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Increasing Phonemic Awareness in Intellectually Impaired Students by Using Wilson's Fundations Phonics Program in a Self-Contained Classroom

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INCREASING PHONEMIC AWARENESS IN INTELLECTUALLY IMPAIRED STUDENTS BY USING WILSON'S FUNDATIONS PHONICS PROGRAM IN A SELF-CONTAINED CLASSROOM

by

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DEDICATION

This is dedicated to my husband Ernest; I did not think we were going to make it even through the first day. It has always been us. You stood by me with my first two degrees, and you have watched me sweat and cry over every little bit of this process. You have celebrated my victories. To my three kids, Jessica, Javier, and Danielle, you guys got me through this when I thought I was done. Thank you, Denise, for being the best big sister in the world; you have never stopped believing in me, even when I wanted to stop. For the students in this study who make coming to work the best thing in the world, it is not working when you are doing something that you truly enjoy and when you get hugs from God's little wonders. Finally, I would like to dedicate this degree to my father who never saw me graduate from college, but always knew I would. I know you would be proud of me, Dad, and your perseverance and strength are what got me through the most difficult times in my life. Every time I wanted to give up, I thought of you when you were going through your last days and the last time we talked. You never talked of dying; you always talked of what is next. I know what is next now. I love you, Dad.

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ABSTRACT

This study aims to investigate if students who have been identified intellectually disabled are able to gain phonemic awareness by using Wilson's Fundations in a self-contained setting. Most research has focused on students who are not identified as intellectually disabled. In this mixed method action research study, the students were given a first grade reading fluency test and a first grade word reading test for six weeks as the quantitative data. Both instruments were tested using a two-tail t-test, week one's results were compared to week six's results on both tests. All five the participants showed growth over the six weeks on both tests. The word reading test showed a statistical significance, but the reading fluency test did not. The qualitative data was obtained from student observations and interviews from the paraprofessionals. The qualitative data from these sources supported the research questions. Common themes were found from both sources, and there was an indication that the students were able to read independently. The findings suggest that students with intellectual disabilities can read independently and gain phonemic awareness. The low number of participants and the length of time was a limitation of this study. Future research is needed with a higher number of students with intellectual disabilities and a longer amount of time to validate the quantitative data and support the qualitative data.

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LIST OF ABBREVIATIONS

EPCD ..... Elementary Program for Children with Disabilities

ESSA ..... Every Student Succeed Act

IEP ..... Individual Education Plan

NCLB ..... No Child Left Behind

CHAPTER ONE

INTRODUCTION

Learning is important for all students' progress (Paulick et al., 2013). It is well known most students acquire key reading and writing skills in elementary school, which serve as the basis for future literacy achievement. For some students with intellectual disabilities, reading is sometimes a struggle, if not an almost impossible feat. In 2019, 14% of the students enrolled in public schools were special needs students (Keun et al., 2022). Approximately 6% of children receiving special education services in the United States had an intellectual impairment as their significant disability during the 2018-2019 school year (Keun et al., 2022). Intellectual disability is a neurodevelopmental condition marked by impairments in intellectual functioning that lead to impairments in at least one adaptive domain—conceptual (or academic), social, or practical (Patel et al., 2018).

Before 2004, for students to be identified as eligible for special education services, they only had to be identified under the "ability discrepancy method" (Individuals with Disabilities Act, 2018). According to Frey (2018), the ability discrepancy method is defined as a statistically significant difference between a child's score on a measure of achievement in one academic domain in reading or math and the child's score on a measure of intellectual ability in the form of IQ. In 2004, the authorization of No Child Left Behind gave schools and states the option to follow the ability discrepancy method or response to intervention (RTI)

(NCLB, 2004). By law students with disabilities must have access to the general education curriculum in the least restrictive setting (Bemiller, 2019), and academically relevant and acceptable skills are essential for individuals with impairments. My school uses RTI to determine placement and appropriate support for special needs students. Consequently, students with intellectual disabilities are enrolled at Deer Creek Elementary (pseudonym) in the Elementary Program for Children with Disabilities (EPCD). This program is primarily a self-contained program modifies the curriculum based on each student's Individual Education Plan (IEP).

I became the teacher of record for the EPCD program in the fall of 2021, and the first thing I did was observe how students were instructed. I did not have a set curriculum to follow, but there were boxes of task cards, files of worksheets, and boxes of incomplete curriculum had been used in the past. I asked the paraprofessionals in the room how they got the materials together for the students. They proceeded to show me an objective goal sheet from a student and went to a filing cabinet and began to pull out file folder tasks had been made in previous years.

When I questioned how many times a student might have completed file folder, the paraprofessional was not sure, but she knew he was successful when he did it. Then she put in a few worksheets she said I could use for grades. I asked how the previous teacher assessed the students' reading and whether they had any system in place, but they did not think so. I looked in the students' folders to see if there were reading assessments such as running records or word lists to indicate the students had been assessed in reading, but there were none.

The paraprofessionals told me they would pull books from the classroom library and read with the students while helping them sound out words.

Next, I went to my peer teachers and asked them what curriculum I was supposed to use for my students. I was told I could use anything in the cabinets and there were many file folder activities the paraprofessionals had made, so I should start off with those. I then went to another special education teacher, who told me to use the Edmark Learning System. I told her I had never been trained on it, and she handed me the guide and an incomplete kit. It bothered me the students in this classroom seemed to be forgotten when it came to curriculum.

As a reading teacher, I knew I had to change the way students were getting reading instruction and how students were being assessed. There was no way to measure whether students were progressing on their IEP reading goals. I had to find an effective program that could be easily implemented in my classroom to meet my students' needs. The district had just begun implementing Fundations, a phonics program by Wilson Reading, for general education students in kindergarten through third grade. Fundations is a preventative and early intervention program aims to assist students in improving their reading skills (Wilson, 2022).

The district had introduced Fundations to all general education classrooms in kindergarten - third grade but did not offer it for special needs students. The curriculum is intended to supplement existing literature-based reading programs in general education classes, but it can also be used in intervention for a longer amount of time (Wilson, 2022). Since I was previously trained and had successfully used Fundations for 12 years at my previous district, I knew the general education students were thriving when I used the

program in my classrooms. I went to my instructional coach and asked if I could have a kit for my classroom. She told me she did not think I would want a kit for my classroom because my kids were not high enough for it. I assured her my students could benefit from Fundations, so she found me a kit to use in my classroom.

EPCD never had a systematic phonics curriculum used in their program. The only reading curriculum in use was Edmark, a reading program focusing on whole language rather than phonics (Bruni & Hixson, 2017). Even then, because my Edmark kit was missing key components, I could not fully implement it with fidelity. Consequently, I began to use the Fundations kit but soon realized the scope and sequence were not feasible for my students who have a variety of disabilities ranging from autism to severe intellectual disability. The Fundations scope and sequence is designed for general education students who do not require accommodations. I knew I would need to implement a modified approach for my students to progress in reading.

I know as a reading teacher if a student is going to learn how to read, they must begin with the basics: phonemic awareness. Phonemic awareness refers to the ability to respond to or control sounds in spoken words, and it has been widely accepted as assisting in the development of reading skills (Lieberman, et al, 1974). It has been directly coupled to decoding skills and thereby secondarily to comprehension skills (Rehfeld et al., 2022). When students are spending much of their time trying to decode words, they cannot attend to comprehending what they have read. Their cognitive resources are used while decoding instead of comprehending (Rehfeld et al., 2022). By teaching a systematic phonics program, I know my students are going to have a better chance of reading independently.

Problem of Practice

Deer Creek Elementary is a Title One elementary campus in rural Texas. I use a modified curriculum to teach the students in the EPCD program who have been identified as intellectually impaired. There are presently 24 students enrolled in the program from kindergarten through fifth grade. The Diagnostic and Statistical Manual of Mental Disorders (DSM-V) recognizes four types of cognitive impairment: mild intellectual disability, moderate intellectual disability, severe intellectual disability, and profound intellectual disability (American Psychiatric Association & American Psychiatric Association, 2013). In addition to being intellectually disabled, many of the students have other disabilities as part of their eligibility for being placed in special education. These disabilities make it challenging for the students to achieve some of the basic concepts such as recalling information, verbalizing information, or writing down information.

On my arrival as the teacher, there was no systematic phonics program in place to teach phonics or phonemic awareness in the EPCD classroom. Phonics was taught one-on-one through worksheets and file folder tasks. The students then read books from the classroom library, but there was no evaluation to determine whether the students were able to decode or apply any decoding skills. The problem of practice at Deer Creek Elementary is the current reading instruction does not meet the needs of intellectually impaired students because it lacks a systematic phonics program for phonemic awareness to determine whether students are achieving their IEP goals and objectives for basic reading skills.

For students with cognitive impairments, learning in general is difficult, and learning to read is the most difficult task. Reading is a task requires the student to use multiple modes of learning. I believed the Fundations curriculum would provide an opportunity to my students through its various manipulatives and instructional strategies to manipulate letter/sound correspondence to create words (Wilson, 2022). Because students in a self-contained setting are working on prerequisite skills to catch up to their peers, the EPCD classroom was an ideal place to study the effectiveness of this intervention

Summary of Background Literature

There have been studies to where students who are intellectually disabled can achieve phonemic awareness in a school setting (Bradford, 2006, Castles et al, 2018,Semeir Dessemontet et al, 2021). Although there have not been many studies with Wilson Fundations and phonemic awareness with students with an intellectual disability, researchers have investigated similar programs explicitly teach phonics to cognitively impaired students.

Bradford et al. (2006) conducted a study with a group of middle school students who are intellectually impaired. These students are typically 2-4 years below grade level. The researchers instructed the students using a method for students to decode words using the Corrective Reading Program, which provides instruction in phonics, sounding out, rhyming, word reading, and sentence reading (Bradford et al., 2006) This program is similar to Wilson Fundations in it is scripted, and the lessons are about 35 minutes long. The students in the study all showed growth in oral and written letter sounds and word recognition. A great increase in the number of words corrects per minute on a reading fluency assessment (Bradford et al., 2006).

In a study completed by Hunt et al. (2019), the researchers conducted a study with students with intellectual disabilities and autism by implementing the Early Literacy Skills Builder Program in the general education classroom. This reading program is like Wilson Fundations in its components include vocabulary, phonics, phonological awareness, and comprehension (Hunt et al., 2019). The researchers used a control group along with the group using the intervention. The students in the study were all eligible to take their states' alternative assessment and had a peer buddy in the general education classroom. In this study, the researchers concluded the students identified as disabled made significant gains by receiving instructions by implementing the Early Literacy Skills Builder Program in small groups within the general education classroom. The researchers also noted non-verbal students made substantial gains in reading while receiving instruction with the Early Literacy Skills Builder Program. The non-verbal students in the control group made no significant gains at the end of the study (Hunt et al., 2019).

Although these studies are not Wilson Fundations, they are both very similar, and both have been conducted with students with intellectual disabilities. These two studies illustrate sight word reading programs are ineffective in teaching students identified as ID. The phonics piece of the Fundations curriculum is systematic, just as the two studies mentioned above. Fundations teaches phonics in which graphemes are connected to phonemes use a well-thought-out scope and sequence.

When students use Fundations, they use phonemic awareness and phonics to decode and understand words (Chalfant, 2019). The teacher models

for the student how to tap and blend words, apply them to the manipulatives, and then eventually apply them to their reading.

Theoretical Framework

This action research study was underpinned by three major theories helped to drive the investigation. Vygotsky's theory of proximal development) and the bottom-up theory give a clear picture of why I believed Fundations would help increase reading achievement among students identified as intellectually disabled. I also expanded on John Rawls' theory of justice of fairness and its overarching impact on the education of students with disabilities and their access to the same curriculum materials and instruction provided to general education students.

Zone of Proximal Development

Vygotsky (1981) has defined the zone of proximal development as the difference between the actual developmental level measured by individual problem solving and the prospective developmental level determined by problem-solving under adult supervision or in cooperation with more competent peers. He also indicates direct instruction of concepts is both impossible and pointless in the long run. Several researchers, including Vasileva and Balyasnikova (2019) cite Vygotsky. For example, Vasileva and Balyasnikova found students do not just absorb knowledge; rather, they take the data and interpret it using cultural tools supplied by the instructor. In line with Vygotsky's principle, what is learned must be passed on to others. Others found teachers should explain, model, and include guided practice in the classroom (Arshad & Chen, 2009), and the students will be better equipped to complete their given

activities if their teachers exemplify what they want them to perform in class (Schunk, 2020).

This action research study examined whether students could take what they had learned through phonics and apply it while reading decodable text on their independent reading levels. The goal was for students to read independently and successfully without the support of the teachers or peers.

Bottom-up Theory

It is widely accepted the process of reading is sequential, and it is formed in a series of stages (Gouge, 1972; Gouge & Tunmer, 1986; LaBerge & Samuels, 1974; Snow, 2002; Zhou & Brown, 2015). The bottom-up theory is one such theory where the reader sequentially constructs meaning, as Gough (1972) originally theorized. Later, LaBerge and Samuels (1974) expanded on the bottom-up theory and suggested learning to read develops from children acquiring language components (letters) to comprehending entire texts (meaning). In a manner like completing a puzzle piece, bottom-up theories of the reading process assert the reading puzzle is solved by first examining each puzzle piece and then piecing them together (Gough & Tunmer, 1986). Children should acquire low-level abilities to achieve higher-order thinking skills (Zhou & Brown, 2015). For example, they suggest students should learn to identify their letters before attempting to read words and absorb the meaning (Snow, 2002). Snow continues to explain data is converted from low-level sensory input to meaning via a range of high-level actions in the brain. Its primary emphasis focuses on how readers process printed text at every level of the linguistic hierarchy, from the smallest linguistic unit of grapheme-phoneme correspondence to the largest linguistic unit of meaning.

Phonics is regarded as a bottom-up strategy in which pupils decode the meaning of a text from the words themselves. A phonics program is a type of curriculum teaches students how to interpret unfamiliar words and spell correctly by connecting the graphemes of a written language to the phonemes of a spoken language (Amadi, 2019). The bottom-up approach is predicated on the premise many students will have difficulty becoming good readers unless they have a broad comprehension of language orthography, letter sounds, and phonics knowledge (Chen et al., 2022). Students will better comprehend the patterns and intricacies of written language as their knowledge of letter sounds and phonics grows in the classroom (Amadi, 2019). Understanding the fundamentals of phonics may help students improve their ability to decipher words. Decoding language by breaking it down into its simplest components to gain literacy is characteristic of the bottom-up method (Liu, 2010).

John Rawls' "Justice of Fairness"

Through his theory of justice, John Rawls (1999) aimed to provide a theoretical basis for the concept of justice. In his theory, Rawls seeks to address the issue of distributive justice by using a form of the well-known social contract technique. The resulting theory is known as "justice as fairness," and it is from this Rawls draws his two justice principles (Rawls,1999).

John Rawls's basic concept of societal evolution parallels the effort to enhance education, especially to provide social fairness, rights, and access to education for learners with disabilities. Rawls (1999) believed the reconstruction of humanity was to be accomplished via political systems preserved social fairness and individual liberty in a manner acceptable to rational members of

society. For a position of fairness and equality, Rawls (1999) proposed two principles should be reached:

> (1) every person should have an equal right to the widest basic liberty compatible with that offered to their peers, and (2) social and economic advantages should be those that are reasonably expected to be to everyone's benefit and accessible to all roles with avenues open to all. (p.53)

Rawls expanded his principles to the "Law of the Peoples" in that it must apply to the most important political, economic, and social institutions (Rawls,1999). He indicated it cannot be based on any philosophy, theology, or moral system. It must be defined in terms of basic principles that are thought to be part of the political landscape of a liberal society. Further, he emphasized every person has an equal right to the most inclusive system of equal basic rights is consistent with a system of liberty for all. Social and economic differences are to be constructed in such a manner they are to the greatest benefit of the least advantaged, by the concept of just savings, and related to offices and positions open to everyone under conditions of fair equality of opportunity (Rawls,1999).

I wanted to determine whether the incorporation of Fundations strategies in my reading instruction would improve phonemic awareness among students identified as intellectually impaired and their ability to apply their newly found skills in the context of their reading. The theoretical framework is built on the concept the students who are intellectually impaired will gain phonemic awareness by implementing the manipulative pieces of the program. For students who have intellectual disabilities, modeling is important for them to learn to read independently and master reading to their cognitive ability.

Vygotsky's zone of proximal development illustrates this action by the teacher modeling for the student how to tap out phonemes in words, and the student is then eventually able to do it themselves while reading independently. Additionally, the bottom-up theory is evidenced by learning to read in steps, from the basic level of phonemic awareness to the advanced level of independent reading. Both theories support using manipulatives and the strategic practice of tapping out words in Wilson's Fundations, which is normally used in the general education classroom. Using Fundations in the self-contained setting will give my students a fair and equitable education as required by law (IDEA,2018) and supported by John Rawls's theory of justice of fairness.

Purpose of Study

This action research case study aimed to analyze the effectiveness of using the Wilson Learning Systems Fundations strategies among students with intellectual disabilities to increase phonemic awareness and application of learned skills while reading decodable text. By instructing students who have intellectual disabilities in a curriculum is usually set aside for general education students, I am providing these students with an opportunity will increase their likelihood of becoming more independent adults.

Research Questions

1. What is the impact of the instructional use of the Fundations manipulatives and tapping strategy on phonemic awareness among intellectually disabled students?
2. What impact does use of Fundations manipulatives, and the tapping strategy have on intellectually disabled students' ability to decode text during independent reading?

Student development of phonemic awareness abilities is critical because students will utilize these skills to decode new words while learning to read. Phonemic awareness abilities assist a student in learning to read, spell, manipulate phonemes, and a variety of other tasks (Phillips et al., 2008). It is advantageous to all learners and a wide range of language skills to have phonemic awareness training in the classroom through direct instruction in large and small group settings. Students who successfully acquire and use phonemic awareness have a solid foundation to become effective and fluent readers since "learning to interpret an alphabetic writing system with phones needs phonemic awareness" (Moats, 2009, p. 81).

Fundations focus on phonemic awareness tasks, letter identification, phonics, and decoding syllable types and affixes (Wilson, 2022). Phonemic awareness is the capacity to separate, segment, blend, and manipulate phonemes (Randazzo et al., 2019). It is thought to aid a child in connecting spoken sounds to written letters and letter combinations, laying the groundwork for word reading and spelling (Brady, 2020). He also explained that along with explaining its function in reading development, research had shown the critical nature of phonemic awareness teaching for children throughout the initial stages of reading acquisition. The Wilson Fundation program will involve direct instruction for the students in this study, focusing on phonemic awareness.

This study examined whether intellectually disabled students can successfully master the skill of decoding words. The study will also determine whether the students can generalize the skill of tapping out sounds of words while reading independently. The hope is students will transfer their knowledge from one training in reading to a more complex understanding.

Positionality

According to Efren and Ravid (2020), positionality is self-awareness, or more accurately, considering the possible effect of one's ideology and life experience on the judgments and behaviors taken during the study phase**.** I became a teacher eighteen years ago with my first teaching assignment as a special education resource teacher. Before being a certified teacher, I was a special education paraprofessional in Columbia, South Carolina, in a preschool autism classroom. The teacher of record showed me students with intellectual disabilities could learn if we gave them the right tools.

When I found out my current district had chosen Fundations for their general education classrooms, my experience with the program made me think it could be used with my students. I had previously used Fundations when I was an English as Second Language Interventionist and observed success with those students. I know the key to reading is a systematic phonics program. I also used Fundations in my previous district while teaching general education students and saw success there as well, but it was never used with the special education population in my current district. Coming into this new school, I knew the students, despite their cognitive delays, would benefit from a systematic approach to learning reading.

During this investigation, I have the positionality of an insider studying my practice. According to Herr and Anderson (2015), this positionality is focused on the researcher. The researcher is also having the role of facilitator as the researcher will conduct whole group instruction in phonics and one-to-one guided reading instruction. The researcher will model to the participants reading and classroom behavior.

In this study, I am both the researcher and the educator. Efron and Ravid (2020) described positionality as essential self-awareness, or more explicitly, experiencing the different effects of one's outlook and life experience on decisions and behavior made during the research process. This outlook is important because I know I influence the paraprofessional in interviews. Furthermore, human beings are the most potent instrument for collecting data and interpretation in a qualitative study, according to Merriam and Tisdell (2015), so it is essential to analyze one's view.

I am aware of my bias and positionality in this study. However, I am also aware I come into this study with my unique experiences. Because I have these experiences, I know I will have to separate these biases from the research and findings. According to Herr & Anderson (2015), researchers need to be drawn from our preferences.

Research Design

Action researchers in the classroom engage in action research to improve classroom settings (Rallis & Rousman, 2012). As a mixed methods action research case study, my research aimed to draw on the strength of quantitative and qualitative research to enhance my students' improvement (Efron & Ravid, 2020). A more complete picture may be obtained by combining qualitative and quantitative research in a single study. The classroom setting will be improved because the intellectually impaired students in the self-contained classroom will have the opportunity to build up their basic reading skills and learn to read independently. I gathered quantitative data by gauging students' improvement over time as measured by easyCBM word list and reading passage evaluations. I

gathered qualitative data through classroom observations of students and interviews with my paraprofessionals.

Quantitative Tools

Word List

At the beginning of this study, I conducted baseline reading scores using the easyCbm word reading probes. These assessments measured the students' ability to read words (easyCbm.com, 2022). These probes when given in a regular classroom setting help instructors determine which students require more instruction and measures their teaching performance (easyCbm, 2022). The probes gave me a beginning comparison point. I then conducted weekly reading assessments on each student to measure their progress in phonemic awareness over the course of the study.

Reading Fluency Passages

At the beginning of the study, I also conducted a reading fluency test on each student, followed by five additional reading fluency tests. I wanted to know if the students were able to call words fluently while reading text at their reading level. I recorded each of the students' reading fluency scores and to compare for the entire study weekly.

Qualitative Tools

For the goal of this study, I adopted a phenomenological qualitative method. The phenomena entailed the use of Fundations as a method of teaching phonics to children with intellectual disabilities, as well as the students' skills to decode and read independently.

Student observations

I observed students during independent reading. The students were all provided with book boxes of books were on their independent reading levels and relative to their personal interests. I first began observing my students on the very first day of the study. I observed each student a minimum of six times for the course of the study. I began by observing whether the students skipped over words they did not know, asked for help, or if they were trying to decode simple words. As I began to show them how to tap out basic words with corresponding sounds to each letter, my observations moved to observing whether the students were tapping out were on their own without any support, if they asked for help, or if I had to intervene and assist the student in tapping out a word in the book they were reading.

Since my paraprofessionals work directly with the students, I interviewed them at the end of the study for their perceptions about the students' application of the skills taught in Fundations in reading during the study. I wanted to know if they believed students made any progress and Fundations is a better program than previous reading programs used in the EPCD classroom.

I used whole group instruction to explicitly teach the Fundations Phonics Reading program *I do-we do-you do* approaches. This concept allows students to have a gradual release of responsibility in decoding. It led to the students' ability to decode independently without the support of a teacher. This intervention began with me modeling for the students how to connect the letter sounds in each letter in a word by tapping. The students used their magnet tiles to watch what I did on the board with small sound cards. I then let the students come to

the board and manipulate the small sound cards in front of the group to help build words. Although there are five different areas in the scope and sequence, I focused on the phonics piece, which includes students manipulating magnetic tiles to create new words, words cards to create word, and the strategy of tapping each individual letter sound in a word to blend it together to read the word.

This research took place in a self-contained classroom where the students have all been identified as intellectually disabled. Many of these students have secondary eligibility for autism, traumatic brain injury, and underlying disruptive behavior disorders. There were ten students in the classroom ranging from grades 3-5. Initially, the staff included me as the supervising teacher and four paraprofessionals to support the students: however, during the study, one paraprofessional left. The paraprofessionals were asked to participate in an interview at the end of the study. Since I am also their supervising teacher and rate the paraprofessionals at the end of the year, I let the paraprofessionals know choosing not to participate would have no impact on their careers or roles in the classroom. The paraprofessionals signed a consent (Appendix D) to participate in study and had to opportunity to pull out of the study at any time.

The participants in this study consisted of five special education students in first-fifth grade who have been identified as intellectually disabled. To be included, students had to be verbal and on at least a first-grade reading level because to complete an accurate running record, a student must be able to call words at that level. I had a face-to-face conference with each of the parents or guardians and explained what the study entails. Once the parent verbally agreed, I had the parent sign a permission slip (Appendix A), allowing me to

include their child during this research study. I ensured the parents if they did not agree, it would not influence their child's success in the classroom or my responsibility as their classroom teacher.

Data Collection and Methodology

This action research study collected both quantitative and qualitative data. According to Creswell & Clark (2011), mixed research methods provided more evidence for studying a research problem. This action research study utilized an explanatory sequential mixed design method. Two different quantitative measures will be administered to assess the students' ability to apply phonemic awareness in reading words. Quantitative data was collected through easyCbm word reading and reading fluency (easyCbm, 2022).

I started with a baseline measurement for each student and collected data weekly. The second set of quantitative data consisted of six fluency passages. The fluency passages came from easyCbm reading passages. The capacity to read linked material swiftly, precisely, and expressively is known as oral reading fluency (citation). Decoding the text on the page in this way does not require any apparent cognitive effort. One of the essential elements needed for effective reading comprehension is oral reading fluency. Because they can concentrate on the text's meaning, students who read automatically and with the right pace, precision, and expression are far more likely to understand what they are reading (Nation, 2019). I wanted to see if the students were able to make progress while reading words in context and increasing their reading fluency.

The second data came from easyCbm.com word first grade word list. I conducted a pretest on the first week of the study. The students read the words untimed, and I counted the number the students correctly identified. I then

conducted five more word reading tests for each student to see if there was progress in the students' ability to read words in isolation.

The qualitative data was drawn from observing the students reading independently and interviews after the study with the paraprofessionals. The students were observed in small groups to see if they were carrying over the tapping skill and blending to their independent reading.

At the end of the study the paraprofessionals were interviewed to address their feelings about the overall study and the effects of Fundations strategies for students (Appendix C). I asked the paraprofessionals about what they observed while instructing the students in small groups. I also wanted to know if they noticed the students applying the skills taught in the small groups. In qualitative analysis, interviews can be conducted where researchers request one or more subjects with general, open-ended questions and document their responses (Creswell, 2019). Interviews are used in qualitative studies to clarify the meanings of central ideas in their subjects (Brinkmann et al., 2018). I conducted the interviews at the end of the study, audio recorded them, and then transcribed the answers.

The data from all qualitative tools were transformed into themes using codes. The themes and codes were transformed into an analysis of the interviews and write a summary of all the interviews combined. Coding is a method of classifying or organizing a text to develop a foundation of thematic ideas (Creswell, 2019). All the data was securely stored on a secure cloud with two-step authentication to log on.

Analysis

The action researcher starts reviewing the data gathered during the data collection process, and the evolving theoretical understandings help form, update, and refine the inquiry (Efron & Ravid, 2020). I kept notes that are well organized and transcribed the notes as quickly as possible to ensure accuracy. Furthermore, collecting and analyzing numerical and text data allows the researcher to understand better the research problem (Creswell, 2003). Thus, analyzing data is an ongoing and critical component of a teacher's research inquiry (Dana, 2013). Consequently, I ensured this data is analyzed continuously throughout the study.

I began with a baseline progress monitoring of all the students with the easyCbm progress monitoring probes, word reading. I did this progress monitoring weekly for the six weeks. Progress monitoring results were recorded on the easyCbm cloud server, which requires a secure login. I conducted a two sample T-test test over the different test to determine if the students have made progress in decoding. This will answer the first research question I have posted in this study.

I conducted a reading fluency of my students, and I began with a baseline and establish a baseline of the word accuracy. I completed five more reading test on each student at the end of my study. I conducted a paired two sample-test on each of the subject's reading fluency's data to determine if there was an increase in the students' reading fluency. This will answer the first research question of the study.

Qualitative data collection followed a descriptive test design model sought information to systematically characterize phenomena, situations, or populations. It answers the what, when, where, and how questions about the research topic rather than the why (Plotnik & Kouyoumdjian, 2011). The qualitative data I gathered came from observations of the students reading independently and the interviews of the paraprofessionals. I observed the students the students reading and noted if they were applying tapping of words they did not know. I then used thematic analysis of the data to form a conclusion to answer research question two. I interviewed my paraprofessionals and asked them about their opinions of Fundations and their overall feelings of whether they had seen improvements in the students' ability to decode the text while reading. I asked questions like "reflect on past programs; are they different?" and "how do you feel about Fundations?" I used thematic analysis to code the answers to the questions to form a narrative analysis of the data.

Significance of Study

This study will be of interest to special education teachers and curriculum coaches in implementing programs for populations like my study population. This could assist those teachers and curriculum coaches in helping to make decisions for their students. When I connected the problem of practice to the intervention, I wanted to observe whether using the Wilson Fundations phonics part of the curriculum would assist intellectually disabled students in achieving phonemic awareness and transferring knowledge to their independence in reading text.

Limitations

In my study, several limitations arose. Since I selected only five students for my research, the number of students may not have been adequate for a more significant representation, leaving me to wonder whether a larger group of participants could have led to a different outcome. I wondered whether my students' intellectual disabilities would make it challenging to have adequate data gathering over time. Some of my students are identified as students with autism; these students will sometimes become echolalic when asked questions, which might require additional prompting. Finally, the period to complete this research may not have allowed me to fully gauge student outcomes. The choice of books was a limitation for the age group of students that was in the study. The books that my students had to choose from because of their reading levels were written for ages five to seven years old. The youngest student in this study was 8 years old.

Organization

This chapter has described the current problem of practice at Deer Creek Elementary, which lacks systematic phonics instructions for students identified with intellectual disabilities. There was also no way to indicate if the students could use phonemic awareness while reading text. My research will examine whether direct instruction using Fundations will increase these students' phonemic awareness and ability to apply this knowledge while reading text. Chapter two will review literature based on research of students who are intellectually disabled and their progress in reading and the history of special education laws in the United States. Chapter 3 will discuss the methodology,

study design, and procedures for the research. Chapter 4 will describe the data analysis of the surveys and the semi-structured interviews, including tables and graphs. Interpretation of the results and how they relate to the current literature will be discussed in Chapter five.

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Definitions

Decoding- the ability to accurately pronounce written words by applying the understanding of letter-sound correlations, especially letter patterns

Diagraph- two letters put together to form one sound

EPCD- Elementary Program for Children with Disabilities

IDEA- *Individuals with Disabilities Education Act*, Federal law protects students enrolled in schools that protect students with disabilities.

Individual Education Plan- This is a plan or program designed to guarantee a student with a known disability who is enrolled in an elementary or secondary school receives customized instruction and related services.

Intellectual Disability- a term used when a person has certain cognitive functioning and skills limitations, including communication, social, and self-care skills.

Phonemic awareness- the ability to identify and manipulate individual sounds (phonemes) in spoken words.

Phonics- an instructional approach to teaching reading and writing by applying sounds to the alphabet.

Reading Fluency- the ability to read words accuracy, prosody, and speed.

Running record- a formative assessment captures a student's reading level by assessing reading accuracy, comprehension, and fluency.

Title One- is a school in the United States with a higher-than-average poverty level for its student body.

Chapter Two

Literature Review

When walking into a life skills classroom, the first thing a person might observe is several adults sitting one-on-one or one-on-two with students at tables, working on tasks or reading with them. These classrooms are busy places where the primary goal of the classroom teacher is to address each individual education plan (IEP). As the teacher, it is vital to find material that is not only engaging but also researched-based to assist the students in making progress (Alexander & Byrd, 2020).

The problem of practice for this action research study centers around students identified as intellectually disabled and their lack of access to a comprehensive phonics program could allow them to achieve phonemic awareness for improved ability to decode text during independent reading When coming into the EPCD program, I observed the program did not have a curriculum supported the phonics needs for my students. Reading is essential for all students, and for special education students to have access to other content areas and build their vocabulary knowledge, it is critical they can read. If special education students can read independently, they will be able to be independent in a vocation after high school (Torres et al., 2021).

This action research focused on five students with intellectual disabilities who were instructed in the phonics pieces of Wilson's Fundations for 30 minutes daily for six weeks. This instruction consisted of the students learning how letters to their letter sounds, manipulating letter tiles, letter cards, and tapping

out individual sounds blend to create words. The students were observed while were in independent reading whether the students were able apply the same skill while reading. Each student is on an individual education plan. They each also have separate goals and objectives in reading, so I made each of the students' experience into an individual case study.

Research questions

1. What is the impact of the instructional use of the Fundations manipulatives and tapping strategy on phonemic awareness among intellectually disabled students?
2. What impact does use of Fundations manipulatives, and the tapping strategy have on intellectually disabled students' ability to decode text during independent reading?

This literature review aims to provide an overview of the scholarly literature related to the study's theoretical framework, special education in the United States, and phonemic awareness in students identified as intellectually disabled. A literature review can help a researcher relate their action research project to what others have done and found before their study (Mertler, 2019).

Organization of Literature Review

This literature review will first address the history of teaching special needs students. This will be followed by discussion of the theoretical framework centered around the zone of proximal development, the bottom-up theory, and John Rawls' Justice of Fairness. Finally, the last two sections are related to research on special education students' phonemic awareness and reading skills and their relation to increased assignment phonemic awareness. The closing section will be the summary of the literature itself.

For the literature review, I used two primary sources of information: online journal articles and scholarly books. I used two educational databases, Education Source and Educational Resources Information Center to do an internet search (ERIC) to discover these resources. I started by searching for *phonemic awareness*, *Fundations*, *intellectually disabled*, and *special education*. These searches led me to publications encouraging special education students to use systematic phonics instruction to help increase a student who is intellectually disabled ability to read. After that, I searched for *special education learners*, *Fundations,* and *Wilson Reading*, among other things. I also searched keywords relating to *bottom-up theory*, *zone of proximal development*, and John Rawl's justice of fairness. This information was found in the University of South Carolina (UofSC) Cooper Library and communicated with Deer Creek Elementary staff. I also went to the Texas A & M Central Texas Library System for several journal articles as they were unavailable at USC library.

History of Teaching Special Education Students

Students with disabilities, particularly those with serious cognitive disabilities, were not expected to satisfy minimum academic levels. Educators have several issues because laws demand all children get instruction in the major academic areas (Florian, 2007). Two developments in the education system preceded the implementation of this mandate: the desire to incorporate children with disabilities more completely into the general education system and the rising pressure on American schools to raise academic standards (Florian, 2007).

As part of the "War on Poverty" President Lyndon B. Johnson signed the Elementary and Secondary Education Act (ESEA) into law in 1965. Pupils disadvantaged by poverty were entitled to government financing for both

primary and secondary education under the terms of the ESEA, which also called for equitable access to education for all students (Kleinert et al., 2009). Individuals with cognitive disabilities were being deinstitutionalized and given access to educational opportunities in the late 1960s and 1970s (Kleinert et al., 2009). The Rehabilitation Act, Public Legislation No. 93-112, 87 Stat. 357 of 1973 was the first law addressing special education and persons with disabilities. Section 504 of the Rehabilitation Act established the groundwork for disabled persons' rights by outlawing discrimination against them based on their impairments. Individuals with impairments have the same rights as their counterparts without disabilities regarding access and opportunity. Education for All Handicapped Children Act (EAHCA), Public Law 94-142, 89 Stat 773, was enacted in 1975. Public Statute No. 99-457, 100 Stat. 1145, updated this law in 1986 (Kleinert et al., 2009).

All children between the ages of three and twenty-one have the right to free and appropriate education (FAPE)and least restrictive environment (LRE) under this legislation. Individuals with disabilities are taught in general education classrooms by default unless their education is ruled unsuitable after a comprehensive evaluation by a multidisciplinary team (IDEA,2018). Their disability is so severe they cannot benefit from general education. A multidisciplinary team develops and implements a personalized education program for each student with disabilities. Another amendment (IDEA, 2018) expanded preschool children with disabilities access to a FAPE in an LRE. In place of an individualized education program, a multidisciplinary team develops and implements an individualized family service plan (IFSP) for each child (IDEA, 2018). The Education for All Handicapped Children Act (1975) stipulated

all children with disabilities get a free and suitable educational opportunity. Since that time, there has been intense disagreement over what constitutes a proper education, particularly regarding the requirements for children who have substantial impairments (Kleinert et al., 2009).

As early as 1977, proposals were made for pupils with severe impairments to be taught alongside their non-disabled classmates in public education institutions. The curriculum was to be built on a list of abilities required to engage in the daily activities of schools and communities (Florian, 2007). There was nobody of research at the time to support whether a segregated or integrated school environment provides the students with significant intellectual disabilities with an excellent education, and the argument over what kind of education was most appropriate for children with moderate to severe disabilities was hypothetical (Florian, 2007).

With changes in the legislation, the argument over what students with major intellectual impairments should study has risen to the top of the agenda. The Education for All Handicapped Children Act was renamed the Individuals with Disabilities Education Act on June 4, 1990. After President Clinton re-approved the IDEA with several key amendments that emphasized providing all students with equal access to the same curriculum; addition, states were given authority to expand their definition of "developmental delay" from children under the age of five to include children between the ages of six and nine years old (Kleinert et al., 2009). With the reauthorization of the Individuals with Disabilities Education Act (IDEA) in 1997, access to the general education curriculum was mandated, and in 2001 NCLB mandated the inclusion of all

students, including students with disabilities, in statewide assessments that measure academic achievement (Fuchs & Deshler, 2007).

The No Child Left Behind Act (NCLB), 115 Stat. 1425 (2001), reauthorized the Elementary and Secondary Education Act (ESEA). It offered assistance and extra education services in literacy development and intervention for all pupils, including those with impairments (Every Student Succeeds Act, 2015.). Uneven curriculum and teaching focusing on noncognitive characteristics substantially different from those in normal education have been a concern in special education for years (e.g., life skills). The NCLB changed society's perception of disabled people by requiring them to meet grade-level requirements and holding schools accountable for their performance. Despite the excellent intentions behind the legislation, critics claim it exacerbated the divide between *normal* students and disenfranchised students, especially those with disabilities. ESEA increased the range by imposing unattainable requirements on underprivileged students and students with impairments (The Elementary and Secondary Education Act at Fifty and Beyond., 2015). As a result, to the appeal of educators and families, the ESEA was revised and reauthorized as Every Student Succeeds Act (ESSA) in 2015, abolishing the NCLB since the NCLB's prescriptive requirements were unrealistic for most schools and educators. ESSA was more flexible than NCLB and did not use standardized test results as the main criterion for school achievement (The Elementary and Secondary Education Act at Fifty and Beyond., 2015).

Special education teachers are now obligated to access the general education curriculum and design instruction to meet their students' learning goals (Yell et al., 2020). By implementing Fundations, the same phonics program

offered to all students at Deer Creek Elementary, the students in the EPCD classroom are receiving a fair and appropriate education.

Theoretical Framework

According to Grant and Osanloo (2014), the theoretical framework serves as the foundation for the entire dissertation. It provides a framework for you to build and support your research. For a research study, it is the groundwork upon which all knowledge is built. The theoretical framework should be chosen carefully because it reflects the writer's beliefs and knowledge. Three theories will guide this action research study: the zone of proximal development, the bottom-up theory, and Rawls' (1999) justice of fairness. The first two theories were chosen because of their direct relationship to phonics and pedagogy in a classroom setting. As a reading teacher, my experience has led me to conclude the zone of proximal development and the bottom-up theory is the basis for a student's ability to learn phonics. John Rawls' theory of justice of fairness was chosen because, in my experience as a special education teacher, I have noticed over years of teaching special education students, many times this population is left out of curriculum planning and given leftover pieces of programs. I will illustrate through each of these theories how they will lead to the increase of phonemic awareness in children with cognitive impairments. By incorporating are three together, the students in this population will have a better chance of obtaining reading skills and have an a more equitable education in relation to their peers.

Zone of Proximal Development

One key point of Vygotsky's social-cultural theory is the zone of proximal development (ZPD). Learners can learn ideas and patterns they would not be

able to grasp independently with the help of social interactions from mentorships. (Vygotskỹ et al., 2004).

The ZPD in an educational setting in which a student can do a task the or she would not be able to perform alone. This theory stresses the socio-cultural context of education, which is seen as a reciprocal process, a unique form of exchange between instructor and student mediated via speech and communication (Utomo & Santoso, 2021). The teaching process is seen as a collaborative activity, with the ZPD serving as the foundation for guided interaction in the classroom. Instruction is an extremely important component of cognitive growth, and the ZPD serves as its instrument (Utomo & Santoso, 2021).

The actual level is what the students can do without mediation and assistance. The potential development is that which can be obtained in collaboration with scaffolding, tools, and various frameworks (Vygotskỹ et al., 2004). Rogoff used the word "scaffolding" to describe the ZPD's implicit, emotionally engaging, evolving dynamic contract between student and instructor. Rogoff's phrase "directed participation" refers to the reciprocal risk that both the instructor and the student take when the teacher erects scaffolding and the learner climbs the scaffolding (Fernandez et al., 2015). Her use of the word *apprenticeship* implies the learner wishes, in part, to become the instructors' partner in the development of a new initialization of culturally relevant knowledge (Fernandez et al., 2015). In scaffolding, the learner becomes independent at a task taught after the learning responsibility is given to him (Vgotsky,1981). Breaking down tasks into small pieces for direction to a higher level of performance may happen not just in the cognitive world but also in the

social, emotional, or physical dimensions, and it is a frequent practice since it allows for gradual development and reinforcement (Bergin & Bergin, 2012).

According to Vygotsky, a learner is incapable of imitating anything except the degree and forms in which imitation is accompanied by comprehension (Bodrova & Leong, 2007). It is widely acknowledged a child can copy only those within his intellectual capability (Vygotsky& Cole, 1981). Vygotsky (1981) aimed to prevent imitation misunderstandings since he saw them as one of the fundamental pathways of a child's cultural development. The word imitation should be understood in Vygotsky's works with the understanding a certain technical connotation is intended. In the Fundations lesson, the students must imitate the instructor using magnetic letters (Wilson, 2022). Eventually, the students become confident enough to build words independently without needing the instructor to model every word must be built in the lesson.

The zone of proximal development of a child comprises immature but developing processes. These functions are developed but incapable of supporting autonomous performance for a specific learner. Independent performance cannot demonstrate the presence of developing functions (Bodrova & Leong, 2007).

Bottom-up Theory

The reading models stress written or printed text are bottom-up models. They assert reading is driven by a process that produces meaning and progresses from part to whole. For Gough (1972), the reading process is shown as moving serially, from letter to sound, to words, meaning, and so on, using a phonics-based or bottom-up model of reading (Liu, 2010). With Gough's model of reading the visual system receives the graphemic information. Then it is converted to a sound at the first level, from a letter character to a phonetic representation. The

phonetic symbol is then transformed into a word at the second level. The third level is where the units of meaning or words are integrated into the knowledge system (Castles et al., 2018). A succession of higher-level encodings is then used to change the input from sensory information to meaning, with information flow is bottom-up and not influenced by any higher-level processing. This is also known as a data-driven approach (Castles et al., 2018).

There are four advantages to reading about the bottom-up theory. The first advantage is the students are getting explicit instruction in phonics. Without explicit instruction, students with learning difficulties cannot hear the individual phonemes in words. Once students have learned the individual sounds and blended them, they no longer guess words when reading. They are putting together words and reading (Gonzalez-Frey & Ehri, 2021). The second advantage is students begin to read for meaning because the students are no longer using their extra energy decoding. The students can spend extra energy comprehending what they are reading (Gonzalez-Frey & Ehri, 2021). The students began to successfully orthographic map the words they were reading. This is not sighted word reading. The students learn words have vowel teams, digraphs, diphthongs, etc., and begin decoding words quicker. Finally, the last advantage is the students learn to apply their knowledge of phonemic awareness to spelling; no longer do the students have to rely on invented spelling. They can hear letters and apply them on paper (Gonzalez-Frey & Ehri, 2021).

Rawls's Justice of Fairness

It is important to consider Rawls' justice of fairness to build on the premise educational rights provide a useful framework for understanding diversity and inclusion in education. In this famous work, Rawls (1999)

intentionally avoided any mention of disability. Yet, his articulation of fair institutions and the role of rights in their practices provide a sound foundation for considering requests, including disability rights, in educational institutions (Joseph, 2020). As a starting point, a well-ordered society should comply to Rawls' two principles of justice. According to Rawls (1999), the first principle states each person has the right to the most extensive basic liberty is consistent with a similar privilege for others, and the second principle states social and economic inequalities are to be organized in such a way that they are either reasonably expected to be to everyone's advantage and attached to open positions and offices. In a just society, these two principles should drive the distribution of virtual goods: rights and freedoms, powers and ambitions, money, and riches. (Rawls & Freeman, 1999).

Rawls and Freeman, (1999), indicate education is seen as a fundamental good should be given equally as part of the conditions for equality of opportunity. In case, equalizing access to education is the obligation of a just society. Rawls and Freeman (1999) said if education is understood in this way, the structure for balancing access and assigning resources must consider the social benefits of education and the personal people. These benefits should be constructed not in terms of convenience or human capital but rather in terms of the common goods can accumulate because of balancing both access and available materials for all children. (Rawls & Freeman, 1999).

For this research study, the zone of proximal development and the bottom-up theory is used to frame the acquisition of phonemic awareness in students have cognitive impairments. Learning to read involves more than just sounding out words. Students must make a connection from the sound to the

letter sound and then blend those sounds together to form a word. The teacher is an intricate part of this process as the teacher models for the student, and the student then learns to apply their newfound knowledge through a gradual release of responsibility. Through John Rawls' theory of social justice fairness, the students in a self-contained setting in this study are allowed to receive the same curriculum as their general education peers. All three of these theories together not only make it possible for special education to read but it gives special education a fair playing field.

Phonemic Awareness

A critical reading component is students' ability to decode words at the individual sound and phonemic awareness ("The Relationship between Phonological Awareness and Reading Fluency for Elementary Second and Third Grade Dyslexic Students," 2021). According to several studies, letter identification and phonemic awareness are the two most important parts of reading instruction for students learning to read during their first two years of education (Castles et al., 2018). These two together put are early indicators of success in reading. There are 44 sounds associated with the English alphabet to make up words through syllabication. Phonemic awareness is a necessary component of learning to read since English writing is centered on the alphabet (Castles et al., 2018). With phonemic awareness, readers may approach new words by isolating sounds inside words to aid pronunciation. The complexity of this approach emphasizes the critical need for acquiring phonemic awareness abilities early in the reading acquisition process (Castles et al., 2018).

Even though phonological processing is necessary for experienced readers, phonics seems particularly vital when children initially learn to read

(Castles et al., 2018). While skilled readers can quickly extract information from graphemes, including phonological data (Rastle & Brysbaert,2006), individual people who do not grow into proficient readers are less likely to regularly retrieve pertinent data from graphemes in their adult years (Rastle & Brysbaert, 2006).

Systematic Phonics

Systematic synthetic phonics directly teaches children grapheme-phoneme correspondences before stressing the meanings of written words in context or isolation. In other words, systematic synthetic phonics adheres to phonology's first premise. It is named systematic because it teaches grapheme-phoneme posts in a recurring order (Castles et al., 2018). Once a child has learned to associate the letter sounds of the alphabet, then conceptually, they will blend letters to form words. Eventually, the student will learn to manipulate the words and replace the initial, medial, and final sounds with different letter sounds to create other words.

An explicit and systematic phonics component to teach the alphabetic code will be at the heart of any successful program of early literacy teaching. This should be added daily for at least 20–30 minutes until the whole code has been learned and implemented (Castles et al., 2018). Children's attention will be maintained for longer periods if the program is well-designed and includes various interesting activities throughout the session. In complement to phonics education, there must be a strong emphasis on spoken language, vocabulary, and understanding, with great texts serving as a medium for this instruction (Castles et al., 2018). Fundations is a reading program includes phonics and phonemic

awareness for teaching, but the program also provides fluency, comprehension, vocabulary development, and writing skills.

According to Sermier Dessemontet et al. (2021), learning to decode was difficult for students with an intellectual disability who were primarily taught to read using sight-word or whole word instruction. In a study conducted in Switzerland in 24 self-contained special education classrooms with students with intellectual disabilities, the researchers questioned what components of reading are taught to these students, how they are taught, and how they are addressed in the student's learning goals (Sermier Dessemontet et al., 2021). In 92% of the classes, the students received phonics instruction. However, the systematic approach to phonics was only taught in 46% of the classes. Half of the instructors used a method was neither systematic nor consistent while teaching phonics (Sermier Dessemontet et al., 2021). According to these researchers, students with intellectual impairments may not be able to acquire all the letter-sound correspondences necessary to read using this sort of haphazard method because letter-sound correspondences and utilizing them to decode are more difficult for students with intellectual disabilities, particularly those with moderate intellectual disabilities. For students who are usually developing, unsystematic phonics education is more ineffective than systematic phonics instruction (Sermier Dessemontet et al., 2021).

According to Sermier Dessemontet et al. (2021), teachers should be instructed about how to expertly design and include brief tasks in their reading instruction to teach children phoneme blending orally. Furthermore, phoneme mixing is a fundamental phonemic awareness skill, and mastering this ability is vital for deciphering words and other written language (Sermier Dessemontet et

al., 2021). These authors further indicate teachers' instruction in educating their pupils on how to divide words into phonemes before spelling them would also be beneficial. Finally, Sermier Dessemontet et al. says instructors might be encouraged to incorporate relevant learning objectives linked to phonemic awareness in the Individualized Education Programs (IEPs) for struggling children because incorporating explicit and systematic phonics instruction into the curriculum is one method of ensuring that all students have the skills, they need to become successful readers.

Related Studies

The zone of proximal development concept can conceptualize two levels of the students with ID performance in phonemic awareness (e.g., current level and the future level). The goal of the Fundations is to move the students from tapping out words and manipulating individual letters into words in a whole group to tapping out words and manipulating letters while reading independently without the support of a teacher while reading on their own (Wilson, 2022).

Reading Instruction for Students with Disabilities

In a study completed by Garwood et al. in 2020, the researchers provide strategic phonemic awareness strategies to support students at risk due to emotional and behavioral disorders. The researchers concluded students need daily routines to be successful in reading. Garwood et al. (2020) also state students should also involve explicit teacher modeling and direct instruction, the students should be engaged, and immediate feedback should be provided to correct mistakes.

Browder et al., 2012, conducted a study with students with multi disabilities. In this study, even though programs like Edmark successfully allowed students to memorize sight and basic words, the students were unsuccessful in reading comprehension. Browder et al (2012). also stated phonics instruction alone could not be the stand-alone instruction to lead to students with disabilities being successful in reading. The students need a program that includes phonics, fluency, phonemic awareness, comprehension, and vocabulary. When students receive instruction under Wilson Fundations, the students are receiving all five of these components of reading. In their study, Browder et al., 2012 concluded 100% of the 93 students with disabilities made gains in reading by incorporating all five components of reading instruction.

Students are taught to decipher unfamiliar words by making analogies to familiar words, a kind of phonics education. Gaskins et al., 1996, collaborated with instructors at a school for struggling readers to guide them on employing phase theory to alter a reading-by-analogy phonics curriculum. During their first year of reading instruction, pupils were taught to read 120 keywords, including the most prevalent spelling patterns, according to the original method. Students have introduced to segment these words into onsets and rimes and then utilize the rimes to read new terms in the next lesson. On the other hand, some pupils had difficulties retaining the keywords in their minds. They acted like partial alphabetic phase readers in they misinterpreted words were identical in spelling and misspelled binding terms. The software was redesigned to assist pupils in analyzing grapheme-phoneme links as they learned to read and spell each of the keywords in the program. This was supposed to aid students in remembering the whole spellings of the keywords in their memory to apply them to new

words when reading them. The new program performed better in reading and spelling words throughout the first two years of teaching. However, the disparities between the new and old programs decreased during years three and four of instruction, according to our comparison results (Gaskins et al., 1996). The findings show students' ability to read words in systematic phonics programs, implying graphic-phonemic analysis is of fundamental significance.

Wilson's Fundations

The Wilson Learning System has five necessary components, it was first published in 1988 and co-founded by Barbara Wilson. The reading program teaches students letter-sound correspondence, spelling, word structure, comprehension, and fluency. One of the Wilson Fundations Learning Systems' main components is tapping out sounds to assist the students in recognizing phonemes. The system first targeted struggling readers from third to twelfth grade. (Wilson, 2022)

Nevertheless, the Wilson Fundations' Reading System has used a general education phonics program in Kindergarten through third grade. There are limitations to Wilson's Fundations; no chances are provided in the materials for students to practice utilizing feedback or self-correction of their own mistakes. The number of decodable texts is limited, and they do not always correspond to the scope and sequencing of the program's phonics and high-frequency words. Teachers read words, paragraphs, or Chart Stories, and students repeat and read what they have just heard (Goss & Brown-Chidsey, 2012)

Case Studies

Sessa (2003) analyzed how well the Wilson Fundations program worked for second graders with mild to severe special needs. She discovered all the second-grade students in her study improved their spelling and phonemic awareness skills. She used a sample of four students in a special education program in New Jersey as his group. In September and March of school year, the students in the Foundation program received the same step-by-step help as they worked through Level 1 of the program (Sessa, 2003). This six-month study saw big changes in things like phonological awareness and spelling. During second grade, these students were getting Wilson Fundations instruction at Level 1, first grade. This is important to note. A goal for students to make progress toward their grade-level goals was not made clear in this way (Sessa, 2003).

Charles Chalfant completed a study in 2019 where he wanted to observe the growth of Kindergarten through second-grade students from fall 2018 to winter 2019 in reading. In his dissertation, he had 98 students in five classes from Kindergarten to second grade. He began the study by giving each student a pretest to get a baseline assessment on each student, along with five teachers he recruited to support him in his research (Chalfant, 2019). In his study, all students improved reading from fall 2018 to winter 2019, but when the statistics were broken down to individual classrooms, the gains were most evident in Kindergarten and first grade. The class showing the least number of improvements was the second-grade class. On the students' RIT (reading in text) growth, the students in all five classes showed significant improvement from the previous year's data. Additionally, all the students made growth on their DRA

assessments, indicating the implementation of Fundations is an effective intervention to assist students in reading. (Chalfant, 2019)

In a study by Schwartz, 2019, compared Heggerty to Fundations, the researcher found in word blending, the Fundations groups outscored both the Heggerty and the Words Their Way groups by a large margin. The results of the study indicated the Fastbridge Word Blending scores of the Fundations class (M = 4.18, SD = 3.05) were much higher than those of the Heggerty and WTW class (M = 2.25, SD = 1.73) in a statistically significant way (Schwartz, 2019). The findings for the Fundations group, which included children who were at risk for dyslexia, were equally encouraging. The study results indicated the Fastbridge Word Blending scores of the Fundations students at risk for dyslexia (M = 7.00, SD = 1.87) were considerably higher than those of the Heggerty and Words Their Way class (M = 4.33, SD = 1.52). In comparison to Heggerty and WTW, the findings of the Fastbridge data analysis revealed Fundations was a more successful instructional technique a teacher could employ to develop phonological awareness abilities in students. It was shown the Fundations program was effective for both Tier 1 pupils and children who were assessed to be at risk for dyslexia (Schwartz, 2019).

While the researchers from the case studies made assertions regarding the success of the Wilson Fundations program, it is unclear whether these benefits were statistically significant in the long run. A control group was employed in just one study, Goss and Brown-Chidney (2012), and even then, the researcher did little more than compare student improvement on DIBELS to progress in the Reading Mastery program. Overall, the results of this research are not generalizable to a different community of students and are confined to the small

sample size obtained from their respective settings, as previously stated. In these studies, a critical component 42 is missing: insight 42 into the success of Wilson Fundations for a full classroom of kids, specifically as a Tier 1 program. Because of the consequences of this small-scale research, Wilson Fundations must be evaluated as a Tier 1 program inside a school to assess its impact on students' academic progress in reading (Goss and Brown-Chidney, 2012.)

Summary

Teaching students who have been identified with ID can be difficult. guided by a theoretical framework of constructivism and implementing Vygotsky's zone of proximal development coupled with bottom-up theory, I believe it is possible to improve reading skills among students identified as ID by implementing phonemic awareness strategies using Wilson's Fundations systematic phonics learning program. John Rawls echoes federal law in his social justice theory, indicating that it is the right of the special education student to have the same learning opportunities as their general education peers.

This literature review explored the history of the laws passed to educate special education students fairly and appropriately in the United States, systematic phonics and its implications on students identified as ID, the success of Wilson's Fundations phonics program, and the program's success with both general education students and special education students. When special educators are willing to think outside of the box and implement research-based programs, it is possible to bring students identified as ID to read independently.

The next chapter will contain the methodology, it will explain the intervention in-depth as well as the tools that I will use to measure to analyze the students on the skill of phonemic awareness. Chapter three will also contain how

I will analyze the data and form the conclusion based on its characteristics, either qualitative or quantitative. The final two chapters will present the data and findings of the study.

Chapter Three

Methodology

My first week in the EPCD classroom told me the students in my classroom were not getting the proper instruction in reading. After a literature review on the topic, it is evident a systematic approach to teaching phonics supports students who are intellectually impaired. The law states special education students must have access to learning opportunities presented in the general education curriculum (IDEA, 2018). To accomplish these goals in the EPCD, a restructuring of the current curriculum in the EPCD classroom will need to be implemented.

This action research study aims to determine whether instructing students with the phonics piece of Wilson's Fundations Phonics System will increase phonemic awareness among students identified as intellectually disabled. Using a convergent mixed methods design, the findings could assist other teachers who teach this same population of students in having a chance to receive reading skills they normally would not get in a self-contained setting.

Problem of Practice

The problem of practice indicates students placed in the EPCD program at Deer Creek Elementary have not been offered a systematic phonics program to promote reading achievement and support their IEP goals and objectives. Before this study, the students in the EPCD program were offered

non-researched-based instruction in reading. The students were taught phonics through worksheets and file folder activities, and many times the students repeated the same actions numerous times. Because of this, there were few ways to assess if students were accomplishing their goals and objectives in reading.

The theoretical framework for this study includes the zone of proximal development and the bottom-up theory, and both theories combined helped lead the students to obtain basic reading skills. Including John Rawls' theory of justice of fairness provides a social justice reminder intellectually disabled students have the right to be educated with the same educational opportunities as their general education peers.

In this study, I provided my students with an intervention of instruction in phonics by using the phonics strategies and materials of the Wilson's Fundations program. This included the students tapping out letter sounds to blend to create words, manipulating magnetic letter tiles to blend letter sounds to create words, and using cards with letters to create words using the same strategy. I explicitly model this for students and reinforce it when they read independently on their instructional level. The following questions will guide this study:

Research Questions

1. What is the impact of the instructional use of the Fundations manipulatives and tapping strategy on phonemic awareness among intellectually disabled students?
2. What impact does use of Fundations manipulatives, and the tapping strategy have on intellectually disabled students' ability to decode text during independent reading

This chapter will outline the methodology including the research and the design of the study. It will also include the participants, the setting, the data collecting tools, and data collection methods.

Action Research Design

Action research is a design in which teachers examine their practices. In this type of research, the researcher sets out to improve their students' learning (Efron& Ravid, 2020). In the classroom setting, I can recognize problems arise while I am planning and implementing the curriculum. I realize it is up to me as the educator to improve the teaching and learning happens in my classroom, and I know action research is beneficial not only to my practice but also possibly could benefit other classroom teachers. Educators often research to improve their practice and, subsequently, their students' understanding (Efron &Ravid, 2020).

This action research is based on a convergent mixed-methods approach, which involves the researcher taking the data from qualitative and quantitative instruments, analyzing it separately, and then forming conclusions (Creswell, 2015). A study employs mixed methods draws on the qualities of both quantitative and qualitative research methodologies to strike a balance between objectivity and subjectivity (Efron &Ravid, 2013). When comparing both the qualitative and quantitative data results, there is a convergence to help with the understanding of the results. I compared the quantitative data results to the observations and the interviews to compile a complete picture of the research problem.

Before I began this study, I got approval from the university's institutional review board and the school district's superintendent (Appendix B). Additionally, I provided the parents of student participants with consent forms

(Appendix A). I wanted to make sure they understood this was a voluntary study and they had the right to pull their students from the study if they did not feel comfortable. I did not use any information in my research a reader could use to identify a student. To protect all the students in my school and my school district, I used pseudonyms for the school and school district. I used aliases for all participants to protect their identities in each study step.

Setting

The study took place in a rural community elementary school. This campus services an agriculture community, where most of the school population comes in from within the county, not in the surrounding neighborhoods. 99.9% of the teachers on campus are females, and 100% of the administration staff on campus are female According to campus data, there are 694 students enrolled at the school, but only .02% of the student population are served in the EPCD program. 53% of the populations is white, and 44% is Hispanic, the other 3% is made up African American, Asian, and Native American combined. The specific classroom setting of this study serves students in kindergarten through fifth grades whose primary eligibility for special education services where they are identified as intellectually disabled. There is one supervising teacher in the classroom and three paraprofessionals to support the students. There is a continuous flow of students in the classroom. At times there have been eight students enrolled, and at times there have been 15 students enrolled. At the time of this study there were 14 students enrolled in the class. These students had various disabilities to include autism, traumatic brain injury, Down's Syndrome, and multi-disabilities.

Intervention

This action research case study investigated whether students who are intellectually disabled can achieve reading independence in phonemic awareness after being taught using the manipulatives and the tapping strategy from the Fundations phonics kit. To begin the intervention, I gathered baseline quantitative using the same probes I later used for progress monitoring. After that, I began the six interventions with a series of lessons using Fundations' phonemic awareness portion of their Level 2 Wilson Language Training. I used the sound cards, the posters, the alphabet strip, and the small sound cards. These lessons took place every morning for 30 minutes for six weeks.

The phonics piece of the Fundations kit includes letter cards and magnetic tiles the students manipulate as a piece of the phonemic awareness portion of the lesson. The lesson includes sound cards with pictures make it easy for the students to memorize. There are posters go with the kits, so when we are working in small groups, these posters are referenced, and the students make the connections to the Fundations lessons.

The students also have an alphabet strip on their desk corresponds with the same alphabet strip is displayed on the whiteboard. All these items are in place to accommodate the needs of each in the classroom. For my students who have physical limitations, I have enlarged the magnetic tiles to make it easier for them to manipulate the letters when they are building words on their own. Table 3.1 illustrates all the material the students in this study used from Fundations and the description from Wilson's official website.

Table 3.1 **Fundation Material Used**

Fundations Material Used	**Description**
Small Sound Cards (instructor)	These cards teach word structure and sounds. On one side are letters; on the flip are keywords and previously taught and new sounds (Wilson, 2022).
Large Sound Cards (instructor)	"Level-specific, these cards present keyword pictures and letters for phonemes introduced and reviewed at each Level (Wilson, 2022)."
Magnetic letter tiles (students)	Tiles are used for activities teach phonemic awareness and the relationship between sounds and letters, as well as for spelling. Letter Tiles include consonants, vowels (*a, e, i, o, u),* digraphs (*wh, ch, sh, th, ck),* blank vowel and consonant tiles, and other phonemes introduced in the Level (Wilson, 2022).
Alphabet strip (instructor)	"The Aa-Zz strip hangs on the classroom wall for a quick reference of alphabet order, letter formation, and keywords (Wilson, 2022)"
Classroom Wall Poster sets (instructor)	Each Level-specific Fundations Classroom poster set offers students a visual reminder of the concepts taught in each Level (Wilson, 2022).
Desk strip (students)	A reference tool with Aa-Zz letter/ keyword pictures, numbers, a ruler, a counting block, and space for students to print their names (Wilson,2022).

Pre-intervention phase

For the first step of the study, I conducted baseline data on the students. This took place during the first day of the study. As the first step, I conducted wo

separate progress monitoring probes from easyCbm (easyCbm, 2022). These included the first-grade word reading probes. Then I completed an initial reading fluency from each student to get a baseline reading fluency. These reading passages came from easyCbm and were each student's instructional reading level. When completed all my baseline quantitative data, was automatically stored on easyCBM's secure web browser. I used my secure login to continue progress monitoring throughout the rest of the study.

Whole group intervention phase

I began immediately with the whole group instruction of the five students chosen for the study. Each unit took two weeks to complete, and it took approximately 30 minutes to complete each whole group lesson. I began each lesson with the students repeating after me the alphabet and the corresponding pictures and sounds Fundations has included in their program. This took place before each lesson and was repeated daily. These lessons involved the students tapping out words, manipulating letter tiles to build words, and small sound-letter cards were used by me to demonstrate how to build the words in each of the units. After a couple of lessons, the students were allowed to come to the whiteboard and model building the words from the lesson for the whole group. The students used their magnetic tiles to build their words during each lesson.

I began with Unit Two of the Wilson Level 1 Fundations Kit. Unit One had already been taught during the first three days of school to review and familiarize the students with alphabet order and letter formation. I demonstrated to the students this concept and helped them the first couple of days. I introduced them to their magnetic letter tiles at this time. I demonstrated with my small sound cards and their letter tiles how to tap a word and build it. After

two days, I began to have students come to the board and model building words while the others tap and build words on their own.

Units three-five have large sound cards. Large sound cards introduce the students to specific groups of letter sounds Fundations is focusing on in that Unit. We began by reviewing previous sounds and then moved to the new sounds in words. Then as a group, we built words just like in Unit two. The students modeled for the other students with the small sound cards by tapping first and then building the word while the other students were tapping and building the words with their magnetic tiles. After each unit there were reviews of the previous units, except for days 29 and 30, which are the last two days of the study. Table 3.2 illustrates the daily breakdown of the intervention, including materials were used as the key focus of each lesson. A detailed lesson plan is provided in Appendix E.

Table 3.2 Intervention scope and sequence

Days	Unit and Key lesson Ideas
1-8	Unit 2 • Students repeat the alphabet and letter sounds and pictures • After the first three days, begin having students lead this part of the lesson • Introduce the concept of tapping to letter sounds • Introduce tapping CVC words • Begin to build CVC words with magnet boards • Observe students in small reading groups • Begin to have students build words in front of peers

9-17 Unit 3

- Repeat the alphabet/picture/and letter sounds for the whole group with student leaders
- Introduce digraphs *ch, th, sh, wh, and ck* using large sound cards
- Introduce the students to the large sound cards
- Build words with each of the diagraphs
- Students will continue to model for other students
- Observe in small reading groups

18-19 Review

- Repeat the alphabet/picture/and letter sounds the whole group with student leaders
- Review all words the students have built so far from previous lessons
- Use large sound cards daily
- Students will continue model for other students
- Observe in small reading groups

20-24 Unit 4

- Repeat the alphabet/picture/and letter sounds for the whole group with student leaders
- Introduce bonus letters *ss, ff, ll, and zz,* and the glues sound *-all*
- Review previous digraphs with sound cards daily
- Students will continue to model for other students while the other student are building words using magnetic boards
- Observe students in small reading groups

25-27 Units 3 & 4

- Repeat the alphabet/picture/and letter sounds the whole group with student leaders
- Review all words the students have built so far from previous lessons
- Use large sound cards daily
- Students will continue model for other students
- Observe in small reading groups

Independent Reading Observations

To help me understand whether the students could transfer or generalize their new skills, I observed them in their independent reading time. I assigned each student to read books from the school's leveled reading library based on their instructional level. During independent reading time, the students were asked to read the books from a book box in which I had placed books on their reading level and based on their individual interests. The students were encouraged to tap out any unknown words they came across without my help firs; then if needed, I helped them do it. I wanted to observe whether the students could carry the skill of tapping into another setting and independently apply it to their reading. I documented if the student needed assistance. I also documented whether the students skipped over words while they were reading. This data was used to answer research question two in the study.

By instructing my students in a systematic phonics program, I gave them the chance to develop the bottom-up strategy of reading to becoming readers. By modeling in the whole group and allowing them to practice the same skills in their text, the students were learning through scaffolding what it takes to be an independent reader. This, in turn, allowed the students to receive equitable instruction in reading just like their general education peers.

Participants

This study included five students identified as intellectually impaired according to their IEPs. Their intellectual scores ranged from 61 to 69. The students were verbal and able to communicate socially with their peers or teachers. The students selected were able to read on an instructional first grade reading level so able to participate in the running record reading assessments. I was the only teacher present to implement the whole group part intervention for

this study and collect the data. All students had a first grade reading level at the beginning of the study, and all students are verbal and can communicate socially and understand academic language. Pseudonyms have been used in this study to protect the identity of the setting and all participants.

- **Student A** is an eleven-year-old fifth grade male with an intellectual score of 68.
- **Student B** is a ten-year-old fifth grade male with autism and an intellectual score of 69.
- **Student C** is an eight-year-old third grade male, whose primary disability is autism and an intellectual score of 68.
- **Student D** is an eight-year-old third grade male with a an intellectual score of 67.
- **Student E** is a nine-year-old fourth grade male with autism and an intellectual score of 66.

Table 3.3 clearly illustrates the participants and their attributes.

Table 3.3 Students Participating in Study

Student	Reading level	Grade	IQ	Gender	Age
A	1.8	5	68	Male	11
B	1.8	5	69	Male	10
C	1.6	3	68	Male	8
D	1.3	3	67	Male	8
E	1.1	4	66	Male	9

Throughout this action research study, I served dual roles as the researcher and the teacher in the classroom. I received the consent of the parents

of my students. All my students are identified as intellectually disabled. A child's ability to offer informed consent is not only dependent on age, but also on the child's ability to comprehend and weigh alternatives and what participating in a study would include (Ikani et al., 2016). I informed parents if they do not agree to the study, it will not affect my role as their child's teacher or outcomes for their student. As their teacher, I am obligated to provide them with the highest quality education, including teacher materials, time spent with them, and fair grading practices.

I am also the direct supervisor of the paraprofessionals in the room. Not only do I make their schedules, but I also rate their job performance at the end of the year. I did not pressure any of the paraprofessionals to participate in the interviews or conduct the student observations if they did feel comfortable doing so. I informed them not participating would have no effect on their job performance or normal classroom routines. The paraprofessionals are responsible for the daily routine in their job description set by the district. I continued with the daily responsibilities assigned to me as a teacher at Deer Creek Elementary. I added this responsibility as the required researcher, which included implementing this intervention, gathering the data, assessing the intervention, analyzing the results, and reporting the findings.

Data Collection Methods

To provide answers to the research issues posed by this study, I intended to make use of a wide array of different data sources. The most suitable research strategy for my study was a mixed-methods design approach which included qualitative and quantitative data sources (Creswell, 2015). Mixed methods data sources provide a more comprehensive view of the data than a single method

alone and further confirm the data by triangulation. Triangulation in research is when the researcher uses two or more data sources to answer the research questions (Creswell, 2015).

The methods I used in this study included progress monitoring data to include word reading, running fluency test, student observations, and paraprofessional interviews. The alignment of the research questions and data sources can be found in Table 3.4.

Table 3.4 Research Question and Type

	Research Question	Data Collection Instrument	Data Collection Type
Research Question	What is the impact of the instructional use of the Fundations manipulatives and tapping strategy on phonemic awareness among intellectually disabled students?	easyCbm word list probes	Quantitative
		Reading Fluency Passages	Quantitative
		Interviews	Qualitative
Research Question	What impact does use of Fundations manipulatives, and the tapping strategy have on intellectually disabled students' ability to decode text during independent reading?	Interviews	Qualitative
		Reading observation	Qualitative

Data Sources

The sources for the quantitative data came from assessments were based on data from two different sources: easyCbm's word list and reading passage

probes. The assessments on the system are designed to measure how well students have learned content. Curriculum based measurements are standardized measures assess a student's mastery of skills and knowledge deemed critical at each grade level. The CBMs on the easyCBM system are often referred to as next-generation CBMs because they used an advanced form of statistics, Item Response Theory during measurement development to increase the consistency of the alternate forms of each measure type and increase the sensitivity of the measures to monitor growth. (easyCbm,2022).

easyCbm ***Word list***

I used the first-grade word list from Easycbm word list probes (easyCbm, 2022) for the students to identify the words. Even though word list reading requires students to read without hesitation to receive a positive mark and because I was measuring whether the student was applying the word tapping strategy, I allowed students to tap the words once to try to say the word. I told the students this in the instructions. I conducted this assessment at the end of each week of the study. The information was automatically stored in the cloud of the website, accessible only by my secure login information; however, to make sure none of the students' confidential information was compromised, I used their pseudo names on this server as well. The students' copies were kept in a locked cabinet to which I had only access.

Reading Fluency Passages

At the beginning of the study, I used easyCBM's reading passages to complete reading fluency tests to determine whether participants could read words in context of text after practicing the individual skill of tapping out words and creating words with the magnetic tiles. I administered five additional

reading fluency tests for each the student during the study to help answer the first research question. I wanted to know if the students had the ability to decode words in context of reading passages and if they could increase their reading speeds through the course of the study. In quantitative research, investigators gather information in a few ways to address the research questions (Creswell & Clark, 2011.). This data was stored on the easyCBM website with a secure login. The reading passage printouts were stored in a secured locked cabinet.

The qualitative data came from two sources student observations of them reading independently and interviews of the paraprofessionals. These data sources combined will gave an overall picture Fundations is program can be carried over into a self-contained setting.

Reading Observation

I observed each of the students a minimum of six times during the study. I observed whether the students applied the skill of tapping words while independently reading, the number of times they needed assistance, and the number of times the students were able to blend the words together after they tapped them out. This observation answered research question number two to see if the students could generalize the skill of tapping out words to decode them in a different setting to meet the eventual goal of independence in reading to help students be more successful in school. I observed the students and recorded my observations weekly. After collecting the notes, I stored them in a locked cabinet after the end of each day for which only I had access.

Paraprofessional Interviews

My qualitative datal came from interviews I completed with the paraprofessionals participated in the intervention phase of the study. These

interviews played an essential role in this study. I used semi-structured interviews to obtain the paraprofessionals' thoughts about Fundations, the student's behavior during the study, their thoughts about the previous reading instruction if they felt the students made progress, and if the students liked reading after being instructed in Fundations. A semi-structured interview requires the interviewer to follow a particular line of questioning based on actual statements (Meriam &Tisdale 2016). All the audiotapes were stored on a secure cloud with two-step verification, and any notes on the interviews were stored in a secured cabinet to which only I had access.

Data Analysis

This study is a mixed-methods research design where I used a descriptive test design model. I analyzed quantitative and qualitative data to answer the second research question. To answer the first research question, I derived quantitative data from two probes from EasyCbm (word naming and reading passages). Table 3.5 illustrates the alignment between the data collection methods, the research methods, and the data analysis methods. I gathered qualitative data through observations of the students and interviews with the paraprofessionals. The mixed-methods approach helped me answer the research questions of this study with reliable and valid findings (Creswell, 2019).

Table 3.5 Research Questions, Data Sources, and Methods of Analyst

Question	Data sources	Method of Analysis
What is the impact of the instructional use of the Fundations manipulatives and tapping strategy on phonemic awareness among intellectually disabled students?	easyCbm word naming probes	Descriptive statistical analysis
	easyCbm passage reading probes	Descriptive statistical analysis

What impact does use of Fundations manipulatives, and the tapping strategy have on intellectually disabled students' ability to decode text during independent reading?	Reading Observations	Inductive analysis
	Interviews	Inductive analysis

Quantitative Data

To measure the academic progress over the course of the intervention of the students, I chose two data points. At the beginning of the action research project, the students were administered a word reading pre-test from easyCBM.com using common first-grade reading level words. I administered a word reading test weekly until the end of the study and completed a paired two sample T-Test at the end to compare the pretest to each test weekly to monitor the students' growth.

The last data point was administered with a pre-test first-grade reading passage from the easyCBM.com website. I measured the students' reading fluency and got an initial fluency score. I completed it five times during the study. I measured reading fluency to assess whether the students were able to read words in context.

I conducted a paired two sample T-test at the end of the study on each of these data points. I will use the paired two sample T-Test results to compares the means of two sample items when there is a connection between the two samples. This data will answer the first research question.

Qualitative Data

For this study, I employed a phenomenological qualitative methodology. The use of Fundations as a phonics teaching method for students with

intellectual disabilities and their abilities to spontaneously decode and read were the phenomena**.** For this research study, I used two different methods of collecting data. During the intervention I observed the students while they were reading independently. After the intervention ended, I interviewed the paraprofessional who worked with the students during the interventions, but who have also worked in EPCD for over three years. They are familiar with the Edmark reading system and how the program was run before I became the classroom teacher.

Reading Observation

Observations are a defining feature of qualitative research and enable researchers to record behaviors and activities methodically and deliberately as they are occurring within a particular setting (Merriam & Tisdell, 2016). I observed whether each student was tapping out the sound of words while they were reading independently and used the observation form to note how many times the students were tapping out words, blending words, and wanted support to tap out words while reading. I repeated this observation process six more times during the study as students read independently.

After the study, I looked at each student's observation data to form a conclusion of whether the student had begun to implement the tapping of words on his own without support. After I observed each of the students a minimum of six times. I followed the steps to perform an inductive analysis of my observations data. These methods included transcribing the original information, developing categories, coding, iterating the text, and revising the categories on a continuous basis.

Paraprofessionals Interviews

Interviews are used to gather data and generate participant viewpoints to create detailed, in-depth descriptions (Creswell, 2014). I used a semi-structured interview of the paraprofessionals related to their small-group work with students after the 6-week intervention period. I recorded and transcribed the interviews and began the inductive analysis process afterwards and had a follow-up interview with the paraprofessionals, who reviewed transcripts. I asked them to make any corrections as a "validation interview," a follow-up served as a tool for confirming results and determining whether they could be applied to specific participants (Buchbinder, 2011).

The main goal of doing research utilizing an inductive strategy, according to Thomas (2006), is to free researchers from the restrictions imposed by structured procedures so they may witness the formation of study findings from frequent, visible, or essential patterns in raw data. I prepared the raw data, read the text carefully while creating categories, coded, restated the text, and continued to revise those categories as I went along, using Thomas's method for doing an inductive analysis of the interview data. This part of the analysis helped me understand the point of view of paraprofessionals in the room and whether they felt the Fundations phonics piece demonstrated whether students were making connections. This offered an unbiased view of the study through the eyes of other professionals who have implemented several different curriculums while working with the students over several years.

Trustworthiness and Rigor

Following rigorous methodologies during qualitative research results in more trustworthy conclusions. It is vital to offer proof the descriptions of participants and settings, as well as the analysis of data, accurately depict the

circumstances and individuals who were investigated. This is carried out by taking precautions at every stage of the research process to guarantee the data gathering, and analysis will be reliable and correct (Creswell, 2019). This research study followed a few different protocols to verify the results were accurate and reliable.

Triangulation of data is a technique used to strengthen the validity of research by using different data sources, numerous viewpoints, or multiple approaches to uncover convergent patterns (Morse, 1991). This study included both methodological and data triangulation. Data from student reading observations, easyCbm word naming, easyCbm reading passages, and paraprofessional interviews were analyzed and compared to guide understanding and conclusions.

During member checking, preliminary results, descriptions, and themes are presented to participants for the purpose of verifying the participants' correctness (Creswell, 2019). The paraprofessionals were given the option to voice their opinions on whether the results represent their own experiences or to propose modifications more correctly convey their points of view (Merriam & Tisdell, 2016). The paraprofessionals in this research project received an e-mail providing a list of early results. This list comprises the themes discovered when analyzing the data, along with brief narrative summaries of each subject. They were requested to provide a response to the results, which included comments and, if they required, ideas for changes. It was necessary for each of the four participants to react to the email by expressing their agreement with the topics given.

For acting as a validation method, an audit trail can be used to chronicle thought processes over time will clarify understandings (Creswell, 2019). After the interviews were transcribed, I wrote memos including notes about first impressions and repeating patterns in the margins of the document. I maintained a researcher's notebook on Google Drive, as well as reflected on my own thinking and the processes I went through. My method of decision-making and the formation of interpretations are both evidenced and documented by this source.

This study aimed to determine whether using the Fundations tapping strategy with students identified as ID would increase their phonemic awareness. This chapter has described the methodology, the data collection methods, and the data collection procedures I used to answer the research questions. I discussed the intervention in-depth and the different research instruments I used to conduct this study. I also discussed how I analyzed this data to see how the data answers the research questions.

The next chapters will find present the findings of the study. Chapter Four will focus on the results and analysis of the collected data. This chapter will be an indicator of whether the research questions I hypothesized were correct. Chapter Five will present the conclusions of the study and its implications, limitations, and ideas for extending the research.

Chapter Four

Analysis and Findings

The purpose of this mixed methods action research study was to determine whether instruction using a systematic phonetics program with students who are intellectually disabled could improve reading skills by achieving phonemic awareness. The students in the self-contained EPCD setting received reading instruction from file folder tasks and worksheets. The problem of practice for intellectually disabled students at Deer Creek Elementary was they did not have a systematic phonics program. The aim of this study was to determine whether implementing elements from the Fundations reading kit could lead to more independent reading skill among this group of students. The following research questions guided the study:

1. What is the impact of the instructional use of Fundations manipulatives and tapping strategy on phonemic awareness among intellectually disabled students?
2. What impact does use of Fundations manipulatives, and the tapping strategy have on intellectually disabled students' ability to decode text during independent reading?

The theoretical framework supporting this study was comprised of three different theories: the zone of proximal development, the bottom-up theory, and Rawls' social justice fairness theory. The activities involved modeling for the

students and allowing them to interact in the whole group lessons with the small sound cards and expecting the students to carry the skill of tapping out words while reading independently was designed to highlight the ZPD. The students in this study were shown how to tap out words in their intervention and manipulate letter tiles to blend words indicating the bottom-up theory was prevalent in this study.

John Rawls' fairness and justice were considered when I interviewed the paraprofessionals after the study. I wanted to allow the paraprofessionals to comment on the rights of the special education students in life skill classrooms and their rights to general education curriculums.

This chapter describes how data was collected, categorized, and processed in this mixed methods action research. The descriptive statistics provide insights into the results of each tool, and the research questions provide a guide for future work. After presenting the data, an overview of the combined results is presented for each research question. Additional findings are shared, followed by a summary of what was found during this study.

Data Presentation

During this research study, the students were presented with the phonics portion of Wilson's Fundations Level kit over six weeks. The five students in the study were introduced to tapping out individual letter sounds in words and manipulating magnetic tiles to build words. The students were then observed while reading independently to determine whether they carried over the strategy of tapping out unknown words while reading independently.

Qualitative data was gathered using observation notes and paraprofessional interviews. During the study, I observed the students while

they were reading independently to see if they were able to carry over the skill of tapping out unknown words in reading. I took notes of the students and recorded their behavior. I indicated if the student asked for help while they were reading, or if they skipped over the words. I did this each week of the study during their independent reading time. I set up a schedule, so each student had an equal amount of observation time of being observed by me.

After the study, I interviewed three of the paraprofessionals to ask their standpoint on Fundations to see if they noticed whether the students were gaining ground in decoding while reading in their small groups. I also asked about their overall feeling about the Fundation phonics program and if they felt it was better than other programs were used in the EPCD program.

I used coding to arrange qualitative data to recognize patterns and repetitive in the data for each collecting tool. These codes were organized into themes, which were then utilized to help comprehend and evaluate the data related to the study topics (Mertler, 2019). While studying the field notes, I took breaks to consider my personal biases from knowing the pupils to make certain my categorizing and classifying was accurate and not based only on what I knew from my time as their instructor. (Merriam & Tisdell, 2016). After the data had been analyzed, it was organized in a way would best offer the knowledge to others via storytelling.

Data were collected over six weeks using two different instruments for the quantitative part of this mixed study. Quantitative data was collected over six weeks using the first-grade word reading list and reading fluency tests based on first grade reading passages from easyCBM. Each probe began with a pre-test to obtain a baseline analysis to see what the students knew about their phonemic

awareness. Throughout the study, I continued to monitor the students on word reading and fluency. At the end of the study, I compiled all the data on each of these probes and performed a paired two sample T-test to indicate if the students could make gains in word reading and independently read words in the context of the text.

I analyzed both data points (pretest and posttest) using descriptive statistics. I determined the students' growth overall by comparing the data from the first test and the last test. I conducted a paired two sample T-test to determine if the students had growth overall in decoding words to answer the first research question. It is important to use a hypothesis test by using a pretest and posttest to determine if the there is a significant difference in the data (Mertler, 2019).

Both the qualitative and quantitative data were put together to be interpreted. To determine whether the results of triangulation revealed identical conclusions, both quantitative and qualitative data were given similar values (Mertler, 2019). The next steps reveal the interpretation of the data answers the research questions.

Summary of Qualitative Results

This section presents the findings of the qualitative data gathered by observing the students and gaining feedback from the paraprofessionals who work one on one with the students just as much as I do. I used the phenomenological qualitative approach for the purpose of this study. The phenomenon was the use of Fundations as the approach to teach phonics to students with and intellectual disability and the students' ability to decode and read independently. The students were observed during the entire study at least

six times during their independent reading times. This study included five students in a self-contained elementary classroom serves students who have been identified as intellectually impaired. All the students in the study were able to read at least at a beginning first grade level. None of the students in this study had not been introduced to Fundations in the past. I wanted to see whether in their independent reading the students could independently decode words like we did in the whole group intervention. The students were observed during the entire study at least four times during their independent reading times. The students were given a book basket with books on their independent reading level. The students got to choose two books out of the basket to read for each independent reading session.

For the second part of the qualitative data, I conducted interviews with the three paraprofessionals who worked closely with the students in small group instruction in reading. When I interviewed the paraprofessionals, I was looking for a relationship between the use of Fundations and phonemic awareness.

Observations data

The students were observed during the entire study at least six times during their independent reading times. What I wanted to see in their independent reading was if whether the students could independently tap out words like we did in the whole group intervention. This would answer research question two and support the theoretical framework the zone of proximal development.

Student A

Student A is an intellectually disabled fifth-grade male with an IQ of 68. At the beginning of the study, he was reading at a 1.8 instructional reading level.

He spends time in the general education classroom for inclusion with support, but he can go independently to activities, recess, and lunch. Student A does not like to read out loud and expresses frequently he is "stupid," or the material he is working on is "stupid."

The first observation of him was not in independent reading but in the whole group intervention. I noticed he had his head down so I asked him what was wrong, He told me he did "not know why we have to baby stuff." I told him we were all doing it and he was going to learn something from the lessons. The paraprofessionals saw similar results with Student A. For example, Brenda said, "Student A did not want to tap out words at all, so I pulled him aside and asked him what was wrong. He told me he thought tapping out words was something babies did."

The first time I observed him reading, he was not reading aloud; he was more mumbling under his breath. It was difficult to for me to take data on his ability call words. Finally, after some prompting, he began to read louder. When he got to a word he did not know, Student A just stopped. He went back and looked at a few words in his book but then proceeded to move past the word and continued to read. After the second time he did this, I asked him if remembered the lesson on decoding words. He stated, "Why would I remember that? My head was down. "I asked him to look at me, and I would show him how to tap out words. I showed him the first word he had missed and asked him to repeat the process for the second word. He did try and quickly made the connection between the letter sounds and the individual tapping.

The next time we were in whole group, I could see his face a little more and his arm was up when we began to tap out and build words. I tried to get

Student A to come up to the board when we started to use the sound cards, but he refused to come up. However, starting in the second week, he was participating more, and he was more interested in using magnetic letters to build words. When we started the lessons on diagraphs, he was able to quickly locate the diagraphs and he began showing the other students in the group where they were located.

One time he asked for help was when he ran across a vowel team he had not been taught yet. I had the Fundations poster up that had the vowel team on it. He asked me to help him tap out the word; however, because he was tapping out both vowels, it did not come out correctly. I wrote the vowel team on a white board and showed him the poster. I said, "Look we have pictures in the room that can help us." I pointed to the *oa* and asked him to repeat after me, *"Oa . . . boat. . . oa."* I then made few words on the white board, and we tapped then out together. We then went back to the word in his book. He looked at it, tapped out *f- l- oa- t* and said the word *float*. Student A increased his tapping of words in the observations from no words the first week to 20 words in the last week.

Student A was keenly aware that the books were not at his age level. I watched him on one observation just flipping through the book and asked him what was wrong. He told me, "I want to read books that other kids read, not these books." I sat down next to him, and we talked about the kind of books he liked to read. He told me he likes books that have to do with science and animals. He did not like the stories were made for little kids. After searching the guided reading library and several teacher's classroom libraries, I gathered books he wanted to read. That made all the difference. Almost immediately he stopped skimming through the books and began decoding words he did not know. At

that point I could hear him reading. He rarely asked for help during the rest of the study.

In week five he tried to read books were in a higher reading level than his peers were reading. He got frustrated, and skipping over words increase from week four to week five. I noticed his books were different, and I asked him why he was reading those books instead of the ones in his book box. He said he felt he could read now and he did not need to read the easy books anymore. I explained to him we could read those books in small group, but when he reads by himself, he needs to read the books in his book box.

Student A began the study with a reading fluency score of 42 words per minute, he steadily increased his words per minute, by the end of the study he increased to 51 WPM. His words reading scores increased as well. He began reading only 21 words in isolation. He did tap out his words while he read his words on the assessment, by the end of the study he read 31 words in isolation. Figure 4.1 shows the observation data of student A of him tapping, asking for help, and skipping over words.

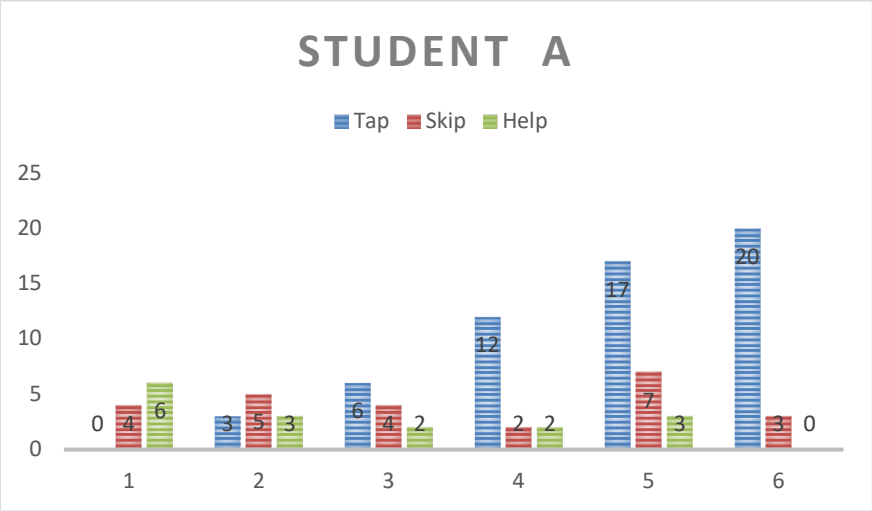

Figure. 4.1 Student A Data

Student B

Student B is also a 5th grade student, but in addition to having an intellectual disability, Student B is also identified as a student with autism. Student B is an active student who talks a lot during whole group instruction. The first couple of sessions during the intervention, I spent several minutes pulling him back into the group.

When I observed him the first time, his attention span was short, and he only read for 10 minutes. What I noticed was he looked around the room a lot and was focusing on what was happening in the room. I decided he needed a private area so he could focus. Student B in the first observation got to a word he did not know, looked at it, and instead of skipping or trying to go to the next word, he started flipping through the entire book. He continued to refuse to use decoding strategies in his independent reading. I asked him if he could try. He told me, "It's boring and . . . stuff they do in kindergarten."

He did not tap out any words the first week of the study. I watched him skip over only four words. He began to ask for help when he noticed me sitting there. He asked me for help on tapping out a word. When I asked him if he remembered the lesson from the morning, he told me no. He said he needed help on the word *hun*t. It was not a consonant-vowel-consonant word, but I knew it was something we could tap out together. At first, he was just tapping and not making the connection to the sound of the letter to tap. I showed him my fingers and had him repeat after me. Then I had him practice. Then I showed him and we tapped out a word together. I had him practice three times before he told me, "I think I can do this!"

In one instance Mary was in a small group helping Student B. He was having problems decoding a word; she asked him to look at the word and the sounds for each letter. She said, "I noticed he was tapping, but the sounds were not matching the taps. I made him slow down and make the sounds match each of the taps. When he got to the next word he could not decode, he began to do it again. I reminded him to slow down. He stopped and tapped correctly."

The next time we had whole group instruction I asked if he wanted to come to the board and build a word with the sound cards. He jumped up quickly and went straight to the sound cards. We were working on the word *shin*. I had the whole group tap out *shin* and he looked around. I looked at him and asked him to tap out *shin*. I told him to listen to each of the sounds. He put up his fingers and began to tap out the *sh* then the rest of the word. I then asked him to look at the sound cards and find the cards to build the word. He found the *ch* card. I said, "Let's find out what that sound says. . . *ch* . . . *ch* . . . *chew*." Recognizing this was a different sound, he then saw the *sh* card and built the word *shin*. After a high five, he sat down to work on the next word with his magnetic tiles. I watched him tap without prompting, and he was able to find the corresponding magnetic tiles to build the word.

However, during independent reading, he was still skimming and skipping over words he did not know. For example, in weeks two and three, he had a combined count of 31 times he skipped over words. He asked for help one specific time and told me he just did not understand. I took a white board, and we went over the words from the morning intervention. We worked on tapping out words for 15 minutes. Finally, at week three, there seemed to be something clicking with him. He started tapping out more words and skipped fewer words.

By week five and six, he had gone from a level G in reading to a level H on his independent reading level.

At the beginning of the study, Student B was reading 41 words per minute, and by the end of the study he had increased to 49 words per minute. His word reading in isolation increased from 22 words to 31 words. He did not attempt to tap out words while taking the word reading assessment for the first couple assessments. But by the third assessment, he began to tap out words. This is evident in the number of words he was able to correctly identify. Figure 4.2 presents observation data from Student B.

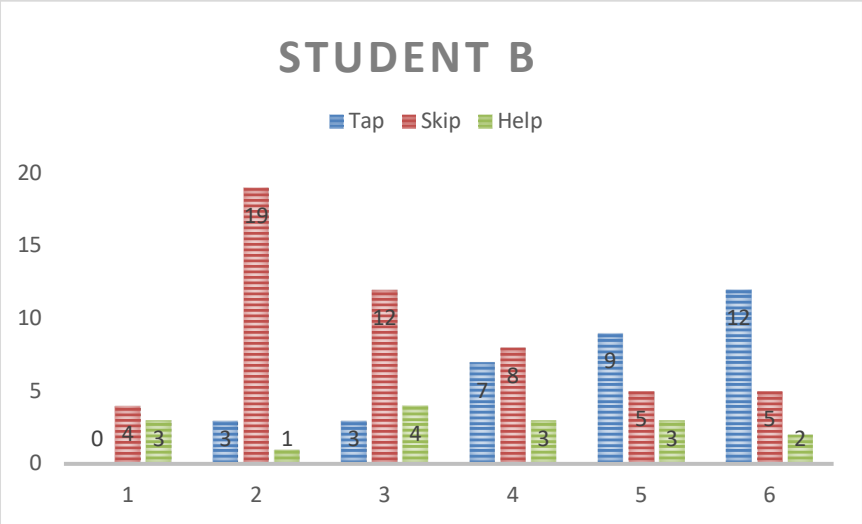

Figure. 4.2 Student B Data

Student C

Student C is a third grade English as a second language learner, whose primary disability is autism. Student C is an eager learner who picks up letter sounds and connections to the letters easily. He was the first student who wanted to come to the board to try to build a word. Student C also loves the

magnetic board letters and frequently had the word built before everyone else in the intervention.

The first time I observed him during independent reading, he was happy to have a book he liked and began reading. He read loud enough, so it was easy to hear when he made mistakes or when he skipped over words. During the first week, he was only able to decode one word on his own. When he noticed I was sitting close to him, he began to ask for help. I knew he knew how to tap out words, but I was not sure if he knew how to apply it while reading by himself. The first time he asked for help was for the word *tips*. I asked him if he remembered what he had to do to put the word together. He said," Yes, Ms. Garcia, you have to tap your fingers like this." He proceeded to show me how to tap out the word *cut* from the morning intervention lesson. I told him, "Let's look at this word. I want you to listen to each sound and as you hear the sounds, tap. He helped me to tap out *tips*. After he asked me for help a couple more times, I told him it was important he try to tap out the words by himself. The times I observed him, he skipped or skimmed over four words he did not even try to decode. He looked at them, shrugged his shoulders, and went on to the next page.

The second week he did not ask for as much help, but he did skip more words. During the intervention, I focused on him to see how much he was paying attention. He was paying attention, but he was not tapping to each letter sound. We were just starting with diagraphs. The diagraph we were building words with was *sh*. He was building the words with the magnetic board. When I asked him what was wrong, he said, "I don't understand what you mean you talk so fast." At this point, I realized I had to remember he was a language

learner. From point on, I made sure I spoke slower for him and checked for understanding a lot more. I also had to remember some of the sounds in English were going to be more difficult to pronounce for students whose first language is Spanish. I made sure I emphasized the *sh* and he repeat it several times. After I worked with him by himself on the diagraphs, he began to increase the number of times he was able to tap out words without support. By week three, he took off and almost doubled what he was able to tap.

On one observation, he was reading and was doing a good job. He then got to a word he did not know contained *ar* and we had yet to cover the *ar* in words. He looked at me and said, "Mrs. Garcia, can you help me please?" At this point in the study, I could tell he had become more interested in reading because he had already begun to try read books were not in his book box. He was also more attuned to the whole group intervention and would try to use the strategies more and more during intervention. I told him, "We have not covered these letter sounds yet" and showed him the poster where the controlled-r sounds were displayed. I had him repeat after me: "*Ar… car ...ar*." I then looked at his word *start*, asked him to show me his tapping fingers, and together we tapped out the word. I told him I would watch him read and see if he could do the next word by himself. He began to tap and correctly tapped out the word *when*.

One of thing that drew Student C to whole group was the letter tiles. Student C told me, "I like the tiles; these are the same ones they use in the classroom upstairs." Student C is one of my students who goes to inclusion for 30 minutes a day. His inclusion aid had mentioned there were not enough tiles for the special education students to use when they went to the classroom.

Student C had more success in tapping out words, but he did need some support as the books he chose began to get more difficult for him. He began reading level D books and moved onto level F books toward the end of the study. By the end of the study, he was able to tap out 15 words without support. He also began to pick up other books from my classroom library and attempted to read them. For example, he picked up *Grumpy Monkey* and started reading it. At first, I thought he was looking at each page and had already memorized the text on each page. However, when he got to a part where he did not know the word, he proceeded to tap out the word *hunched*. We had not addressed words ending *ed* yet. He did this several times in the book. He then proceeded to tell me about the book and why Jim the monkey was grumpy.

Student C began the study reading 37 words per minute and ended the study reading 41 words per minute. On the individual word reading test he began with a benchmark score of 16 words in isolation. He began tapping out those words on the assessment on week three. He finished the study reading 23 words in isolation. Figure 4.3 provides the observation data of Student C.

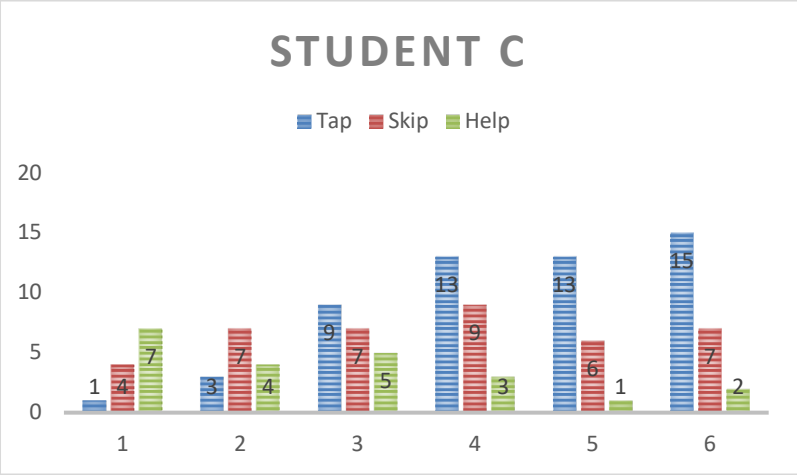

Figure. 4.3 Student C Data

Student D

Student D is a third grade student with a traumatic brain injury and an intellectual disability. He has problems with short term memory, so I use picture cues on his desk as a reminder of tasks he must complete for academic work. used a picture of two fingers together to remind Student D to tap out words while he was reading.

The first week student D asked for a lot of help. He managed at the end of the week tap out one word by himself. I was watching him as he is tapping it out the word *digs*. He then put the sentence together, "The dog digs in the mud." He screamed at me, "Mrs. Garcia I got it!" He did not skim past many words the remainder of the week.

In week two as we were getting more into the study, he noticed I was focusing on him during independent reading and wanted me to help him more frequently. At first, I thought it was for attention seeking, but I soon realized, he really needed my help. He was having a difficult time blending the words together. He was able to tap the sounds out, but he could not connect the sounds to make the whole word. During an individual lesson with him, I focused on tapping and blending words. Because this was a weakness with him, I did this lesson with him for three days in row by having him repeat blending sounds after me. On the third day of the intensive intervention, he was finally able to understand the concept.

In week three, his ability to tap out words began to increase significantly. During whole group instruction, he was excited to come up to board and build words. He liked to show off using the sound cards. One of the words we had used was the word *sock.* He raised his hand and yelled, "I know how to spell it!"

I told him to come to the board and spell the word. He pulled the first three sound cards quickly from the white board and put them in order. Then he said, "*Ck ...sock …k.* I need the *ck* card." He grabbed and put it behind the first three letters and said, "See, I told you I could do it!"

In week four of the study, he began to ask for a lot more help even though he was beginning to tap out more of his words. He knew the basic concepts of tapping out words, but he would miss a letter sound while tapping. The word would not come out correctly, and he noticed the context of the sentences were wrong. As he was reading during one observation, he read, "It is too hot to spit." He paused and looked at the picture. I looked at him and I was going to see if he was going to figure out the word was supposed to be *skip.* He looked at the picture and tried reading it again, and he still tapped out the word wrong. When he asked for help, I told him, "Let us look at each letter and try to figure out the word. Tell me how the letters you see." He proceeded to tell me, "I see a *..s..k..i..* and a *p."* I then asked him to go ahead and tap it out. He tapped out like the first couple of times and proceeded to tap out *k* for the *t* sound. I told him, "Look at your letter strip and tell me what sound *k* makes?" He said, "*K …kite …. k."* "Now let's tap out the word again," I responded. He successfully tapped it out. He then pointed to the elephant and said, "Oh, the elephant does not want to skip on the sidewalk!"

Student D hard a particularly difficult time with *th* -- he kept wanting to make it in the *f* sound. It carried over into his ability to decode. I was working with him on one occasion in small group and we came across the word *then*. He said, "Mrs. Garcia, I can tap this out." He began tapping it out and immediately made the *f* sound for the diagraph *th*. This is something he had done in whole

group instruction as well. When he tapped out the word, he said, *fen.* I went to get the sound card for the *th* diagraph, and we reviewed the sound for *th*. When I held out the card, he said, "Oh, yeah, *th thumb th.*" Even though his *th* still sounded like an *f,* he knew he was wrong when he tapped out the word. The *th* still did not sound like a *th*, but he tried harder to make the word sound like it was supposed to sound.

During week six of the study, we were in small group, and he volunteered to read his book without any prompting. His instructional level at this point was a guided reading instructional level E. I He told me, "Let me try by myself first, and if I need help, I will do a thumbs up." He began reading and he read the first three pages without support. I could see the smile across his face as I began to ask him questions about the book -- he was answering the questions without any hesitation.

By the end of the study Student D was able to tap 10 words in his text. He stopped asking for so much help toward the end of week three. During one observation, he had stopped reading. When I asked if he needed assistance, he told me, "Let me try." He tapped out the word *shut*, and then told me, "Give me a high five for getting the word right." When I asked him how he knew it was right, he said, "It's easy Mrs. Garcia. Just tap for each letter and put it together."

Student D's reading fluency assessment for the first week was 41 words per minute, and it increased to 45 words per minute by the sixth week. His word call assessment's scores for the first week of 17 increased to 25 words by week 6. Figure 4.4 provides the observation data from student D.

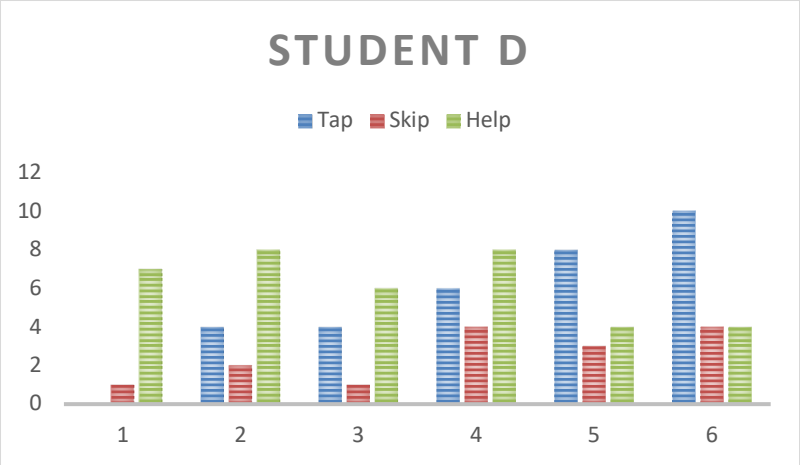

Figure 4.4 Student D Data

Student E

Student E is a fourth-grade student with an intellectual disability and autism. Student E did not like coming to the carpet for the intervention and would argue if he was made to sit next to the other students. To accommodate for this, I sat at a table close to the carpet where no one could look at him. He would not come to the board the first couple of weeks to help build letters with the sound cards, and I did not see him tapping out words often. When I tried to redirect him, he would put his head down and stop participating all together.

The first time I observed Student E reading, I noticed t he was just flipping through the book's pages. When I asked what was wrong, he said, "This is too hard, and I can't read anyway." I wanted to encourage him, and I recognized t the whole group intervention was ineffective for him. He showed me the word he was having difficulty within the book: *chat*. We had not addressed diagraphs yet, so I asked him to look at the poster and look for the letters *ch*. When he said, "It's right there by the guy's face," I responded, "You are close, it's his chin." Then I had him repeat after me, *ch chin* /*ch*/. I told him to look at me and we

would tap it out together. I let him know *ch* was special because it made one sound as we tapped out the word *chat.*

The first three weeks, Student E asked for help often. In whole group he did began to build words with his magnetic tiles. Karla noticed Student E had the most difficult time with the tapping strategy. "I had to teach him out in the hallway away from the classroom when the classroom was noisy," she stated. He started to tap out words at the table by the end of week three. This carried over into his independent reading. He began to tap out more words and tapped out 12 words by the end of the study.

In one observation when he got to a word he could not decode, I asked him to tap out the word. When he started tapping, he began to say the letter names instead of the letter sounds. This was during week four of the study. I asked him to tap out the word again and he got to the word *flag,* and he said, "*f, l, a, g*." I said, "You must tap out the sounds not the letter names. He responded, "Oh, I forgot. Let me do it again *f…I. A…g… Flag*. I praised him and reminded him that he should be tapping out sounds, not letter names. Later Brenda, who had worked a lot with student E during the previous year, noted, "He is wanting to read on his own -- he has stopped saying the letter names for the taps and is now tapping out sounds for each tap."

Student E's reading fluency for the benchmark was 26 words per minute. He increased to 31 words per minute by the sixth week. His word reading assessment for the first week, 14 words. During the word reading assessments he began tapping out words by the fourth week he was tapping words within the assessment. The final word reading assessment Student E was reading 24 words.

Student E's reading level never increased during the study, he remained at a level F for the whole study. Below in figure 4.5 is Student E's observation data.

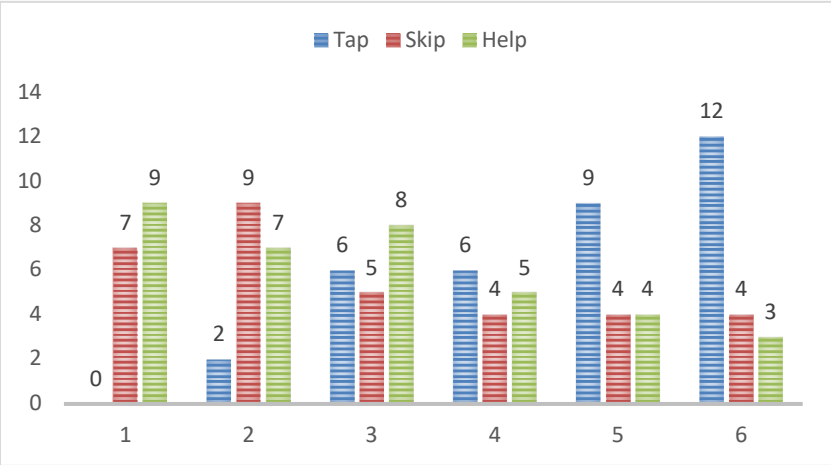

Figure 4.5 Student E Data

Whole Group Summary

When I observed the students not trying to tap out words or decode words, I realized the students needed more lessons with the strategy or the book level they were reading was too difficult. The students all seemed to struggle the first two weeks of the study with learning how to connect the letter sounds to each tap. It took me teaching each of them individually for the students to understand how to tap out words. My students who are identified autistic struggled with the concept more than the students who were identified as only intellectually disabled. Student E, for example, refused to sit next to the other students on the carpet. He has a hypersensitivity to loud noises and does not like when other people touch him, so I had to make by seating him away from the carpet so he could hear and see from afar. All the participants skipped over words or flipped through pages quite a bit during first three weeks of the study.

During the six-week intervention, I had to go back to several of the phonics skills and reteach the phonics to the students. All the students needed

one-on-one interventions and reteaching to be successful in decoding words. Even after that, I had to go back several times and spiral back to previous lessons and reteach some specific letter sounds. With these adjustments, the students were able to increase their ability to tap out words and stop skimming over words. Four of the five students increased their reading levels in the study; only Student E did not increase his reading level.

Paraprofessional Summary

The observations of my paraprofessionals were not a planned part of my study. During the observations of my students, I discovered that my paraprofessionals were having a difficult time with the reading strategy of tapping and blending words. I did not want my paraprofessionals to teach the students incorrectly, each of the paraprofessionals did ask for help as indicted below. The paraprofessionals all indicated that they could not follow along with me during the whole group instruction because they were doing their classroom duties of managing classroom behaviors and other situations that came up during the 30 minutes that I was teaching the intervention. I did not want my paraprofessionals to teach the students incorrectly, and each of the paraprofessionals did ask for help as indicted below.

Theme 1: The paraprofessionals needed more training with the curriculum.

Even before we implemented the intervention, all the paraprofessionals had high expectations for use of Fundations in their small group work. For example, Mary stated, " I can't wait to see what progress the students make using this program." Brenda and Karla saw use of Fundations through a social justice lens. Brenda said, " The students in the general education classroom like using it, and I think it is nice our kids finally get to use it." Karla was a bit more

direct, stating, “I always like programs that will give our students a fair chance to maybe catch up.” Two common themes came from the interviews with the paraprofessionals: the paraprofessionals needed more training with the curriculum and the Fundations material and strategies promote learning.

At the beginning of the intervention, it became clear that the paraprofessionals did not have a clear understanding of the intervention process. For example, when Mary noticed in small group reading instruction that students did not attempt to decode words at first but were “skipping over words and . . . waiting for [her]to tell them . . . the words.” She confessed to me that she, “told them the words right away at first and told them the word if they were not reading.” It took Mary a couple of lessons to get comfortable with the tapping and blending strategy. After that, she said, “The students were able to pick up the concepts quickly especially when I modeled them for them.” Brenda also struggled at first: “When the kids got to words, they did not know, I would wait five or six seconds before I would help them tap out the words they did not know.“ She asked me to sit with her, because she was not sure if should let the students wait before telling them the words, and she was not clear on how to help them with the tapping and blending strategy itself. Similarly, Karla pulled me aside in at the Fundations program because she said she wanted to make sure she was teaching it “right.” She told me, “ I know the basics of phonics, but because I have only been trained on Edmark, [so] I . . . do not know what you mean when you say things like diagraph.” I sat with Brenda during my planning and showed her the steps to correctly have the students decode words. Brenda asked me to sit with her, because she was not sure if should let the students wait

before them, Then she was not clear on how to help them with the tapping and blending strategy itself.

Theme 2: Fundations material and strategies promote learning.

A theme that emerged from the interviews had to do with materials that is provided in the Fundation kits. The paraprofessionals all had positive comments about the material and the students' use of the material.

There were times that the students were even seen using the material outside of learning time. Mary said, "One time I noticed the students during free time in the afternoon using the pointers to recite the alphabet and sounds to each other." Brenda liked how the material was kid friendly and easy to use for them. Karla indicated the pictures on the alphabet chart, posters, and letter strips on the desk were the same and it made it easier for her to use as a resource for the students to refer to when they did not know a letter sound." Mary talked about the material and its accessibility for the students in the classroom. Mary said, "At one point, Student C had the pointer and was trying to teach one of the students who cannot talk the letters and letter sounds from the alphabet strip on the whiteboard. "Brenda stated, "The students would use their free time in the afternoon using the sound cards off the board to teach each other Fundation lessons.".

It was during small group that the paraprofessionals utilized the materials the most. The alphabet strip was the most used tool referenced for the students the letter sounds. Brenda said the Student E relied on the alphabet strip during his small group instruction. She said, "I feel the strip was something supported him, it gave him pictures to relate to each letter sound. Karla stated, "I

encouraged the students to use the strips on their tables to tap out words during my small group instruction. I knew they needed to have a tool to help them."

Theme 3: The students found the program to be engaging.

The paraprofessionals all found that the students were in engaged in reading when they were in small group with their students. They also noted that the students became more interested books in general.

Karla said, "I notice they are happy to get on the carpet on do Fundations and talked about reading in a good way." The students also seemed to have more confidence than they had in past. Brenda and Karla both worked with several of the students in the previous year and knew their reading behaviors and their attitude toward reading. Brenda told me," The students were surer of themselves and would clap for each other if a student in the group got a word correct." Karla said, "I noticed kids are wanting to read more...I had some of the kids last year with another teacher, and they were not interested in books." All three of the paraprofessionals could tell the students were really reading words, not just memorizing words. Mary had told me she saw the students were more engaged in reading and more willing to choose books rather than her pick the books for them. She told me toward the end of the study the students were teaching each other how to tap words and would get excited when they could go to board and use the letter cards to build words on their own.

Quantitative Data

This section presents the results and analysis of the quantitative data collected from two sources: six reading fluency assessments from easyCBM.com and six word reading assessments from easyCBM.com. Each of the five students were administered a reading fluency assessment to measure the words per

minute on a first grade level passage from easyCBM.com. Each student was also given a word reading list assessment to indicate if they were able to read words in isolation. The words came from a first grade list from easyCBM.com.

The students were given the fluency assessment on the first week of the study, and then each given one weekly until the end of the six weeks. The students during the first fluency test did not have any prosody (reading with expression to match the rhythm of natural speech) and had difficulty getting through the minute of reading. Three out of five of the students made significant gains in their reading fluency scores from the beginning of the study to the end. Student C and Student E although they made gains, did not make as much gains as the other students.

By the end of the study Student B wanted to tap out words on his reading fluency test. I had to remind him we had to read this test without tapping so I knew how many words he read when the timer went off. Student B had the highest average at 45.50 wpm with a STD of 3.09. Student E had the lowest average reading 27.33 wpm with a STD of 2.28. Student C and D had a similar STD, both these students, although they made gains, their gains were slight from the of the study to the end of the study. Table 4.1shows the results of the fluency assessment of each the students with their overall mean scores. There was an increase of the overall means fluency rate of 2.04.

Table 4.1 Reading Fluency Results

Student	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Means	STD
Student A	42	37	44	47	49	51	45.00	2.98
Student B	41	42	45	48	48	49	45.50	3.09
Student C	37	38	40	41	41	42	39.83	1.77
Student D	41	41	42	44	45	45	43.00	1.73
Student E	26	24	26	28	29	31	27.33	2.28

The week 1 group had lower values (M = 37.4, SD = 6.66) than the week 6 group (M = 41.6, SD = 8.65). A t-test for dependent samples showed this difference was not statistically significant, $t(4) = -1.57$, $p = .191$, 95% Confidence interval [-11.62, 3.22]. This results in a p-value of .191, which is above the specified significance level of 0.05. The t-test result is therefore not significant for the present data and the null hypothesis is retained. From the perceptive of teaching, it shows the students all made growth in their reading fluency scores. With the specified confidence level, the data we have and the statistical test we are running cannot conclude the impact.

Each student was administered an initial word list assessment on the first week of the study and then they were administered one each remaining week until the end of the study. During the word test the students were encouraged to tap out the words. By the third week's assessment, I only had to remind Student C and E to tap out his word on the word reading assessment. By the end of the study only student C still needed reminding to tap out words. Student A had the highest STD of 3.90 with a mean of 26.50, he was more successful in reading words in isolation then reading words in a passage. Student D had the lowest STD of 2.91 of 19.83, although he made progress, his scores remained close together. Student C also had a mean of 19.83, but his STD was 2.98.

At the end of the study, I conducted a paired sample T-test to compare the whole groups' progression in reading words in isolation. Below in table 4.7 are the results of the word reading assessments for each of the students. The results indicate there is a mean increase by 3.4 points. Table 4.2 This suggest there is an overall increase in the total group's work call for the entire study.

Table 4.2 Word Reading Results

Student	Week 1	Week2	Week 3	Week 4	Week 5	Week 6	Means	STD
Student A	21	22	27	27	31	31	26.5	3.90
Student B	22	24	28	29	30	31	27.33	3.24
Student C	16	15	19	21	22	23	19.33	2.98
Student D	17	17	20	18	22	25	19.83	2.91
Student E	14	18	18	19	23	24	19.33	3.34

The week 1 group had lower values (M = 18, SD = 3.39) than the week 6 group (M = 26.8, SD = 3.9). The students made progress in their word reading from week one to week six in the study.

A t-test for dependent samples showed this difference was statistically significant, t (4) = -15.09, p = <.001, 95% Confidence interval [-10.42, -7.18]. This results in a p-value of <.001, which is below the specified significance level of 0.05. The t-test result is therefore significant for the present data and the null hypothesis is rejected. From a practice perceptive and a statistical perspective, the word reading test shows it was not by chance students showed growth in in word reading.

General Finding/Results

There were five major themes emerged from the observations and interviews of the three paraprofessionals. After I gathered all the notes from the observations and transcripts of each of the interviews, I began to analyze each question for common codes I could categorize into themes.

After I gathered all the notes from the observations and transcripts of each of the interviews, I combined common codes to categorize into themes. Six major themes emerged from the observations and interviews of the three paraprofessionals: lack of understanding, new learning takes time, students

moved to independence through scaffolding, Fundations material and strategies promote learning and training is critical. Below in table 4.3are the themes and their corresponding codes.

Table 4.3Themes and Codes

Lack of Understanding	**Learning Takes Time**	**Moved to Independence through Scaffolding**	**Fundations material and strategies promote learning.**	**The paraprofessionals needed more training with the curriculum.**	**The students found the program to be engaging**
Learning gaps	Developmental	Gradual release	Fundamental material	Need upgraded skills	active learning
Confusing information	Growth mindset	Supportive	Progressive	Professional growth needed	new skills
Lack of comprehension	Patience to learn	Skill building	Effective material	Improvements in teaching methods	student-centered approach
Uncertainty	Precise learning	One-on-one	Hands on material	More time to observe	positive learning experiences

At the beginning of the study, the students and the paraprofessionals had a difficult time understanding the Fundation strategy of decoding. It took me training all the students on tapping and blending words for them to understand how to decode words using the Fundation strategy. In fact, the students needed individual instruction and repetition to fully grasp the letter-to-sound connection. Then they were able to finally able to blend those together to create a whole word.

Surprisingly, the paraprofessionals also had a difficult time with the strategy of tapping and blending words. Although, I had provided some support for my paraprofessionals, it was not enough for them to fully understand the Fundation Learning System or the research behind tapping out words. After I trained them and explained how to do the decoding strategy as well the reason

behind it, the paraprofessionals were able to successfully transfer the knowledge to the students.

Another emergent theme was that new learning takes extra time with students who are intellectually disabled. My students require more practice repetition as well as reteaching previously taught concepts. It took almost three weeks for all the students to begin to show progress in more independent reading. At week three, the number of times the all the students' increased their tapping to 28 taps from one tap in the student observations combined. By the end of the study the total number of taps observed in the combined student observations were 64.

The theme emerged next was the students emerged to independence through scaffolding. Each of the students in the study needed to be taught individually. As I was going through the study, the paraprofessionals and I had to teach the students either individually or through small group to decode words with the tapping strategy. The students needed various supports from being able to use one-on-one support, to being shown the Fundation's pictorial cues to support their learning.

Over the course of the study, it became clear that Fundation's material and strategies promote learning and is engaging. During the study, the students frequently were encouraged to refer to the alphabet strips and sound cards to help them decode words. Fundations has sound cards that are used during whole group instruction. I used these daily and had the students come to the white board to help build the words that were introduced in each lesson. Student D loved coming to the board and building words. He was always volunteering to build words. The sound cards were placed in the exact same order and location

every day and left up. One afternoon, three of the students were at the board and were building words from that morning's lesson. The students all took turns with each other. Student C told Student D "You have to tap out the word before you put it together." During the observations I encouraged the students to refer to the posters to understand new sounds they were not introduced to yet.

One afternoon, Student C and Student D both had a pointer and began to point at the alphabet strip and began to chant the letter, letter sound , and its corresponding picture. I looked up and saw that they were trying to teach the letter sounds to one of my nonverbal students who was not in the study.

. Student A and Student E did not participate in this part of the intervention. I included the same strip on each desk. On one occasion during independent reading, I noticed Student C get up from his spot on the carpet and go over to his table. He went over to the alphabet strip and found the letter *g*. He then said, "*G game /g/*." He went back to his book and tapped out the word *brag*. It was not until the end the study the students begin to use the Fundation material on their own to build words and teach other letter sounds.

The magnetic tiles and other materials were engaging and motivated the students during the whole group instruction, the students interacted with the tiles, while one other student was at the whiteboard building words. Student A and Student E did not want to participate in the whole group, when we started using the magnetic tiles, they became more interested in the intervention. I also noticed that Student B actively searched for his letters to build words instead of talking with his neighbor on the carpet when he had his magnetic tiles. The intervention did not become a passive activity for the group was not the teacher helper.

The quantitative data indicates students all made growth in throughout the study. Each student increased their reading fluency rate from the beginning of the study to last week of the study. The data on the word reading data also indicates each student increased their ability to decode word individually from the beginning of the study to the end of the study. The P value on the reading fluency T-test was high on due to small population therefore the rejecting the hypothesis.

Analysis of Data Based on Research Questions

My examination of the data provided answers to the study research questions. The first research question was answered through quantitative data collected through reading fluency test and word reading test over the time of the study. The second research question was answered when I observed the students reading independently and through interviews conducted at the end of the study with the paraprofessional. For both sources data was analyzed for codes and categorized to find themes.

The first question was *What is the impact of the instructional use of the Fundations manipulatives and tapping strategy on phonemic awareness among intellectually disabled students*? According to the initial data, all the students made progress from the beginning of study on the reading fluency test until the end of study. The overall mean increased by 4.2 points. The T-test for the reading fluency test indicates there is an increase in the means between the first week and last week. The t-test for the fluency test were rejected due to a high p value due the small because the sample population. The students made growth between week one and week six of the reading fluency test, although it was not statistically significant, the means between week one and week two do indicate

growth. Comparing the pre-test to the post-test scores of the word reading test revealed the students' growth. The overall mean increased 8.8 points. The word reading test was statistically significant.

During the whole group intervention, the students in the study were able to build words with the sound cards when they came to the whiteboard after tapping out words. The students were also able to spell words using the magnetic boards by tapping words while we were in whole group. While in small group, the paraprofessionals noted in the interviews the students were able to transfer the lesson of tapping into their small group reading. During the observations, the students soon discovered the taps related to letter sounds and they could decode words. Although it took time for the students to learn how to read and decode words, by week three the students did learn how to decode independently. In their small group instruction, the paraprofessionals saw growth of the students' reading and their ability to read and decode text. The students in this study showed the students were able to achieve phonemic awareness through scaffolding and individual intervention from the strategy of tapping of Wilson's Fundations.

The second question was w*hat impact does use of Fundations manipulatives, and the tapping strategy have on intellectually disabled students' ability to decode text during independent reading*? To answer this question, I observed the students while they were in their independent reading time. Initially, some students were not engaged by the books in their book basket. However, once I offered books were more interesting to them, they began to pick up their ability to tap out unknown words in their text. Through individual scaffolding each of the students increased their ability to decode words. It took almost three weeks for

the students really find success at decoding words by tapping out and blending words. This success resulted from my individual instruction for each student. The paraprofessionals also had to support the intervention in their small group by reteaching the concept of decoding words by tapping and blending.

By the fourth and fifth weeks, the students clearly became more successful. All the students were able to increase tapping independently and spent less time skipping over words while reading independently. Four of the five students were able to move up at least one book level. The paraprofessionals noted the students seemed more interested in reading than they had in the past. I also observed the students in small group were able to decode. The students even began teaching other students in the room were not part of the study how to decode words and use the Fundation materials.

Summary

This mixed methods action research study examined whether using the phonics portion and word building using sound cards, tapping out words and magnetic tiles The qualitative data consisted of student observations from their independent reading and interviews from the paraprofessionals who work with the students in small group. The quantitative data was a t-test of both the word read test and a reading fluency test compared each student results for the first and last weeks' tests. The data indicated there was significant growth for all the students from week one to week six indicated the students were able decode on their own and gain phonemic awareness after using Wilson's Fundations and subsequently increased independent reading skills.

Chapter Five

The problem of practice for this study was Deer Creek Elementary's intellectually disabled students in the self-contained setting were not being offered any researched-based systematic phonics instruction. The purpose of this was study was to determine whether implementing the phonics portion of Wilson's Fundations involving tapping and blending words and word building using sound cards and magnetic tiles would increase phonemic awareness in students who have an intellectual disability and lead to greater reading independence.

The intervention for this study involved instruction using the phonics instructional piece of the Wilson's Fundations Language Basics Level One. The lessons utilized hands-on manipulatives from the kit, including magnetic tiles, letter cards, alphabet strips, and posters. Students learned to tap out words according to letter sounds and blend the words together and to spell out words using the manipulatives. The students were encouraged to carry over the tapping strategy of words into their small group instruction and expected to tap out unknown words while reading independently.

Quantitative data was gathered through fluency tests and word reading tests, and qualitative data was gathered through observations of the students reading independently and interviews of paraprofessionals who worked with the students during the intervention. The data was used to answer the following research questions:

1. What is the impact of the instructional use of the Fundations manipulatives and tapping strategy on phonemic awareness among intellectually disabled students?
2. What impact does use of Fundations manipulatives, and the tapping strategy have on intellectually disabled students' ability to decode text during independent reading?

Overall, the Fundations practices and materials improved the ability of intellectually disabled students to decode words independently. The students needed expanded support and scaffolding at the beginning of the study to understand the concept of tapping out words by each letter sound. By the middle of the study, the students were able to successfully decode words; and by the end of the study, independent reading skills were stronger.

The changes in word reading assessment from week one to week six showed growth in each student, but ($p< 05$) the study proved statistically significant. From a teacher's standpoint it appears the students in the study made a growth in reading words and in their reading fluency. However, it is important to note changes on the fluency assessment were not statistically significant. The lack of statistical significance could mean the students made growth by chance. With a higher number of participants and more time to implement the intervention, the positive trends may in the future meet the criteria for statistical significance.

This chapter shares the findings of the study and connects results to current literature. I also present recommendations for implementation in my classroom and my reflection on the action research process, suggestions for

improving the study, and limitations of this specific study. Finally, I provide recommendations for future research on this topic.

Conclusions

Reading and cognitive science research show systematic, explicit phonics with explicit teaching of the sound-spelling relationships is critical for children's reading progress (Castles, et al, 2018; Sermier Dessemontet, et al, 2021; Garwood et al, 2020). The outcomes of this study support conclusions by these authors among others, who found students with intellectual disabilities need structured phonics instructions to move from decoding words to comprehending text. In this research study, the students were able to learn to tap out words and use manipulatives to eventually read more independently after being explicitly taught how to decode words using the Wilson's Fundations tapping strategy. When the students became successful, four of the five students were more interested in books. As indicated in the student observation and data, four of the five students went up at least one reading level.

In the intervention using Fundations strategies and materials, students learned to listen for each sound in words to tap out the letters and then blend the sounds to build words. Garwood et al. (2020) stated teachers should model explicitly for students with direct instruction and provide immediate feedback to correct mistakes. During the study while the students were observed and in the small group instructions, the students were having difficulty with the strategy of tapping out words independently. After direct instruction, the paraprofessionals and I work with the students individually to model the tapping process. We worked on guiding them to correct their errors in letter-sound connections.

When it became clear the students were progressing slowly, we added reteaching and scaffolding to support them in smaller steps.

In this study, the use of Fundations has proven effective in increasing the phonemic awareness in students who struggle in learning to read as it did in previous studies by Sessa (2003), Chalfant (2019), Schwartz (2019), and Goss and Brown-Chidney (2012) . However, none of the studies mentioned used the manipulatives or the magnetic letters to help increase students' phonemic awareness. The use of these materials provided added support for the intellectually disabled participants of this study when they were unsure of letter sounds or letter-combination sounds. The paraprofessionals and I both used the materials to demonstrate to the students how to use the materials to aid in their learning. The multisensory approach of Fundations helped students develop the skills and strategies they need to become more successful readers. Although designed for general education students, Fundations is flexible and was easily adapted to meet the individual needs intellectually disabled students.

Systematic phonics instruction stresses the link between letters and sounds, which proved to be an extremely successful strategy for helping individuals with intellectual impairments gain phonemic awareness.

One key conclusion of this study is that all students have the right to an education fits their needs and prepares them for the future, regardless of their skills or limitations. Students with intellectual disabilities have unique obstacles, but with the correct support and accommodations, they often make significant progress and accomplish their goals. With expanded time, scaffolding, and one-on-one support, the intellectually disabled participants of this study were able to gain reading skills using instructional materials designed for use with regular

education students. Schools must offer every student a high-quality education and positive educational environment promote their growth and development. For students with special needs, this means providing customized assistance to meet the individual education plans for each one to assist them in reaching their full potential and leading satisfying lives, just like their unimpaired classmates.

Recommendations

In this section I will outlines specific practical applications of the research findings of this study and how this study can be used to assist other students who have been identified as ID. These recommendations also provide a roadmap for future researchers and practitioners, guiding them towards areas where further study or action is needed to improve practice, policy, or theory.

I recommend the district implement the use of Fundations in all special education classrooms. This would begin with the district bringing in a Wilson - certified trainer to provide staff development for the special education staff across our district. Because each of the classrooms have a different level of students, the district should provide each level kit for each classroom. Relative to this, I recommend the district organize nine-week professional learning communities involving all the special education staff as an avenue to discussion about use of the program and how it can be modified to support special needs students. To track and finesse student outcomes related to using Fundations in special needs classrooms, I would further recommend the district engage in on-going data collection about academic impacts as well as gathering data from the teacher PLCs.

Implementation Plan

A well-designed implementation strategy ensures all components of the research will be properly reviewed and considered. It is important to look ahead how this study can be used for other purposes to engage growth of students who are intellectually disabled. The work was completed in this study should not end here but should be continued in other areas of practice.

Since this study has ended, I have continued to use Fundations in my classroom. I have involved the parents and included them by sending home supplemental material and providing video links to support the students at home. I have also continued progress monitoring all the students who were part of the study, but now have included my other students in the classroom. I have focused on the students' individual IEP goals. I have made goals and objectives based on each student's phonics needs and added accommodations to their IEP's based on progress monitoring data.

District and school administration needs to realize the students in our programs need to be afforded the same programs as their general education peers to give them an equal opportunity to learn. I have begun to share the data and growth of the students with my principal and special education director with the hope they will see the benefits of using Fundations with special needs students to gain funding from the district and encourage other special education teachers to implement it as part of their daily practice.

This study also needs to be presented to other special education directors at Region Service Centers so they can see the results and consider including a systematic phonics program in their self-contained classrooms. Since this area is a military community, and students are mobile moving from school to school,

schools in the area should have consistency in program offerings. The Region Service Centers can offer workshops and training to school districts and cab reach a wider audience than just the teachers in the district where I currently work.

As a member of Texas Council for English Language Arts Teachers (TCTELA), I am planning to propose a presentation of my study at the next yearly conference. This conference is attended not only by elementary teachers but also middle and high school general education and special education teachers.

This study would benefit the students in these populations who struggle in reading. I feel many times, students who are in struggle in phonics in secondary are dismissed. When students leave elementary school, phonics is often tabled, and more focus is placed on comprehension. In self-contained classrooms, focus is placed on functional academics such as reading for daily living. By addressing phonics to students in the secondary level, this population will be able to read independently and take on more independent learning task.

Reflection

This study has continued to teach me students with disabilities are unique learners and each one of them are individuals. What worked for one student did not work for another student. I expected the students to pick up the decoding strategy quickly independently. When I was teaching the concept in whole group, it seemed as if most of the students were able to tap and blend words. It was not until I was observing the students and my paraprofessionals worked with them, it was evident the students needed a one-on-one intensive instruction.

What I noticed after the first couple of observations was the students were not paying attention to tapping out words in whole group. I then had to take extra time during the rest of the study to pay attention to the whole group to assure they were listening to me and tapping out words. I had to do a lot of "check for understandings." I know this is due partly to their disabilities. Eventually, the students all understood and got the concept. I am still teaching Fundations, but what I do now after each lesson, is devote 15 minutes for each student and reteach them the morning lesson.

I felt the part of the study was unexpected was the way the students used the other resources were part of the Fundations curriculum. The students utilized the alphabet strip more than I expected. The paraprofessionals were good at making sure the students referred to the alphabet strip. I encouraged the students to use the materials by making references to the posters and large sound cards as they learned the sounds associated with their words. In general education classrooms, students are taught to use anchor charts as a resource. I felt my students needed the same expectation. Putting posters on the wall without meaning is useless for students, so I made sure I referred to them and taught my paraprofessionals to use the posters and other resources as tools to assist the students.

When I first saw the students were given file folder activities as reading instruction last year, I knew from my teaching background I could find something better for my students to help them understand phonics and give them skills they would need to begin to read words. I did not want my students to be the forgotten students down the hallway once they were placed in the self-

contained classroom. I knew if they could eventually learn how to read, I could give them a voice.

Part of doing this research study included paraprofessionals. Paraprofessionals are an integral part of a special education classroom and are sometimes overlooked or sometimes seen as just helpers. I began my education career as a paraprofessional working with children with disabilities. My supervising teacher treated me as if I had the ability to support the students in the classroom. I felt it was important to highlight how the three paraprofessionals in this study were part of supporting my students in reading. The duties and obligations paraprofessionals can assume are wide-ranging and suitable. Developing and specifying these duties may guarantee that paraprofessional support in schools is used to its fullest potential. As a former paraprofessional in a preschool autism classroom, I knew how much effort I put into teaching the students and that even though I was not the teacher at that time, my job supporting the students and the classroom teacher was important.

Limitations

All research studies have limitations and there are areas that can make studies more valid. In this study only having five students was a limitation because it limited the amount of data I could collect. With a larger sample, I may have seen significant differences that a smaller sample did not provide. Since my students each have individual needs, additional students could have revealed differences in attaining phonemic awareness than the five participants exhibited.

I designed my study to be implemented during instructional time involving students who are not in the stud, so I was not able to focus at times on just the students in the study because I was managing behavior of other students

in the classroom. I had to stop teaching on several different occasions and come back to teaching the intervention at a different time of day because of such distractions. The students' needs for individual instruction made it difficult for whole group instruction, for students with disabilities. If I were to redo the intervention, I would block off 30 minutes for just the students in the study. Then I would also include in the intervention time each of the students would receive 10 minutes of individualized instruction that same day over the same lesson. I would also make sure that before each day, I would sit down with my paraprofessionals and teach them the intervention for ten minutes before the beginning of the instructional day.

I feel that the short time used to carry out this study was a large factor on this study results. The students I teach have difficulty keeping information and need constant reteaching of previous skills. I suspect students would have shown more growth if the study had lasted at least nine weeks or longer. It would have given me time to loop back around to some of the earlier lessons that my students may have forgotten and provide extra repetition.

One limitation that I ran across was finding enough suitable books for use during independent reading. Leveled books for emergent readers generally appeal to younger students in primary grades. Because my students are all emergent readers in upper elementary, they were not interested in most books at their reading levels. I had to go to several classrooms to ask other teachers to lend me books from their classroom libraries that were decodable and, on my students, reading levels while also being high interest for their ages. By the second week I had accumulated 60 books that I rotated through the five students

in the study. This need hampered students' progress in independent reading until I could find more engaging books for them to read.

Recommendations for Future Research

Results of this study have implications on the effect of use of Wilson's Fundations with students who have been identified as intellectually disabled. The bottom-up theory suggest that students must be able to decode individual sounds before they are able to read and understand text. Even though this study did not show a statical significance with reading fluency test, the observations and interviews suggested that the students in this study did make progress in both areas.

As a follow-up to the current study, multi-year longitudinal research to track the impact of a systematic phonics program on the reading growth of students designated as intellectually disabled would give greater insight into the long-term developmental process for this specific set of students. This study needs to take place over a year with the same students. The intervention needs to be done in blocks away from the other students in the classroom reduce the distraction that happen in this type of setting.

I did not assess whether students were able to spell the words that they were reading or tapping out. I would recommend that in the future that study be done with students with disabilities to see if a systematic phonics program will increase their ability to spell words without support.

Future research is needed about the use of systematic phonics systems with female students who are identified as intellectually impaired in a self-contained classroom. My study was limited to only boys, but by providing a

broader spectrum, there would be a clearer picture of the effectiveness of systematic phonics with this group of students.

There is a need for evidence-based interventions that are especially tailored to help students with intellectual impairments acquire phonemic awareness. A randomized controlled trial might be used to examine the efficacy of various interventions. Because many these students are grouped in the same class but have different disabilities, they are treated as if they all learn the same. Additional research to determine the most effective instructional strategies for teaching phonemic awareness to students with intellectual impairments is necessary. This might involve studies that compare various teaching techniques, resources, and technological approaches. Special education teachers should be aware that students require different multisensory approaches to learning; consequently, research should be focused on identifying which strategies and materials would be most effective in meeting the needs of students in each of the 13 disability categories under IDEA.

Summary

This mixed methods action research study examined how Fundations select strategies and materials increased phonemic awareness among intellectually disabled students in a self-contained classroom The qualitative and quantitative data indicated that the students made progress in decoding words and independent reading when they were given increased time, scaffolding, and one-on-one support.

An action plan was made that included continuing using Fundations in the classroom as part of the reading curriculum and partnering with the parents.

An action plan was created to present this information to important parties who can benefit from this information. I also suggest research should be focused on secondary students as well as specific disabilities to observe the effects of Fundations in those areas. Recommendation for future research include a longitudinal study with a greater number of participants. A study that includes students with intellectually disabilities increasing spelling with Fundations is also recommended. It is also recommended that research be conducted on specific disabilities and if Fundations influences their reading.

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APPENDIX A

CONSENT TO BE RESEARCH SUBJECT

UNIVERSITY OF SOUTH CAROLINA

CONSENT TO BE A RESEARCH SUBJECT

Increasing Phonemic Awareness in Intellectually Impaired students by using Wilson's Fundations Phonics Program in a Self-Contained Classroom.

Dear Parents

INTRODUCTION Your child is invited to participate in this research study "Increasing Phonemic Awareness in Intellectually Impaired students by using Wilson's Fundations Phonics Program in a Self-Contained Classroom." Approximately 5 children will participate in this study, which will take 6 weeks to complete.

WHY IS THIS STUDY BEING DONE? This study is being done to determine if Fundations will promote phonics in students who have been identified as intellectually impaired.

WHAT WILL MY CHILD BE ASKED TO DO IF I AGREE THAT MY CHILD CAN TAKE PART IN THIS STUDY? Your child will complete common classroom reading assessments, these are reading assessments we complete throughout the year. These include word reading, breaking apart letter sounds, and completing reading passage assessments. During the intervention, the students will anticipate in 30 minutes of direct instruction in Fundations. All this will take place at your child's school. There will be no research done outside of Hanna Springs.

WHAT POSSIBLE RISKS OR DISCOMFORTS CAN MY CHILD EXPECT FROM TAKING PART IN THIS STUDY? There is minimal risk to your student to your student during this study. There might be times that he or she might be embarrassed due to not being able to tap out a word in class. As the researcher/teacher I will do my best to eliminate all these situations.

The primary researcher is taking precautions to keep your child's information confidential and prevent anyone from discovering what they say or their identity, such as using a pseudonym **instead** of their name and keeping all information on a password-protected computer and locked in a file drawer. The name of the school and the school district will also be kept confidential during the research process.

WHAT POSSIBLE BENEFITS CAN MY CHILD EXPECT FROM TAKING PART IN THIS STUDY? The benefit from this study is that your child may gain reading skills from the Fundations learning program.

WHEN IS THE STUDY OVER? CAN MY CHILD LEAVE THE STUDY BEFORE IT ENDS? The study is over when your child has completed the progress monitoring probes and reading passage probes. However, your child can leave the study at any time even if they have not finished. If you decide you do not want your child to participate at any time you have the right to pull them out without any effect on their standing in the class.

PROTECTION OF YOUR CHILD'S CONFIDENTIALITY The primary researcher will keep all written materials locked in a desk drawer in a locked office. Any electronic or digital information (including audio (and video) recordings) will be stored on a computer that is password protected.
For quality assurance, the study team, the study sponsor (grant agency), and/or members of the University of South Carolina Institutional Review Board (IRB) may review the data collected from you as part of this study. Otherwise, all information obtained from your participation in this study will be held strictly confidential and will be disclosed only with your permission or as required by U.S. or State law.

HOW WILL THE RESULTS BE USED? Your child's identity will be removed from any data your child provides before publication or use for educational purposes. Your child's name or any identifying information about your child will not be published. This study is being conducted as part of the dissertation of the primary researcher.

PARTICIPANT'S RIGHTS

- I have read the Parental Permission Form and have been offered the opportunity to discuss the form with the researcher.
- I have had ample opportunity to ask questions about the purposes, procedures, risks, and benefits regarding this research study.
- I understand that my child's participation is voluntary. I may refuse to allow my child to participate or withdraw participation at any time without penalty student status or grades; services that my child would otherwise receive. I understand that my child may refuse to participate without penalty.
- If, during the study, significant new information that has been developed becomes available which may relate to my willingness to allow my child to continue participation, the researcher will provide this information to me.
- Any information derived from the research study that personally identifies me or my child will not be voluntarily released or disclosed without my separate consent, except as specifically required by law.
- Your child's data will not be used in further research studies.
- I should receive a copy of this Parental Permission Form document.

My signature means that I agree to allow my child to participate in this study:

Print Parent or guardian's name:

_____

Parent or guardian's signature:

_____

Child's name:

_____

Date: _____

APPENDIX B

PERMIISON TO PROCEED

To: tggarcia@my.sc.edu

From: CHANE RASCOE <rascoec@lisdtx.org> **Sent:** Monday, June 20, 2022, 3:54 PM
To: THERESA GARCIA <garciat1@lisdtx.org>

Subject: Re: EDd study Theresa,

Mon, Jun 20, 2022, at 6:15 PM

Thanks for the email. I had a chance to review your proposal this morning. It looked fine, you can proceed.

Thanks for all you do.

Chane Rascoe, Ed.D.
Superintendent

APPENDIX C

INTERVIEW QUESTIONS

Interview Questions
Para Pros

1. From your perception do you notice the students tapping out words on their own while they are reading their own during independent reading times or during small group?
2. From your perception, if you had to assist students in tapping out word, How much support did your the student to tap out words he could not decide right away? Talk about how long you waited before you assisted and how you knew the student needed help.
3. How many years have you worked in a school or daycare setting with students? Students that are identified as disabled. Talk about your experience. Did this experience help you when you learning how to use support Fundations in your small groups?
4. Discuss the greatest challenge you felt the students faced during this study using Fundations? What is something that the students were able to catch on to quickly on use in your small groups?
5. Is there anything else you want to add to the interview? What did you see that, stood out to you?

APPENDIX D

PARAPROFFESIONAL CONSENT

Dear

My name is Theresa Garcia. I am a doctoral candidate in the Education Department at the University of South Carolina. I am conducting a research study as part of the requirements of my degree in Curriculum and Instruction, and I would like to invite you to participate.

I am studying phonemic awareness in a self-contained setting. If you decide to participate, you will be asked to*)* meet with me for an interview about the intervention.

You will be asked questions about *Fundations* we will discuss teaching the students reading You may feel uncomfortable answering some of the questions. You do not have to answer any questions that you do not wish to answer. The meeting will take place in my classroom and should last about 20 minutes. The session *(or)* interview will be videotaped so that I can accurately transcribe what is discussed.

Participation is confidential. Study information will be kept in a secure location at the University of South Carolina. Participation is anonymous, which means that no one (not even the research team) will know what your answers are.

We will be happy to answer any questions you have about the study. You may contact me at 254-258=6404
Thank you for your consideration. If you would like to participate, please (explain what they should do, e.g., open the attached survey packet and begin completing the study materials.) When you are done, please (insert instructions about what to do with completed instruments). *(or)* contact me at the number listed below to discuss participating.

With kind regards,
Theresa Garcia
309 N. 11th Street
Copperas Cove, Texas 76522
254-258-64

APPENDIX E

LESSON PLAN

Lesson Plans

Unit Two Level 1 Fundations Phonemic Awareness lessons

Objective: The students will learn to connect letter sounds to the letters by tapping with their fingers and manipulating magnetic tiles.
Number of Days: 8
Materials needed: Small sound cards, magnetic letter tiles
Length of time: 30 minutes each day
Day One: Introduce students to the concept of tapping fingers to corresponding letter sounds. Begin with two-letter short vowel words, on and it. Explicitly teach the students how to connect the letter sounds within these two words to the concept of tapping each word. Once I have modeled for the students have the students repeat after me. After they have all successfully tapped the two letter words, I will build the words with the small sound cards. I will say the words, tap them out again and move the corresponding sound cards to build the words. I will tell the students that my orange cards are the vowels and that every word in the English language will have to have a vowel in it, After I have tapped out the word, I will blend the word together. Then I will say the word.
I will then take four consonant-vowel-consonant (CVC) words from the words list and mimic the same skill. I will use the words sip, log, cap, and hug. I will continuously model and observe the students and assist the students in tapping out each sound. I will make sure that they say each word after tapping and blending the letters together.
Closing: "Now that you have begun to learn to tap out sounds of words, this is something that will help you when you read your books at the tables."
Day 2
I will remind the students of the lesson concept of tapping out words from the day before. I will introduce the students to their magnetic tiles and show them that their magnetic tiles look exactly like my small sound cards. I will give the students a few minutes to explore the letters and tell the students that the orange letters are the vowels. Now we will begin to build words using unit two's word list, during this time I will assure that the students are watching me as I model for them how to tap out the words and say the words. Then I will observe the students and make sure that for each tap they are making a tap. This time they will also use the magnetic tiles to build their words, I will say the word, tap each sound, move a small sound card for each letter sound, put the word together, then tap it out one more time, blend it together, and say it. **Day 2 words**: *get, had, sit, fat, hop, put*
Closing: "Remember when you are reading at your table in your books, you tap out the words that you don't know."
Day 3 Once again I will review the tapping of letter sounds to letters within words and connect the sounds to my small sound cards. This time I will start to bring students to the whiteboard to assist me in building words with the small sound cards while the other students are using the magnetic tiles. I will continue to model for the students how to tap, blend, and say the words. I will make sure that the students are doing what I am doing and correct any of the students not tapping or not tapping to each sound. **Day three words**: *fun, cat, bit, set, van, dip, nap, pot*
Closing: "Remember when you are reading at your table in your books, you tap out the words that you don't know."
Day 4 Once again I will review the tapping of letter sounds to letters within words and connect the sounds to my small sound cards. I will bring students to the whiteboard to assist me in building words with the small sound cards while the other students are using the magnetic tiles. I will continue to model for the students how to tap, blend, and say the words. I will make sure that the students are doing what I am doing and correct any of the students not tapping or not tapping to each sound. **Day 4 words**: *bag, gum, vet, bog, rug, sad, leg, rib*

Closing: "Remember when you are reading at your table in your books, you tap out the words that you don't know."
Day 5 Once again I will review the tapping of letter sounds to letters within words and connect the sounds to my small sound cards. I will bring students to the whiteboard to assist me in building words with the small sound cards while the other students are using the magnetic tiles. I will continue to model for the students how to tap, blend, and say the words. I will make sure that the students are doing what I am doing and correct any of the students not tapping or not tapping to each sound. **Day 5 words***: bat, gas, dot, zap, pit, rap, con, run, hub*
Closing: "Remember when you are reading at your table in your books, you tap out the words that you don't know."
Day 6 Once again I will review the tapping of letter sounds to letters within words and connect the sounds to my small sound cards. I will bring students to the whiteboard to assist me in building words with the small sound cards while the other students are using the magnetic tiles. I will continue to model for the students how to tap, blend, and say the words. I will make sure that the students are doing what I am doing and correct any of the students not tapping or not tapping to each sound. **Day 6 words**: *lit, hen, fin, bad, ban, tin, top, jog, kid*
Closing: "Remember when you are reading at your table in your books, you tap out the words that you don't know."
Day 7 Once again I will review the tapping of letter sounds to letters within words and connect the sounds to my small sound cards. I will bring students to the whiteboard to assist me in building words with the small sound cards while the other students are using the magnetic tiles. I will continue to model for the students how to tap, blend, and say the words. I will make sure that the students are doing what I am doing and correct any of the students not tapping or not tapping to each sound. **Day 7 words:** *dip, Dad, sap, man, men, mop, pom, pen, nip*
Closing: "Remember when you are reading at your table in your books, you tap out the words that you don't know."
Day 8 Once again I will review the tapping of letter sounds to letters within words and connect the sounds to my small sound cards. I will bring students to the whiteboard to assist me in building words with the small sound cards while the other students are using the magnetic tiles. I will continue to model for the students how to tap, blend, and say the words. I will make sure that the students are doing what I am doing and correct any of the students not tapping or not tapping to each sound. **Day 8 words:** *yam, mat, cut, run, wax, job, yap*
Closing: "Remember when you are reading at your table in your books, you tap out the words that you don't know."
Unit 3 Level 1 Fundations Phonemic Awareness Lesson
Objective: The learners will learn that a digraph are two letters put together to form one sound. We will learn the sounds of the digraphs, *th, sh, ch, wh*, and *ck*.
Materials needed*: Small sound cards, large sound cards, magnetic letter tiles*
Day 9: "For the last couple of days we have learned to tap out words with short vowel sounds. Can someone come to the whiteboard and show the class how to tap out and make the word using the word cards bug?" I will wait for a student to come up to board and assist if necessary. If one more student wants to come to the board let them. "Today we are going to learn some new sounds, they are special sounds. They are called digraphs, say digraph. I want you to look at these cards, you see how there are two letters together on these large sound cards. A digraph is two letters together to make one sound." Let us look at the first one that we are going to learn today, we are not going to learn all of them today." The first one we are going to learn is the digraph *Sh.* I am going to hold up the large sound card and I want you to repeat after me; *S-h* ship /*sh*/. Now it is your turn. When you see s and h together, they make the /*sh*/ sound. I am going to build a word on the board using the digraph sh. Listen to the shop. I am going to tap it out first, *sh-o-p*, now I am going to find my matching letter cards that go with the sounds. The digraphs are grouped together just like on your magnetic board." I will build the word shop and tap it out as I build it. Then I will say it after I say it. "Now it is our turn to practice building words using the digraph /*sh*/. Do not Forget to tap out your words before building it with your magnetic tiles, after we get finished, we will all repeat the word." We will build four-five words with the sh digraph. **Day 9 words:** ship, shut, fish, bush, wish, mash
Closing: All of you have been doing a great job tapping out while you are reading, do not stop. Try to find words with the digraph *sh* in your book today."

Day 10 "Does anyone remember what a digraph is from yesterday?" If they do not remember or even if they do, I will remind the students that a digraph is two letters put together to form one sound. "Let us review our digraph from yesterday on the large sound card. *S-h ship /sh/*. Can someone remember some of the words we made with the digraph *sh* yesterday? Today we are going to learn a new digraph. Let us look at this sound card; *T-h thumb /th/*." This might be hard for some of us to say. Make sure you are putting your tongue at the by the top of your teeth. Watch me as I make the /*th*/ sound." Demonstrate for the students and listen as each student try to make the /*th*/ sound. Support the students who need your help. "Now we are going to build some words using the th digraph, I am going to need a helper." Have the students come up as you dictate words, tap words, blend words, have the students build the words, and have all the students repeat the words. **Day 10 words:** *them, path, math, with, thud, that*
Closing: What sound does *sh* make? What sound does *th* make? Now when we are reading do not forget to tap your words, do not just guess!"
Day 11 Do you remember what a digraph is from yesterday?" If they do not remember or even if they do, remind the students that a digraph is two letters put together to form one sound. "Let us review our digraphs so far. Here are the large sound cards we have used." Have the students repeat after you when you read from the large sound card *sh* and *th.* "Now we are going to introduce the sound for the digraph *ch*. Look at the sound card for *ch*. *C-h chin /ch/*. Continue to have students come to the whiteboard to help build words while the other students are tapping and building words with their magnetic tiles. Always watch to make sure that the students are tapping to each sound in the words and blending. **Day 11 words:** *chip, chin, chop, chat, chug, wick*
Day 12 Does anyone remember what a digraph is from yesterday?" If they do not remember or even if they do, remind the students that a digraph is two letters put together to form one sound. "Let us review our digraphs from the previous days with the large sound cards, *sh*, *th*, and *ch.* "Now let us look at the digraph *wh, wh* makes the /wh/ sound. Look at the large sound card and repeat after me. *W-h whistle /wh/*. "Now have students come to the board and have them help build the words with the wh digraph. While students are assisting in building the other students are tapping and building with the magnetic tiles, I will observe to make sure the students are tapping and blending the words just like in the previous lessons. **Day 12 words:** when, whiz, whip, wham, whop
Closing: "Let's review all our digraphs from the previous days, I am going to need a helper to show the rest of the students the sound cards." I will get a student to start helping me lead the group. I review all the digraphs with the students. "Now let us see how many digraphs we can find in our books when we are reading today. Do not forget when we are reading, you must tap out words you have trouble reading."
Day 13 Does anyone remember what a digraph is from yesterday?" If they do not remember or even if they do, remind the students that a digraph is two letters put together to form one sound. "I need a volunteer to help me with the digraphs we have practiced" Review all the previously taught digraphs using the large sound cards with a student leading the group. "Now we are going to talk about a very special digraph, the digraph -*ck*. Let us first look at the sound card for -*ck.* C-k sock /*ck*/. *Ck* is special because it can only go at the end of a word or syllable. What else makes it special is that we can only use it with our short vowel sounds. Let us review our short vowel sounds, /a/, /e/, /i/, /o/, and /u/." I will have the students repeat these sounds after me. "I am going to build some words first and let you how you make words using *ck.* I will make a few words, tap out the words, and blend them together. I will show the students how the *ck* is always at the end of the word. "Now let us make some words together. Who wants to come up to the board first and show the class how to make the first word? Do not forget to show them how to tap the word first." I will have several students come up and demonstrate for the other students, I will monitor the other students and see if they are tapping their words and blending them together. **Words for Day 13:** sock, lick, buck, chick, duck, back, check
Closing: "Let's review all our digraphs from the previous days, I will need a helper to show the rest of the students the sound cards." I will get a student to start helping me lead the group. I review all the digraphs with the students. "Now let us see how many digraphs we can find in our books when reading today. Do not forget when we are reading, and you must tap out words you have trouble reading."
Day 14 Does anyone remember what a digraph is from yesterday?" If they do not remember or even if they do, remind the students that a digraph is two letters put together to form one sound. "I need a volunteer to help me with the digraphs we have practiced" Review all the previously

taught digraphs using the large sound cards with a student leading the group. I will have different student volunteers come up and have the other students repeat after them all the large sound cards for every digraph that we have covered in class. I will ask the students if they remember the rules for using the digraph -*ck* and how it is used in words. I will build a word on the board to help the students remember. Then I will build more words using -*ck*, again, I will have students come to the board to assist me, tapping first, blending, and saying the word. They will find the letters by matching the sounds to the small sound cards. The other students will continue to tap words and build words with their magnetic tiles then blend the words together. I will continue to monitor the students for those who are tapping or not tapping and observe the students who have not or cannot master the concept of connecting the letter sounds to the strategy of tapping. **Words for day 15**: *mock, tuck, tuck, hack, whack, thick, sick, sack*
Closing: "Let's review all our digraphs from the previous days, I will need a helper to show the rest of the students the sound cards." I will get a student to start helping me lead the group. I review all the digraphs with the students. "Now let us see how many digraphs we can find in our books when reading today. Do not forget when we are reading, you must tap out words you have trouble reading."
Day 16 Today we review all the digraphs from Unit 3. The first thing we will do is have one student volunteer come up to the front and have them lead the class in reading the large sound cards while the students repeat after them. I will then ask the students what were the digraphs that we talked about and if someone can show me where they are in the classroom. (There are posters around the room that have the same pictures of the sound cards). I will tell the students that these are tools that they can use when they are reading to help them when they need help figuring out a word. I will then ask for student volunteers to come and help to build words using all the digraphs. I will monitor the students who are using the magnetic tiles to make sure they are tapping and connecting the letter sounds to the finger movements. **Day 16 words:** *lick, whip, chat, chip, ship, then, whim, duck*
Closing "Today, while you are in a small group, I want you to remember to tap out words you don't know, but also to remember to use the posters, your alphabet strip, and the alphabet strip in the room to help you with sounds if you don't remember."
Day 17 Today we review all the digraphs from Unit 3. The first thing we will do is have one student volunteer come up to the front and have them lead the class in reading the large sound cards while the students repeat after them. I will have the students start to build words. I will then ask for student volunteers to come and help to build words using all the digraphs. I will monitor the students who are using the magnetic tiles to make sure they are tapping and connecting the letter sounds to the finger movements. **Day 17 Words**: *thick hack, chin, chick, when then, with, that*
Closing "Today, while you are in a small group, I want you to remember to tap out words you don't know, but also to remember to use the posters, your alphabet strip, and the alphabet strip in the room to help you with sounds if you don't remember."
Day 18 This lesson will focus on reviewing units 2 and 3. I will begin the lesson like all the other lessons by having a student leader read the large sound cards and having the other students repeat after them Then I will begin the lesson by building a consonant-vowel-consonant word. I will ask one of the students to tap it out after I build it and read it for me. Then I will tell them that we are going to review all the sounds we have talked about so far and make words using the small sound cards and our magnetic boards. We will build several words from all the previous days, I will model for the students tapping, and have other students come to the white board and tap out words and build words using the small sound cards. Meanwhile the other students will build words with their magnetic letter tiles. **Day 18 words:**
Day 19 This lesson will focus on reviewing units 2 and 3. I will begin the lesson like all the other lessons by having a student leader read the large sound cards and having the other students repeat after them Then I will begin the lesson by building a consonant-vowel-consonant word. I will ask one of the students to tap it out after I build it and read it for me. Then I will tell them that we are going to review all the sounds we have talked about so far and make words using the small sound cards and our magnetic boards.
Unit 4 Objective: The students will learn the glued sound -*all* makes the sound /all/. The students will learn to build words by adding doubles, *f, l,* and z at the end of short vowel one syllable words.

Day 20. This lesson will focus on the introducing the students to the concept of glued sounds. The students will learn that a glued sound is a group of letters that make one complete sound. (This is a Wilson Fundation concept, not taught in any other phonics programs using these terms.) I will show the students the large sound card for the glued sound all. I will read it to the students;" A-L-L ball /all/." I will have the students repeat it after me. I will show them to tap out this word the glued sound all gets one tap by demonstrating with the word ball. I will then demonstrate with the word call and build the word with the sound cards. I will ask the students to do the same with their letter tiles. I will continue to observe to monitor who is tapping their letter correctly. I will then do some more words out of the back of the unit. I will have student volunteers come to board and assist me to build these words as the other students are using their magnetic letter tiles. **Day 20 Words**; *fall, tall, mall, hall, wall, all*
Closing: "Today, while you are in a small group, I want you to remember to tap out words you don't know, but also to remember to use the posters, your alphabet strip, and the alphabet strip in the room to help you with sounds if you don't remember."
Day 21 Review all glued sound from yesterday, along with the rest of the sound cards from the previous units. Have a student leader lead the other students in this activity. Introduce adding a bonus s at the end of words. (This language is taught by Wilson Fundations, when it is written out for the students it is marked with a star above the final repeating consonant.) Talk to the student that when a word ends in s, and it is one syllable it will end with a double s or two *s's*. Let them know that the second *s* is not tapped out. I will begin with the word pass. I will say, tap it, spell it with my sound's cards, and then blend it together after it is built. I will then have students come up and help do the same thing with some different words ending in doubles, while the other students are using their magnetic boards. I will continue to observe the students while they are working on making their words. **Day 21** words: pass, bass, lass, mass, mess, moss
Closing: "Today, while you are in a small group, I want you to remember to tap out words you don't know, but also to remember to use the posters, your alphabet strip, and the alphabet strip in the room to help you with sounds if you don't remember."
Day 22 bonus letter l Review all digraphs and the glued sound using the large sound cards by having a student leader come to the board and help lead the group. Review with the students why two s's are put at the end of the word and that it is a short vowel that is used in these words. Remind the students not to tap the final vowel sound. Introduce words ending in double *l*. I will have the students start to build words. I will then ask for student volunteers to come and help to build words using all the digraphs. I will monitor the students who are using the magnetic tiles to make sure they are tapping and connecting the letter sounds to the finger movements. **Day 22 words:** *bill, fill, sill, dill, hill, gill, mill, chill*
Closing: "Today, while you are in a small group, I want you to remember to tap out words you don't know, but also to remember to use the posters, your alphabet strip, and the alphabet strip in the room to help you with sounds if you don't remember."
Day 23 Review the digraphs and the glued sound using the large sound cards by having a student leader come to the board and help lead the group. Review with the students why two s's are put at the end of the word and that it is a short vowel that is used in these words. Remind the students not to tap the final vowel sound. Introduce words ending in double *f*. I will have the students start to build words. I will then ask for student volunteers to come and help to build words using all the digraphs. I will monitor the students who are using the magnetic tiles to make sure they are tapping and connecting the letter sounds to the finger movements. **Day 23 words:** puff, huff, cuff, buff, duff, gaff
Closing: "Today, while you are in a small group, I want you to remember to tap out words you don't know, but also to remember to use the posters, your alphabet strip, and the alphabet strip in the room to help you with sounds if you don't remember."
Day 24 bonus letter z Review all digraphs and the glued sound using the large sound cards by having a student leader come to the board and help lead the group. Review with the students why two s's are put at the end of the word and that it is a short vowel that is used in these words. Remind the students not to tap the final vowel sound. Introduce words ending in double *z*. I will have the students start to build words. I will then ask for student volunteers to come and help to build words using all the digraphs. I will monitor the students who are using the magnetic tiles to make sure they are tapping and connecting the letter sounds to the finger movements**. Day 24 words**: buzz, whizz, fizz, Jazz,

Closing: "Today, while you are in a small group, I want you to remember to tap out words you don't know, but also to remember to use the posters, your alphabet strip, and the alphabet strip in the room to help you with sounds if you don't remember."
Day 25 Today we review all the digraphs and the glued sounds from Unit 3.and Unit 4. The first thing we will do is have one student volunteer come up to the front and have them lead the class in reading the large sound cards while the students repeat after them. I will have the students start to build words. I will then ask for student volunteers to come and help to build words using all the digraphs. I will monitor the students who are using the magnetic tiles to make sure they are tapping and connecting the letter sounds to the finger movements.
Day 25 words: luck, thick, chill, tack, puff,
Closing: "Today, while you are in a small group, I want you to remember to tap out words you don't know, but also to remember to use the posters, your alphabet strip, and the alphabet strip in the room to help you with sounds if you don't remember."
Day 26 Today we review all the digraphs and the glued sounds from Unit 3.and Unit 4. The first thing we will do is have one student volunteer come up to the front and have them lead the class in reading the large sound cards while the students repeat after them. I will have the students start to build words. I will then ask for student volunteers to come and help to build words using all the digraphs. I will monitor the students who are using the magnetic tiles to make sure they are tapping and connecting the letter sounds to the finger movements. **Day 26 Words**: chick, ball, tall, ship, then, moth, call,
Closing "Today, while you are in a small group, I want you to remember to tap out words you don't know, but also to remember to use the posters, your alphabet strip, and the alphabet strip in the room to help you with sounds if you don't remember."
Day 27 Today we review all the phonics taught from Unit 3 and Unit 4. The first thing we will do is have one student volunteer come up to the front and have them lead the class in reading the large sound cards while the students repeat after them. I will have the students start to build words. I will then ask for student volunteers to come and help to build words using all the digraphs, bonus ending words, and glued sounds *all*. I will monitor the students who are using the magnetic tiles to make sure they are tapping and connecting the letter sounds to the finger movements. I will have the students start to build words. I will then ask for student volunteers to come and help to build words using all the digraphs. I will monitor the students who are using the magnetic tiles to make sure they are tapping and connecting the letter sounds to the finger movements. **Day 27 Words**: puff, fill, gill, chill, chick, duck, shop, hick, pack buzz, miss, hiss
Closing "Today, while you are in a small group, I want you to remember to tap out words you don't know, but also to remember to use the posters, your alphabet strip, and the alphabet strip in the room to help you with sounds if you don't remember."
Unit 5 Objective: The students will learn the sounds associated with the glued sounds and *am* and build words using these glued sounds.
Day 28 In this unit the students will be introduced to the glued sound an. I will remind the students that a glued sound is a group of words that make one sound. I will then show the students the large sound card for an and read it to them and have them repeat it after me. A-n fan /an/. I will then have a student model for the other how to tap and build words using the glued sound an. While one student is modeling the other students will be using their magnetic tiles to tap and build the same words. I will monitor and observe the students to make sure that they are connecting letter sounds to their taps. **Day 28** words: fan, ran, can, man, pan ban, Dan
Day 29 In this unit the students will be introduced to the glued sound am. I will remind the students that a glued sound is a group of words that make one sound. I will then show the students the large sound card for an and read it to them and have them repeat it after me. A-m ham /am/. I will then have a student model for the other how to tap and build words using the glued sound am. While one student is modeling the other students will be using their magnetic tiles to tap and build the same words. I will monitor and observe the students to make sure that they are connecting letter sounds to their taps. Day 29 Words: bam, dam, ham, mam, ram, sham, Tam
Day 30 Today the students will review the words for the glued sounds and am. I will have a student leader read and the other students repeat the large sound cards for an and am. I will then remind the students what a glued sound is and how we tap a glued sound. Then I will have a student come to the board to model for the other students how to tap and build words with the small sound's cards. Meanwhile, the other students will use their magnetic boards to tap and

build the same words. I will monitor the students to make sure they are connecting their tapping to the letter sounds. **Day 30** words: ran, fan, Sam, mam, ban, sham, ram, ham, can