the day. I supported this idea by researching the effectiveness of using multisensory activities when refining and practicing phonics skills.

Through this process, I have gotten to know my students well and have built and continue to build a nurturing and positive community of mutual respect in my classroom. I was pleased with the outcome of my study. My students were engaged and working together in a collaborative and meaningful way.

NEXT STEPS

Even though my study has ended I have continued to use multisensory activities during independent learning centers. I have even introduced some new ones to them to keep them interested and engaged. When a new activity is introduced I still observe my students and ask them questions about the work they are doing and how it could be improved. Since they know I take their suggestions seriously, they have no problem being honest with me and telling me what they really think.

Through all of this I have found that student engagement and time-on-task were at an all-time high when using these kinds of hands-on activities. Not only were they working on the task-at-hand but they were doing so in a cooperative and collaborative way. The use of these activities have helped build a strong and supportive classroom community full of eager learners.

Looking ahead to next year, I would like to focus on the time spent on task and to collect and analyze quantitative data on the benchmark and progress monitoring scores provided by the DIBELS assessments. When my study first began I was not focused on students' time-on-task, instead my focus was on phonemic awareness and phonics skills. Next year, I will pay more attention to the time students actually spend working when in their independent learning centers. I will again use the Wonders provided

workstation activity cards and document student work behavior. Once the implementation begins I will continue to monitor and document student time-on-task and compare it to the previous data to see if there are any differences.

I used the DIBELS assessments to both benchmark and progress monitor my students for this study and found that all students showed areas of growth. However, I would like to further analyze that data to determine how much growth and at what rate. Growth is to be expected, considering teaching and learning happen in the classroom setting all the time. Next year, I would like to collect and compare on a quantitative level the DIBELS scores and the rate of change from prior to the multisensory implementation to the scores after the implementation. I would like to see if the implementation of multisensory activities was the cause for the increase in scores. Not that any of this quantitative data would change my mind on incorporating these hands-on activities, I would still use them as they are meaningful and engaging for all of my students.

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APPENDIX A: Principal Consent Form

April 10, 2018

Authorization for a School to Serve in a Research Study

Background: In addition to being a first grade teacher, I am currently a graduate student at Moravian College working towards my Master's degree in Curriculum and Instruction. One of the critical requirements of my coursework is to study and reflect on my own teaching practices and how I can serve my students better. I will be facilitating a systematic research study on the effects of utilizing multisensory activities in student centers during the English Language Arts block. My action research thesis is entitled, "Let's Get Our "Hands-On" Learning: Using Multisensory Activities in Student Centers. My hopes are that by implementing multisensory activities in student centers I will observe an increase in student behavior, time-on-task, and improved student scores on DIBELS.

Project: "Let's Get Our "Hands-On" Learning: Using Multisensory Activities in Student Centers"

Researcher: Taylor Lutri

Phone Number: [REDACTED]

Employment Affiliation: Bethlehem Area School District Grade 1 Teacher

Location of the study: William Penn Elementary School

Supervising University Professor: Dr. Tristan Gleason

Purpose of the study: The purpose of this study is to engage students in centers during the English Language Arts block by way of implementing multisensory activities.

Procedures to be followed: Throughout the implementation of this action research study I will be gathering data in various ways. I will be conducting surveys on students' beliefs and feelings of the time they spend in centers and the activities they participate in. I will be observing students while they are participating in these centers and documenting behaviors and time spent on the actual task. Participants will be involved in conferences or interviews with the teacher to gather their personal insight on the activities used. Students will be progressed monitored either weekly or biweekly based on their needs to monitor growth in phonics using the DIBELS Next assessment as well as the Wonders weekly and unit assessments.

Time and duration of the study: To begin in September 10, 2018 and conclude by November 19, 2018.

Benefits of the study: There are many benefits to this study. My students will be more engaged during center time because they will be involved in hands-on activities that hold their attention. More will also get accomplished during centers due to the increased level of student engagement.

Persons who will have access to the records, data, and other documentation: The above named researcher, research collaborators, and supervising professor.

When the documentation will be destroyed: At the culmination of the study.

I understand that participation in this project is voluntary, and I understand that a parent or guardian may withdraw his/her child from this study at any time by notifying the researcher.

Statement of confidentiality:

The participation of the students in this project is anonymous. Only the teacher researcher will have access to the students' identities and to information that can be associated with their identities.

Please check the appropriate box below and sign the form:

I give permission for my school to participate in this project. I understand that I will receive a signed copy of this consent form. I have read this form and understand it.

I do not give permission for my school to participate in this project.

Signature of principal

Date

If you have any questions or concerns regarding my action research, my professor is Dr. Tristan Gleason. Dr. Gleason can be reached at Moravian College at [REDACTED] or by e-mail: [REDACTED]. Please sign and return the above portion of this letter at your earliest convenience and thank you in advance

for your continued support of my continuing education endeavors.

Thank you,

Taylor Lutri

APPENDIX B: Parent Consent Form

Informed Parent Consent Form
Authorization for a Minor to Serve as a Research Participant

Dear Parents/Guardians,

In addition to being your child's teacher, I am currently a graduate student at Moravian College working towards my Master's degree in Curriculum and Instruction. One of the critical requirements of my coursework is to study and reflect on my own teaching practices and how I can serve my students better. I will be facilitating a systematic research study on the effects of utilizing multisensory activities in student centers during the English Language Arts block. My action research thesis is entitled, "Let's Get Our "Hands-On" Learning: Using Multisensory Activities in Student Centers. My hopes are that by implementing multisensory activities in student centers I will observe an increase in students' phonics skills.

I am writing to ask permission to use the data I collect from your child during this process. Participation in this study involves only regular classroom activities. You may contact me at any time regarding your child's participation and the data being collected. My phone number at the school is [REDACTED].

The principal of the school has approved this study as did the Moravian College's Human Subjects Internal Review Board.

The purpose of this study is to engage students in centers during the English Language Arts block by way of implementing multisensory activities. This will take place at William Penn Elementary School and will last for approximately one month. During the study, I will be gathering data in various ways. I will be conducting surveys on students' beliefs and feelings of the time they spend in centers and the activities they participate in. Participants will be involved in conferences with the teacher to gather their personal insight on the activities used. Students will be progressed monitored either weekly or biweekly based on their needs to monitor growth in phonics using the district approved DIBELS Next Assessment. I will be the only one who will have access to the data collected in this study. Your child's participation in this project is strictly confidential and a pseudonym will be used to protect their identity. Only I will have access to this information and all data will be destroyed at the culmination of the study.

There are many benefits to this study. My students will be more engaged during center time because they will be involved in hands-on activities that hold their attention and engage multiple parts of the brain to increase phonics retention. More will get accomplished during centers due to the increased level of student engagement.

Use of the data from your child is voluntary. You may contact me at any time if you do not wish to have your child's data included in this study. Thank you for your time and consideration.

Please check the appropriate line below and sign the form:

_____ I give permission for my child's data to be used in this study. I understand that I will receive a signed copy of this consent form. I have read this form and understand it.

_____ I do not give permission for my child's data to be included in this project.

Student's name

Signature of parent

Date

Formulario de consentimiento informado de los padres
Autorización de un menor para servir como participante de investigación

Estimados Padres / Guardianes,

Además de ser la maestra de su hijo, actualmente soy estudiante de posgrado en Moravian College y estoy trabajando para obtener mi maestría en Currículo e Instrucción. Uno de los requisitos críticos de mi trabajo de curso es estudiar y reflexionar sobre mis propias prácticas de enseñanza y cómo puedo servir mejor a mis estudiantes. Estaré facilitando un estudio de investigación sistemático sobre los efectos de la utilización de actividades multisensoriales en los centros de estudiantes durante el bloque de artes del idioma inglés. Mi tesis de investigación de la acción se titula: "Consigamos nuestro aprendizaje práctico: el uso de actividades multisensoriales en los centros de estudiantes. Mi esperanza es que al implementar actividades multisensoriales en los centros estudiantiles observaré un aumento en las habilidades fonéticas de los estudiantes.

Estoy escribiendo para pedir permiso para usar los datos que recojo de su hijo durante este proceso. La participación en este estudio implica solo actividades regulares en el aula. Puede comunicarse conmigo en cualquier momento con respecto a la participación de su hijo y los datos que se recopilan. Mi número de teléfono en la escuela es (610) 694-0116. El director de la escuela aprobó este estudio, al igual que la Junta de Revisión Interna de Sujetos Humanos de Moravian College.

El propósito de este estudio es involucrar a los estudiantes en los centros durante el bloque de artes del idioma inglés mediante la implementación de actividades multisensoriales. Esto se llevará a cabo en la Escuela Primaria William Penn y durará aproximadamente un mes. Durante el estudio, reuniré datos de varias maneras. Estaré realizando encuestas sobre las creencias y sentimientos de los estudiantes sobre el tiempo que pasan en los centros y las actividades en las que participan. Los participantes participarán en conferencias con el maestro para conocer su opinión personal sobre las actividades utilizadas. Los estudiantes serán monitoreados progresivamente semanalmente o quincenalmente en función de sus necesidades para monitorear el crecimiento de los

fonemas utilizando la próxima evaluación “DIBELS Next Assessment”. Seré el único que tendrá acceso a los datos recopilados en este estudio. La participación de su hijo en este proyecto es estrictamente confidencial y se utilizará un seudónimo para proteger su identidad. Solo tendré acceso a esta información y todos los datos se destruirán cuando culmine el estudio.

Hay muchos beneficios para este estudio. Mis estudiantes estarán más comprometidos durante el tiempo del centro porque estarán involucrados en actividades prácticas que captan su atención y se involucran en múltiples partes del cerebro para aumentar la retención de fonemas. Se logrará más durante los centros debido al mayor nivel de participación de los estudiantes.

El uso de los datos de su hijo es voluntario. Puede comunicarse conmigo en cualquier momento si no desea que se incluyan los datos de su hijo en este estudio. Gracias por su tiempo y consideración.

Por favor, marque la línea correspondiente a continuación y firme el formulario:

_____ Doy permiso para que los datos de mi hijo se usen en este estudio. Entiendo que recibiré una copia firmada de este formulario de consentimiento. He leído este formulario y lo entiendo.

_____ No doy permiso para que los datos de mi hijo se incluyan en este proyecto.

Nombre del estudiante

Firma del padre

Fecha

APPENDIX C: Student Survey

Student Center Activity Survey

Name: _____

Please read each statement and place an X on the line closest to how you feel.

1. I like when it's time to work in centers.
Agree _____ Disagree

2. I don't understand the work at the centers I go to.
Agree _____ Disagree

3. I don't like the activities I do when at the spelling center.
Agree _____ Disagree

4. I like the activities I do when at the phonics center.
Agree _____ Disagree

5. I have trouble doing the work at the spelling center.
Agree _____ Disagree

6. I can do the work at the phonics center.
Agree _____ Disagree

APPENDIX D: Non-Directive Interview Protocol

Non-Directive Interview Protocol

Interviews will be done in an informal setting and will take place in the classroom after the ELA block. There are no set questions for this interview as it is more of a conversation regarding the responses given on the student surveys and the observations throughout the study. The conversations will provide a better understanding as to why one child likes or dislikes one activity over another. This will then impact the activities that are planned and used in the classroom.

APPENDIX E: Progress Monitoring Scores

Week Of:	9/24/18		10/1/2018		10/8/2018		10/15/2018		10/22/2018		10/29/2018		
	PSF	NWF	PSF	NWF	PSF	NWF	PSF	NWF	PSF	NWF	PSF	NWF	DORF
Lilee (I)	29	33.0	43	26,1	38 and 51	27,0	54	27,0	48	24,1	50	35,5	
George (I)	35	20,0	23	21,1		31	ABSENT	30	21,0	31	23,0	28	26,1
Catalaya (I)		24,4		21,5		18,5		20,6		19,6		*	
Lulwa (S)		41,12		42,14		57,19		57,20		51,15		50	66,22
Caiden (C)		44,0				26,8				33,10			
Saleem (C)													11,55%
Sariah (C)	37	33,11			35	43,15				45	42,12	40	
Maya (C)	44		44		45		42		41			38	
Cor'Raye (C)	38	35,3			49	ABSENT		40,11		34	41,13		
Kaylin (C)		31,9				49,12				42	13		
Kyoto (C)													24,83%,9,2
Vincent (C)		32,7				49,9				67	15		
Matthew (C)		39,8				45,7				51	13		
Somaya (C)		39,10				40,9		38,10		43	14		
Aubrey (C)													92,99%,41,4
Selena (C)													34,94%
Lynic (C)													116,100%,25,3
Tobias (C)													89,98%,50,4
Week Of:	11/5/18		11/12/2018		11/19/2018		11/26/2018		12/3/2018				
	PSF	NWF	PSF	NWF	PSF	NWF	PSF	NWF	PSF	NWF			DORF
Lilee (I)	46	40,2		39	43,4	Thanksgiving	Break	Absent	Absent	46	39,2		
George (I)	Absent	Absent		30	27,0			41	32,0	48	29,8		
Catalaya (I)		17,6		20,7				Absent		27,6			
Lulwa (S)		Absent		45,10			Absent	Absent		61,21			
Caiden (C)		43,15								40,13			
Saleem (C)													35,90%,13,2
Sariah (C)		42,9					47	42,13		44,11			
Maya (C)				36			43						
Cor'Raye (C)	43	61,19								53	48,14		
Kaylin (C)		44,15								59	21		
Kyoto (C)													
Vincent (C)										56	18		
Matthew (C)		51,13								62	20		
Somaya (C)		43,15								32,9			

APPENDIX F: Excerpt of Field Log

8/27-8/31

The BOY benchmark was given to all students starting today and finished on 8/31. Each student was assessed in the areas of letter naming fluency, phoneme segmentation fluency, and nonsense word fluency using the DIBELS Next assessment. Both the assessment and scores were done and logged on the district approved Amplify website in a database called mCLASS. This was also the first week of smart start in Wonders. There are three weeks in the first grade smart start where letter and letter sounds are reviewed along with other phonics skills. Actual ELA instruction at this time is 30 minutes, leaving time to establish classroom routines and procedures.

9/4-9/10

This is the second week in smart start and I began independent learning centers to get my students used to navigating around the classroom, the structure of our ELA block, and working independently in small groups. The ELA block moves from whole group instruction to small group, to whole group and so on for a total of four rounds. My study is focusing on the small group part of the ELA block, namely the independent learning centers the students rotate to each round. This week students rotated to three centers lasting 13 minutes with a two minute clean up and transition time. The centers were; Teacher Table (working with the teacher), Phonics, and the computer. This week the phonics skill was short vowel (CVC) words. When working in the phonics center, students completed the Wonders phonics practice worksheets from the provided Your Turn practice book. The pages to be completed were read and explained prior to starting the first rotation so students knew what to do. When the first rotation began there were a handful of students who came up to me asking questions about the worksheet and what they were supposed to do. There are no examples given on the worksheets for students to reference if they are not able to read the directions. The directions are also not written in first grade friendly words.

9/7

Student data on the BOY benchmark was analyzed today with the principal, support staff, classroom teachers, and a Step By Step consultant our district has hired to assist in this process. Students scores were analyzed against the national percentile and individual goals were made and set for each student on the Pathways to Progress.