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Running Head: PHONOLOGICAL AWARENESS AND WRITING SKILLS

The Effects of Phonological Awareness Intervention on a
First Grade Student's Writing Skills

By

Paige Patterson

A Graduate Field Experience

Submitted in Partial Fulfillment of the

Requirements for the Degree of

Master of Arts

Urban Education

At Cardinal Stritch University

Milwaukee, Wisconsin

2015

PHONOLOGICAL AWARENESS AND WRITING SKILLS

This Graduate Field Experience
For Paige Patterson
Has been approved for Cardinal
Stritch University by

_____ Luann Dreifuerst *LD*

(Advisor)

_____ April 12, 2015 _____

(Date)

Abstract

This thesis is a case study of a first grade student in Milwaukee, Wisconsin who struggled with his writing skills. The researcher developed and carried out an intervention for the student, with a foundation of literature from expert researchers. This researcher met with the student three times per week over the course of eight weeks, for between fifteen and thirty minutes per session when the researcher employed the use of strategic phonological awareness teaching methods with the student. In each intervention session, the researcher employed an array of specific phonological teaching methods and asked the student to create a writing piece either prompted or of the writer's choice. The student used the phonological teaching strategies taught during the intervention to complete his writing. At the conclusion of the study, the first grade student's phonological strategies showed improvement, thereby, impacting his writing skills based on the phonological awareness ELA Literacy Mastery Test, and his writing rubric results.

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CHAPTER ONE: Introduction

James is a first grade student at an urban Midwest charter school and is the eldest of two children in his family. His younger sister, Jasmine, and he live with their mother and their mother's boyfriend on the northwest side of Milwaukee. Although James had attended school as a Kindergarten student, he had troubles adjusting to a new school and often hid under his desk, cried, threw tantrums, refused to leave the classroom at times as well as tried to run away from the classroom at other times. James rode the school bus to and from school with his older cousin every day. He began the school year as a very quiet shy student and did not seem interested in making any friends. As the school year progressed, he became more vocal and began to play with the other children. He is known by classmates and teachers to be a sweet boy, but has had a few physical and emotional issues with other students within the school.

James began his educational career at this urban Midwest charter school in the 2013-2014 school year. His mother told me that he had attended Kindergarten at a nearby Christian Charter school. However, the school closed before the 2013 - 2014 school year so any information about James' educational history was not available. Therefore the information gathered throughout the 2013-2014 school year as well as the data collected from this study serve as James' academic background.

At the beginning of the 2013 - 2014 school year, James was given a series of first grade Mastery Tests covering the subjects of Reading, Writing, Math, Science, Social Studies and Art. He scored low on all tests, displaying less than 10% mastery of the objectives on each test. To better grasp his current skill set, James was given the Kindergarten Mastery

Test in Reading, Writing, and Math where he displayed higher mastery at this level; however, he had little knowledge of matching letter sounds, recognizing letters in print, and reproducing most letters of the alphabet. Many of the students in his class had been in my Kindergarten class the previous year and were far advanced in their reading and writing skills. However, there were a few students who began the school year at James' level but quickly picked up recognizing letters and sounds and therefore improved their writing skills through regular reading and writing lessons. By spring, James had shown improvement in his skill set and had mastered 100% of uppercase and lowercase letters and 95% of single letter sounds. He still struggled with reading as well as his sounding out of letters/words but showed improvement by mastering 65% of digraph sounds. James continued to struggle with his sounds, but showed somewhat steady improvement throughout the year. As he began to show progress in the classroom, his confidence rose and his attitude towards school drastically improved. His behavior changed for the better and he began to socialize more with the other students as well as show excitement about working in center groups.

James' writing skills, however, did not seem to improve and he continuously struggled with his writing throughout the year. By spring, he showed very slight improvement by displaying less than a 50% score with mastery in writing letters as well as displaying less than 20% mastery in writing a "How to" paragraph. Throughout the school day, many writing opportunities were presented in the classroom. There would be "Morning Journal Time" every morning which were mostly opinion responses to a general question prompted to the class, as well as time for specific writing experiences on subject matter the class was studying. At first, James would not attempt to write anything during these times. By spring, his confidence had grown so that he would proudly attempt to write

during these writing opportunities, but his handwriting was completely illegible and his writing would most likely not be about the topic presented. Since Wisconsin had adopted the Common Core Standards, it was expected that James meet each standard but he was struggling most with two literacy standards: CCSS W 1.1 and CCSS RF 1.2. The Common Core Standard ELA-Literacy W1.1 states students in First Grade should be able to “write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure” (2014 Web). The Common Core Standard ELA Literacy R.F 1.2 which states students should be able to demonstrate understanding of spoken words, syllables, and sounds (phonemes)” (Web 2014). Since James was not close to mastering these Common Core Standards, I become very concerned with James’ continued lack of growth in writing and his struggle in attaching sounds to letters in order to make phonetically correct words.

When James first joined my classroom in the fall, I was concerned mostly with his behavior and spoke with his mom on several occasions about solutions. She was always very receptive and helpful in these situations. However, when I called her into school to express my concerns about James’ lack of growth in English Language Arts (ELA), specifically writing, she became very emotional and told me she had to leave. After a month, she eventually agreed to meet with me again about James’ lack of progress. I showed her writing examples from “middle level” students and even “low level” students in class compared to his work which was far “below level” than the other students. I expressed concerns about a possible learning disability in which James’ mother told me that her belief was that he was just a slow learner like her and that she did not want to take any actions in creating an Individualized Education Program (IEP) at this moment.

I chose James for my case study research in order to determine if regularly scheduled individual interventions focused on teaching phonological awareness would improve James' writing skills or if his dysgraphia was caused by a learning disability. Throughout this case study, the intervention methods, procedures, and results will be outlined that took place for seven weeks.

Glossary of Terms

- **Dysgraphia** - A person with this specific learning disability may have problems including illegible handwriting, inconsistent spacing, poor spatial planning on paper, poor spelling, and difficulty composing writing as well as thinking and writing at the same time
(Dysgraphia 2015)
- **IEP** – (Individualized Education Plan) A child who has difficulty learning and functioning and has been identified as a special needs student
- **Common Core Standards** - Learning standards that establish clear expectations for what students should learn in English Language Arts and mathematics at each grade level (*New Illinois Learning Standards 2015*).
- **Writing Skills** – the ability to demonstrate an opinion or knowledge on a certain topic visibly and legibly
- **Speech Language Pathologist (SLP)** – A trained professional who evaluates and treats children and adults who experience difficulty in speech and language.
- **Nonwords** – a group of letters or speech sounds that look or sound like a word, but are not actual words.
- **ELA Literacy Mastery Test** – An assessment utilized that consists of grade level learning targets to be mastered (80%) by the end of each year.

CHAPTER TWO: Review of Literature

Writing serves many diverse purposes throughout academic life as well as life experiences. Within both, writing is used as a tool not only to express one's point of view, but to also gain opportunities, share life experiences, share information, self-advocate for one self, and most importantly to find joy and self-worth. As author Henry Miller once said, "Writing is not a game played according to rules. Writing is compulsive and delectable thing. Writing is its own reward". Since writing serves many important purposes across the threads of academic experience and life, it is essential that writing as well as the value of the skill is taught to children at an early age.

In order to determine best practice for teaching the many components of writing, teachers and practitioners look to research in order to teach writing to primary grade learners. Much research has been conducted on various methods of teaching writing in the classroom within the realms of letter memory, scribing and handwriting, phonological awareness skills, and dictation.

In understanding that writing is an essential skill and the need for research on how to best instruct struggling young writers, this chapter is dedicated to research on the topics of dysgraphia, teaching writing through various methods focused on direct phonological awareness, and the improvement of motor skills. Through exploring students' written pre-work, the use of focused writing interventions and students' post-work outcomes, an argument for the need of various methods of teaching writing to struggling learners, will be made. First, dysgraphia and its methods for improvement will be explored. Then, an analysis of the phonological awareness and its connection to writing will be stated.

Dysgraphia: Its Effects, and Methods for Improvement

Before structured lessons in English Language Arts, young children typically begin their journeys as writers by doodling lines and objects that detail stories of which only they can read or understand. This type of behavior is considered developmentally normal for children who have not yet begun school or have recently begun Pre- Kindergarten or Kindergarten. Beyond the early learning stages, this behavior can be classified as the learning disorder, dysgraphia. This section outlines what dysgraphia is and what it looks like within in the classroom. Then the research of Cristina Romani, Jamie Ward, and Andrew Olson (1999) is presented in regards to the importance of identifying the underlying cognitive disabilities that may be causing this disorder. Then, the research of Engel-Yeger, B., & Rosenblum, S. (2010) will detail methods of how to best support students with dysgraphia.

By definition, a student with the learning disorder, dysgraphia, exhibits problems “... including illegible handwriting, inconsistent spacing, poor spatial planning on paper, poor spelling, and difficulty composing writing as well as thinking and writing at the same time” (*Dysgraphia 2015*). The Learning Disabilities Association of America details the most common signs and symptoms of this learning disorder to be: illegible printing (despite appropriate time and attention given to the task), inconsistencies (mixtures of upper and lower case letters, irregular sizes , shapes, spacing and slants of letters), the display of strange wrist, body, or paper position, difficulty pre-visualizing letter formation, copying or writing being slow or labored, poor spatial planning on paper, cramped or unusual grip of writing utensil, and the difficulty of thinking and writing at the same time. According to Cristina Romani, Jamie Ward, and Andrew Olson (1999), the most common strategy for

improving dysgraphia's symptoms is to investigate and learn the cognitive cause underlying the student's disorder.

Romani, Ward, and Olson (1999) conducted a case study with the purpose of investigating the cognitive causes underlying spelling difficulties in a case of developmental surface dysgraphia. According to their study, there are many different impairments that can be the possible underlying cause of dyslexia/dysgraphia. One impairment that has received most support is an impairment of phonological awareness or phonological processing. According to this case study's hypothesis, dyslexic children or children with dysgraphia fail to learn to read and write because they are unable to segment a word into the corresponding sequence of phonemes. Because of this impairment, the readers cannot fully develop the initial skills in order to become a successful developing reader.

The case study Romani, Ward, and Olson (1999) conducted focused on AW, a 22 year old A level student who was referred to the study because of his spelling difficulties. Although AW was an above average student, when his spelling level was assessed, it was found to be equivalent to that of a 9 year old. AW was assessed with the Johns Hopkins Dysgraphia Battery (*Goodman & Caramazza, 1985*). All results were presented in terms of percentages of correct out of 100%. AW showed no significant effects of concreteness (concrete words: 29% ; abstract words: 33%);frequency (high-frequency words: 36% ; low-frequency words: 36%); part of speech (nouns: 32% ; verbs:36% ; adjectives: 50%; factor: 30%).However, he showed significant effects of word length (4±5 letters:18% ; 6±7 letters: 39% ; 8 letters: 50% ; $x^2 = 9.0$; $p < .05$); lexicality: He showed an 'inverse effect', misspelling real words more often than made-up words (words: 35% ; nonwords: 14% : $x^2 = 4.3$; $p < .05$) (*Cristina Romani, Jamie Ward, Andrew Olson 1999*). Overall, AW was given 1,005 words to spell for dictation and made 32% errors (321/ 1005).

In order to better understand the results of these tests, the testers began a series of other tests focusing on phonological awareness and short-term memory with AW to see where his/her impairment lay. The most common errors made by him reflect underspecified orthographic lexical representations such as vowels. Vowels are difficult to spell in English because of the variety of phonologically plausible graphemic possibilities. Because of this finding, the testers tested AW in his word reading, he showed strength in reading real words but had severe difficulty when it came to non-words. When testing phonological short-term memory, AW tested within the normal range. He also tested within the normal range for phonological segmentation as well as visual memory. Since he was testing normally in these errors, the tester gave AW a lexical decision making task. The results confirmed that AW processes orthographic information in an unusual way. In particular, he had difficulty when the task required processing information about the order of letters within a word. After testing AW in some order assessment tasks, the testers were able to characterize AW's problem as one of encoding and not of retention of order because he showed difficulties in tasks that did not have a strong memory component, such as lexical decision and matching tasks.

This study was able to conclude that AW had shown that not all developmental spelling difficulties are all of the same kind. In the case of AW, this student had excellent phonological and visual capabilities so the concept of a phonological problem was thrown out. Instead, it was found that he had problems with spelling as a consequence of a general difficulty encoding serial order. Romani, Ward, and Olson (1999) were able to determine this cognitive order problem in this particular case study, which can now be reviewed further when investigating other cases of dysgraphia and or dyslexia.

Once the underlying cognitive disability causing the student's dysgraphia is discovered, then appropriate methods can be determined to best aid the student. Common first signs of dysgraphia include illegible handwriting, poor spacing of letters and words, and cramped or unusual grip of writing utensil. (*Dysgraphia 2015*). A case study was conducted by Engel-Yeger, & Rosenblum, (2010) with handwriting and motor skills between students with dysgraphia and their typical peers (TP). These researchers wanted to "to "...examine the impact of prolonged graphomotor tasks on tripod-pinch strength and on handwriting process and product measures of children with dysgraphia and typical peers" (*Engel-Yeger, B., & Rosenblum, S. 2010*).

Handwriting is an essential skill to learn while progressing through the educational system since it is a complex motor activity that integrates many different learning processes such as linguistic, psychomotor, biomechanical, maturational, and developmental. When researching dysgraphia, it seems that many different angles have been explored as to the reason behind the writing errors/disconnects. This case study focused on the more physical motor approach; the relationship between the pencil and the hand and the effects that this relationship may have on children with categorized dysgraphia. According to the article the term, dysgraphia, refers to children who do not succeed in developing proficient handwriting. The study states that, "Hamstra-Bletz and Blote [9] defined dysgraphia as a disturbance or difficulty in the production of written language related to the mechanics of writing among children who are of at least average intelligence and who have not been identified as having any obvious neurological or perceptual-motor problems" (*Engel-Yeger, B., & Rosenblum, S. 2010*). Weak muscle strength has been considered a reason as to why some students are experiencing much difficulty progressing in their writing. "Tripod pinch strength" as stated in the study, is required in varied everyday activities from writing to

drawing. The article discusses the meaning of “tripod pinch strength” by stating, “The ‘dynamic tripod’ refers to the force generated by the pulp of the thumb, the index finger and the middle finger [15] in the most common ways of holding a writing instrument [16, 17] where the three fingers (thumb, index and middle finger) function together to hold the pen while the fourth and fifth fingers are leading the hand on the writing surface [18]. The force exerted by the three fingers must be adapted to the pen’s weight, acceleration, surface texture, contour and structure (*Engel-Yeger, B., & Rosenblum, S. 2010*).

The participants in this study included 51 students ranging from third to fifth grade. The participants were divided into two groups: 23 children with dysgraphia and 28 typical peers (TP). The determination between a student with dysgraphia and a typical student was made by administering the Handwriting Proficiency screening Questionnaire (a test developed by teachers and clinicians to assess students that demonstrate handwriting difficulties). The study group consisted of 15 boys and 8 girls, with a mean age of 9.63 ± 0.86 years. The control group consisted of 13 boys and 15 girls, with a mean age of 9.43 ± 1.13 years. In both groups, four of the children were left handed. The procedure included two sessions that were connected by a 15 minute break. In each session, the participants performed two tasks: the visual-motor control subtest of Bruininks-Oseretsky and a handwriting copying task both performed on an electronic tablet as part of the Computerized Penmanship Evaluation Tool. Tripod pinch strength was evaluated before and after each session.

Children in this study were tested in a quiet room in their home. In the first testing session, tripod pinch strength was evaluated. Then the child was asked to complete the Bruininks-Oseretsky Visual Motor Control subset and to perform the handwriting copying test. These tests were followed by another tripod pinch evaluation. After a 15 minute break,

the student performed another tripod pinch strength evaluation. Then the student repeated the same content of session one, except in opposite order and ending again with a tripod pinch strength evaluation. The overall evaluations took about 40 minutes and were assessed by an occupational therapist who was blind to their inclusion categories.

A significant difference was found between the groups for tripod pinch strength with the typical learners scoring better. “While children with typical writing abilities had relatively similar pinch strength, children with dysgraphia showed deterioration in pinch strength, especially in the fourth measure. The children with dysgraphia scored significantly lower on global legibility than did the typical peers on the first measure of the test (*Engel-Yeger, B. & Rosenblum, S. 2010*). When comparing global legibility within groups, among children with dysgraphia, no significant difference was found between both measures, while among the typical peers, significantly better global legibility was found in the second measure of the test. According to the results, “The variable that made the greatest contribution to group membership was the handwriting product legibility (loading $\frac{1}{4}$ 0.61), followed by the tripod pinch strength (3d) (loading $\frac{1}{4}$ 0.45), mean stroke width (loading $\frac{1}{4}$ 70.26) and the ground length per stroke (loading $\frac{1}{4}$ 70.25). On the basis of this function, 90.5% of the participants overall, 89.5% of the children with dysgraphia group and 91.3% of the Typical peers were correctly classified. A Kappa value of 0.80 (p 5 .001) was calculated, demonstrating that the group classification did not occur by chance” (*Engel-Yeger, B., & Rosenblum, S. 2010*).

In conclusion, both hypothesis of this study were confirmed. Significant differences between children with dysgraphia and typically developed children were found in all tested measures. The study also states that, “It may be suggested that the decremented pinch strength may be related to the redundancy of forearm muscles or “load-sharing” and that

children with dysgraphia are deploying inefficient control strategies that preferentially stress specific muscles” *Engel-Yeger, B., & Rosenblum, S. 2010*). In summary, this study supported the assumption that prolonged exposures to fine motor demands in the classroom may negatively affect writing proficiency as well as impaired handwriting abilities may predict general learning difficulties later on.

This section described two studies exploring dysgraphia. The study of Romani, Ward, and Olson (1999) focused on the importance of understanding the underlying cognitive impairments causing dysgraphia in order to treat the disorder. Engel-Yeger and Rosenblum’s (2010) research outlined the importance of early writers’ efficient handwriting as well as methods that are proven to help and hinder these skills.

Phonological Awareness and Writing

An important milestone in an early learner’s academic career occurs when the student learns how to read and write. Implementing focused phonological awareness lessons in the classroom is essential to achieve this goal. Phonological awareness is defined as the ability to hear sounds that make up words in spoken language. This includes recognizing words that rhyme, deciding whether words begin or end with the same sounds, understanding that sounds can be manipulated to create new words, and separating words into their individual sounds. (*Phonological Awareness 2014*). This section explores Vernon and Ferreiro’s (1999) case study as well as Liberman and Shankweiler’s (1985) case study of the strong connection between phonological awareness and early learner’s writing skills. Then, Erdogan’s (2011) study outlines skills children should have while learning reading, writing and which skills help children to develop reading-writing skills more quickly and effectively. Finally, Nancollis (2005) presents an argument of whether or not teachers

should factor in the student's social economic background when deciding which methods to utilize to teach literacy. Etelgeorge and Barrett (2004) explore the best methods for teaching writing and Shamir and Fellah explore the best methods for teaching phonological awareness skills.

In the past many researchers have conducted studies identifying the relationships between phonological awareness abilities and their relationship to reading and spelling. Therefore, the researchers in this article sought to understand the relationship of phonological awareness and writing. In this article, the researchers conducted an experimental study that focused on the relationship between the development of phonological awareness and the development of writing in Spanish speaking kindergartners. They performed this study to see if it has parallel results with their three hypotheses. Their first hypothesis was that there is a strong relationship between phonological awareness and the level of writing development in five and six year old children. Their second hypothesis was that these children may analyze oral words in a different way when provided with solely oral stimuli than when those stimuli are accompanied by a piece of writing. The researchers' third hypothesis was that the differences in the internal structure of language must somehow influence the way children analyze oral stimuli (*Vernon & Ferreio, 1999, p. 400*).

Participants were interviewed twice, on consecutive days, for an average of twenty minutes on the premise of each school. The aim of these interviews was to select children according to their level of writing. Based on their written responses, children were classified into six different writing levels, 1-6. In this case, 1 is the most advanced writing level present, 6 is the least advanced writing level present. The writing levels include: (1) Alphabetic Writings (2) Syllabic alphabetic writings (3) Strict syllable writings with use of

pertinent letters (4) Strict syllabic writings without use of pertinent letters (5) Initial syllabic (6) Pre-syllabic writings. These groupings determined the sort of stimuli presented to each student.

The research participants were forty-four kindergartners. The mean age of the children was five years, seven months old. All of these children were monolingual Spanish speakers of lower-middle class background who attended public kindergarten in Mexico. These children had no previous readings or phonics instructions, very few reading materials were available in their classroom, and the teachers read aloud to the students infrequently. In addition, a group of eleven first graders was chosen at random from five different classrooms at a nearby public primary school. These first graders had a mean age of six years eight months old. These students were chosen during the second half of the school year after six months of reading instruction.

Participants were given two separate oral segmentation tasks that were audio recorded. The first stimuli included the researcher presenting pictures where the participant would have to name it and then segment it back to the researcher in the form of a card game. The second stimuli consisted of written words that the researcher read aloud and the participant had to point to each letter as they heard it being read. Half of the participants started with the picture task while the other half started with the written word task.

The researchers found that the way these participants dealt with oral segmentation tasks was strongly correlated with the independent variable, regardless of age. According to the findings of these researchers, there was a strong relationship between writing activities and phonological awareness tasks. The participants' answers to the oral segmentation

tasks proved to be developmentally ordered through different stages of segmentation that were strongly correlated with the student's writing level. Also the student's responses to the oral questioning tasks showed correlation with their writing levels since the students who were more advanced in writing performed better at this task. The researchers found that both writing and reading activities may help children become aware of the word structure of language.

The relationship between phonological awareness and success in reading has been presented as valid in all studied languages (*Vernon & Ferreiro, 1999, p.414*). The researchers have found a connection between the importance of phonological awareness and writing in Spanish that can also be transferred into other studied language such as English. Through this study, it was shown that phonological abilities could be trained orally as well as by writing and listening. The results of this case study indicated that there are many methods that should be utilized when teaching phonological awareness to improve the students' growth in writing and reading.

A case study by Liberman , I. Y., & Shankweiler, D. (1985) is similar to Vernon and Ferreiro's work in the aspect that it sought to understand the relationship between phonological awareness and writing. The case study sought to find the causes of difficulty as well as slow progression in the development of literacy as well as addressed two hypotheses in regarding these difficulties. The first hypothesis was that children who are failing in their literacy development may have visually perceptual problems where they are seeing the words or letters wholly or partially incorrect, such as backwards. The other hypothesis researches the literacy failure being in the phonological domain.

The article discusses that the weaknesses in the phonological systems of young readers can lead to poor reading comprehension as well as poor reading and writing skills. In order to increase phonological awareness skills, young readers need to have strong short-term memory skills. The article stated that, "... verbal short-term memory is needed for processing connected discourse, whether it is apprehended through the medium of the printed page or by speech (Liberman, I. Y., & Shankweiler, D. (1985). In order to test this, a study was set up consisting of good and poor readers in the third grade. These readers were tested for comprehension of four different orally presented relative cause structures. The children used toy animals to act out what the audiotape session asked them to. Such as "the sheep sits on the table as the giraffe chases the turtle". It was found that the poor readers consistently made more errors than the good readers. The authors went on to explain that the evidence supports the connection between poor readers difficulties in remembering the sequence of spoken word and their ability to utilize phonological structure in their own written words, readings, speech, and actions.

The mastering of specific literacy skills has proven to be helpful when young children are learning how to read and write. Erdogan (2011) conducted a study to better understand the relationship between the phonological awareness skills and writing skills of first year students at primary school. The researcher sought to better understand which skills children should have while learning reading, writing as well as which skills help children to develop reading-writing skills more quickly and effectively. This study was conducted within a preschool setting and sought to discover if there is a relationship between the phonological awareness skills that children develop in preschool period and its effect on achievement in writing in primary school first year.

Before conducting this study, the researcher determined that like the English and Finnish languages, the Turkish language also is prominently phonetic. This means that these languages are written as they are read and read as they are written. For this research, the researcher chose to use the descriptive model, which was aimed to determine the relationship between the phonological awareness skills of first year students and their writing skills.

The study group consisted of a randomly selected 126 primary school first year students- 69 males and 57 females- who were attending two state schools in the Ankara province.

The first step in this research process was to administer the writing part of the Basic Reading-Writing Skills Scale. This was applied in order to measure the writing skills of the students at the beginning of the term. At the end of this application, three students who were outside the normal distribution were kept out of the study. Then for two weeks the phonological awareness skills of the students were measured before presenting the first sound. After these observations and assessments were given, reading-writing teaching started with Sound Based Sentence Method. The Sound Based Sentence Method-SBSM (phonics approach) is the approach used in teaching phonics in Turkey. In an article investigating this method, researcher Berrin Baydik states that, "It is stated that this phonics approach facilitates learning of grapheme-phoneme correspondence rules and acquiring blending skills in languages with transparent orthographies, like Turkish" (*Bilimeri. K. (2012)*). Finally, the writing skills of the students were measured three times: in the middle of the first term, at the end of the first term and in the middle of the second term. The data obtained were analyzed using the appropriate statistical techniques.

The scale used in order to measure the writing skills of the students at the beginning of the term in the study was the writing part of “Basic Reading-Writing Skills Scale”. The scale, which was developed in 2007 to determine the basic reading-writing skills, has a reliability of 0.87. This scale is composed of 108 questions, 54 of which are for reading skills and 54 of which are for writing skills. The highest score that can be obtained from the scale is 108. The students were asked to write 5 sentences that included the letters and blends that were focused on in the previous lesson. The participants were given 1 point for each sentence they wrote correctly and 0 point for each sentence they wrote incorrectly. The highest score to be obtained from the scale was 19 (*Erdogan, 1508*). The reliability of the Writing-1 scale was KR-20=0.90, the reliability of Writing-2 scale was KR-20=0.83 and the reliability of Writing-3 scale was KR-20=0.80 (*Erdogan, 1508*). By calculating the standard deviations and averages for the writing scales used in the study, it was seen that the scores that students got from the writing levels increased from the middle of the first term to the middle of the second term. This can be explained with the fact that students learned reading and writing. According to the simple linear regression analysis related to the phonological awareness’ prediction Writing-1 level, phonological awareness is a significant predictive of Writing-1. In other words, there is a significant relationship between the phonological awareness and Writing-1 (*Erdogan, 1508*). However, there were different results for Writing-2 Level and Writing-3 level. According to the simple linear regression analysis related to the phonological awareness’ prediction Writing-2 level and Writing -3 level, phonological awareness is not a significant predictive of Writing-2 nor Writing-3. In other words, there is no significant relationship between the phonological awareness and Writing-2 or Writing-3.

The findings of the Erdogen's study indicated that the phonological awareness skill measured at the beginning of the first term had an important role in the achievements of the students in writing in the middle of the term. These scores indicated that student's progress quicker into the formal writing process at the beginning of the first term. This finding of the study was in parallel with other findings of the studies on the relationship between the phonological awareness and writing skill. Overall, as a result of this study, it was found that the phonological awareness skill measured at the beginning of the first term predicted the writing skill in the middle of the first term. Therefore this research indicates that preschool students should be given more direct phonological training so that they can progress to the writing stages more easily. Phonological awareness activities should be carried out in preschools (through rhymes, songs, etc.) as well as through instruction with students at an older age who may not be connecting the sounds correctly and/or not progressing in their writing.

There are many outlying factors that may affect a student's performance and progress in school. Nancollis (2005) chose to explore the effect of student's social economic background by researching a specific social group. He sought to find results through examining the effect of a phonological awareness intervention on the acquisition of literacy in reading and writing as well as the development of phonological awareness skills two years after the interventions. The U.S. Department of Education (2001) analysis indicated that 46% of students entering kindergarten came from family backgrounds with one or more factors that might affect their skills and knowledge. These factors included living in a single-parented household, living in poverty, having a parent with low education, as well as coming from a non-English speaking background. Students experiencing these risk factor situations have shown to perform behind their non-disadvantaged peers on both reading

and mathematics assessments. These academic difficulties that are hindering their literacy development may be associated with an early delay in language development (*Nancollis, 2005, p. 326*). This researcher identifies that there is much research supporting the concept that phonological awareness skills are strongly linked to literacy development. Therefore, the researcher sought to answer three questions. (1) Does phonological awareness intervention improve children's performance in comparison to that of children who received no intervention? (2) Does a phonological awareness intervention affect the phonological awareness and literacy skills of children from families of low Social Economic Status (SES) two years post intervention, relative to children who received no intervention? (3) Do variables such as gender and school environment influence phonological awareness intervention outcomes? (*Nancollis, 2005, p. 328*)

This study compared two groups of students (those who did and did not receive intervention) with consistent assessments measuring phonological awareness at initial assessment and phonological awareness as well as literacy and phonological awareness skills 2 years post interventions.

All student participants came from four schools in an area that had been identified by the UK government as an area of low SES. For the experimental group, 186 students were recruited in their first year of school who had received phonological awareness intervention in their summer term of their final preschool year, all spoke English as their first language, and all came from socially deprived areas. The mean age of these students was 4 years and 6 months old. A control group of 196 students was recruited in the same way in the same summer. These children attended the same schools as the experimental group, came from a socially deprived background, and had a mean age of 4 years and 7 months old. However, these students did not receive any phonological awareness interventions.

The phonological awareness intervention was carried out once a week over a 9-week period in the summer term of the student's preschool year. All interventions were carried out by the same Speech Language Therapist (SLP) researcher. The intervention program focused on syllable and onset-rime awareness. The intervention targets and skills were chosen specifically for the student's age group. Each intervention was 45 minutes long and occurred in the student's classroom. Syllable, rhyme, and initial phoneme discrimination all received equal time within each session (*Nancollis, 2005, p. 329*). The focus was directed toward the children's listening as the researcher presented stimuli. The stimuli reflected children's typical interests of this age group (toys, television, etc.) and were presented in a game fashion where students took turns to respond. During this time, the researcher collected notes on both individual and class progress. Before the interventions occurred, all of the students participating in the control group and the experimental group were assessed individually on their areas of receptive language, expressive language, receptive vocabulary, speech, and phonological awareness. Two years post interventions, the same students were reassessed in these areas as well as areas of general literacy and nonverbal cognition. Six assessments were presented to the students as a group and three were presented on an individual basis.

The major result learned from this study is that phonological awareness intervention focused on rhyme awareness, syllable segmentation, and initial phoneme discrimination had little effect on the later literacy acquisition of students from socially deprived backgrounds. However, these interventions did increase the development of rhyme awareness and nonword spelling which greatly aid children in writing words. This study indicated that researchers and teachers should consider their students' backgrounds and specific needs when deciding on literacy interventions.

Eitelgeorge and Barrett (2004) sought to understand the process of writing in order to better aid early writers in the classroom. The process of learning to write in the primary grade levels is a very developmental and strategic process. Therefore the researcher's purpose in this study was to better understand the complexities of the writing process and to specifically investigate the progressions in textual development with first grade writers. The researcher sought to answer three questions within this research; (1) What are the various conceptual understandings that interact in the writing process? (2) How are these conceptual understandings reflected in the composing process and the types of text created? (3) What textual patterns emerge as first-grade students progress in their writing development across a school year? (Eitelgeorge, Janice S; Barrett, Robin p. 20).

The researchers collaborated with a first grade classroom teacher for a yearlong program of writers' workshop. This research was a descriptive research project meaning that the researcher had no set outcome in mind besides observing the effect of better-concentrated and more frequent writers workshops. In order to see this difference, the classroom teacher implemented 20 minutes of daily writers workshop from September to December. Then the first grade teacher, along with the researcher, implemented hour-long daily workshops from January to May. The researcher and teachers chose 6 students to observe closely as their case studies. These 6 students were chosen to represent 2 of the lowest, 2 average, and 2 of the highest performing students in literacy.

This research took place at a mid-western suburban/rural elementary school building with four classrooms per grade level. This research took place within one first grade classroom consisting of 23 students (12 females and 11 males). The socio-economic mix was varied with some children coming from professional families, many mid-income earning families, some mid-sized farm families, as well as many from large trailer parks

with lower income families. The ethnicity was somewhat diverse but consisted of mainly Caucasian students, a small population of African American students and a few students of Mid-Eastern and/or Asian decent.

Before each writer's workshop, the teacher would lead a minilesson based on what she previously determined to be the students' needs and to further enhance understanding of the writing process. At times, she would utilize a book to call students attention to certain dialogue conventions and/or focus on the descriptive words that the author was using. In order to form ideas about their writing, the students were allowed to visit the classroom library and/or conference with their friends about their writing ideas. Each student had their own writing folder and each student worked at their own pace through the writing process. In order to observe and assess student-writing progress, the researcher and classroom teacher would circulate through the classroom during the hour-long block and would take notes about children's types of texts and needs for instruction on note cards. The researcher and teacher focused closely on their 6 case studies and analyzed their writing folders at 9-week intervals.

Bi-weekly forums between the researcher and the classroom teacher were held to analyze the students writing progress and specifically, the 6 case study students writing progress. The teacher and researcher focused on the following developments: alphabetic principle, spelling development, concept of word, fluency reading, vocabulary support, and textual development. The researcher found that since the start of the hour long daily writers workshops, the lower performing case students were starting to demonstrate similar characteristics in all developments that had been noticed earlier with the more advanced case students. This led the researcher and teacher to believe that determining a sequence of acquisition might inform practice and assist teachers in monitoring students' writing

development (Eitelgeorge, Janice S; Barrett, Robin p. 48). The researcher also believed that the general frequent implementation of writers' workshop has a strong effect on the students' writing development.

From this research, it seems evident that the more focused writing blocks as well as the teachers knowledge of the acquisition of writing development both seem to aid the writing process in the classroom. Teachers should identify each conceptual understanding and monitor students' progress closely among each developmental continuum. This close monitoring can lead to teachers easily scaffolding their students writing along the way. Lengthier writing blocks as well as student-selected topics can also be utilized to increase writing motivation and development.

Shamir and Fellah explore the best approaches for teaching phonological awareness skills within the classroom for varying levels of students. These researchers believed that children who are at risk for learning disabilities tend to experience difficulties with acquiring basic literacy skills such as vocabulary and phonological awareness. These difficulties can carry on into other aspects of literacy, reading and writing. The purpose of this research study was to investigate the effect of activity with an educational electronic book (e-book), as compared with adult reading of the printed version of the same book. The researcher was seeking to identify the effects on the students' vocabulary, phonological awareness as well as concept about print of preschool children at risk for learning disabilities. The researchers hypothesized that computer software designed to stimulate multiple cognitive functions can significantly contribute to the acquisition of basic emergent literacy skills by young children at risk for LD. The researchers followed the assumption that such computer programs can provide learning events focusing on the compensatory multi-sensory activities needed by students with LD (Shamir, Korat, & Fellah, 0, p. 47). The

researchers chose to use e-books as the form of technology because these books can synchronize the highlighting of text with the narrator's reading as well as appear to help children keep track of the written text, and the behavior that may promote their understanding of the connection between print and reading (Shamir, Korat, & Fellah, 0, p. 47). Numerous e-books also include optional hotspots, areas on the computer screen that can be user-activated for additional information processing. The researchers sought to answer three questions within this study; to what extent does e-book activity foster improvement in emergent literacy performance among preschoolers at risk for LD? (2) In which areas of emergent literacy— vocabulary, phonological awareness, or CAP—will the research subjects show greater improvement, and to what extent, following e-book activity? And (3) to what extent will literacy improvement vary as a function of the context to which the children are exposed (e-book activity versus reading a printed book versus no targeted reading activity)? (Shamir, Korat, & Fellah, 0, p. 49).

The researchers included three different modes in their CD- ROM storybook—"read story only", "read story with dictionary", and "read story and play"—each of which could be activated separately. These modes were chosen participant specific and the effectiveness of its instruction was then compared to the "adult read only activity" as well as the "no targeted reading activity. The study involved the participation of 110 children, 69 boys and 41 girls, aged 5-7. All participants were identified as having developmental delays placing them at risk for learning disabilities. The sample was randomly assigned to three groups: activity with the e-book, listening to the book's printed version read by an adult (reading-as-usual) and a control group.

After the selection of the participants, who all had previously acquired some preliminary experience with computers as part of the regular class curriculum, the sample

was randomly assigned to three groups. In the first intervention group children activated the e-book. In the second intervention group children heard the same story read from a printed book by an adult. In the third group (the control group) children participated in the regular kindergarten program. The control group did not receive any specific intervention. Following the different types of instruction, each student then participated individually in an antonyms subtest, a parallels subtest, a vocabulary test (which utilized 10 words seen in the text), a phonological awareness test (which asked children to segment 12 two syllable words), and a general concept of print test.

The post test vocabulary scores for the e-book group was higher than the printed book group with both having a higher score than the control group. The e-book group showed the highest improvement in vocabulary between the pre and posttest phases. When assessing the students' phonological awareness growth, only the e-book group showed improvement in their syllable segmenting assessment from pre test to post test. This research indicates that e-books are effective alternatives to basic learning experiences. The results of this study also show that preschoolers at risk for LD can learn the meaning of infrequently used as well as new words easier with e-books. The researchers credit this finding to the fact the e-books has a dictionary option that the children can access at all times. The greater improvement in phonological awareness among the children in the e-book group when compared to the control group provides evidence for the e-book's effectiveness regarding further progressing this skill. Overall, the outcomes of this research imply that work with specially designed educational e-books may be a good option or promoting vocabulary and phonological awareness for this at risk

This section detailed six studies focused on the strong relationship between phonological awareness and writing skills. While Vernon and Ferreiro's (1999) and

Lieberman and Shankweiler's (1985) case study focused on early learner's writing skills influenced by phonological awareness and Erdogan's (2011) study outlined skills children should have while learning reading and writing, both studies found correlations between phonological awareness skills and writing levels. Although Nancollis (2005) presented a more unique argument based on student's social economic status' effect on literacy, this study saw a correlation between literacy strategies and writing levels as well. The research by Eitelgeorge and Barrett as well as the research by Shamir and Fella sought to understand best methods for teaching writing as well as phonological awareness skills.

Mastering the components of writing at an early age is an important factor in improving literacy levels. There have been many case studies exploring learning disorders such as dysgraphia that hinder student writing progress, as well as on the connection between phonological awareness and writing. Most of these case studies find a strong connection between these important aspects of early learning and have presented methods on how to best aid students to improve their literacy skills. However, it is necessary that teachers assess their own students in order to discover their literacy strengths and weaknesses as well as outlying factors that could be hindering their progress. The research of Cristina Romani, Jamie Ward, and Andrew Olson (1999), found that the underlying cognitive disorder that the student, AW, in their case study was struggling with was encoding serial order. These researchers determined that investigating and understanding the underlying cognitive disorders causing dysgraphia was the best strategy to find methods of improvement. The possible methods to improve dysgraphia were explored by Engel-Yeger and Rosenblum (2010, who determined that tripod pinch strength played a large factor in handwriting legibility. Vernon and Ferreio (1999) determined that phonological awareness and its effect on early learner's writing skills was prominent and

that phonological abilities could be improved orally as well as by writing and listening. Erdogan found that mastery of phonological skills at an early age had an effect on the student's writing skills later in life. Finally, Nancollis (2005) stated that researchers and teachers should consider their students' backgrounds and specific needs when deciding on literacy interventions and found that certain aspects of these literacy interventions did improve the students skill set to become a better writer. Etelgeorge and Barrett (2004) explored the best methods to teach writing within the classroom. The findings of each of these researchers can be used to further improve writing skills and improve literacy lessons beneficial for all types of developing students.

CHAPTER THREE: Procedures

In this chapter, the procedures for this case study will be explained in detail. First, the student, James, will be described. Next, the procedures followed for this study will be detailed. Lastly, the data collection and student work samples will be used to determine the effectiveness of the individual interventions in this case study.

The sample student for this study, James, was an African American male student age 6 who attended a charter school in urban midwest. This school had a 100% population of free and reduced breakfast and lunch and strived to be a multicultural school by actively recruiting students from all racial backgrounds, especially, African American, Hispanic, and Hmong. This study began in April 2014 and continued through June 2014 lasting for a total of about 7 weeks.

James was chosen for this case study because he was behind his peers in English Language Arts and struggled deeply with writing. It was determined that James was struggling in English Language Arts due to his results of a first grade Mastery Test (assessed in the fall) created by the school and based on Common Core Standards. He scored low on the Mastery tests in all subject matters, displaying around 10% mastery of the objectives on each test, but it showed that he struggled the most with the literacy test. He was also given the Kindergarten Mastery Test in Reading, Writing, and Math where he displayed higher mastery at this level; however, he had little knowledge of matching letter sounds, recognizing letters in print, and reproducing most letters of the alphabet. When James joined my classroom in the fall, he was new to this school and displayed many different behavior issues. Often he hid under his desk, cried, threw tantrums, stared at the ground during lessons, refused to leave the classroom sometimes as well as tried to run away from

the classroom at other times. At first, the researcher believed his low skill levels were attributed to his distracting behavior, causing him to perform very poorly in class. However, after a few months of school, James was fully adjusted and acting like a model student with his behavior but his skill level still remained the same. For this reason, the researcher believed something more complex was preventing him from progressing and James was chosen as the focus for this study. The researcher wanted to determine if a learning disability was entirely hindering James' writing progression or whether his lack of phonological awareness skills factored in as well. The researcher decided to investigate these possibilities by holding strategic interventions with James for around 7 weeks.

The strategic interventions took place in an empty classroom for 20 minute segments, in the afternoon three times a week, for about seven weeks. These interventions took place during literacy centers' time where the researcher was available to work in an uninterrupted setting with James while the teacher's aide managed the rest of the classroom. Since James was easily distracted and often got too playful when working in groups, these interventions had to take place one on one to ensure his full attention.

The interventions consisted of structured lessons focused on phonological awareness and presented through various methods. The researcher also allowed for the student to use a "jumbo pencil" with a grip for one intervention per week to test its effect on the student's handwriting legibility. The researcher presented phonological lessons focused on four aspects: rhyme, isolating and categorizing sounds, blending and segmenting syllables and sounds, and lastly manipulating phonemes. Assessments were created in order to track phonological awareness and overall writing growth pre-intervention and post-intervention. (Appendix A-J). First, the student's scoring sheet from the phonological awareness section of the first grade ELA Literacy Mastery Test was used to measure

phonological awareness growth with a pre-assessment and post – assessment (Appendix I-J). A short spelling test was used at the beginning and at the end of each intervention to gauge if the student’s spelling and sounding out of words was improving (Appendix G – H). The student was also asked to write a short paragraph (two sentences) at the end of each lesson either on a topic chosen by the teacher or a student generated topic. The researcher asked the student to do this so that the researcher could identify growth in the student’s handwriting skills (Appendix A-D).

A writing survey as well as a writing rubric was created in order to track overall writing growth pre-intervention and post-intervention (Appendix A-F). The writing survey was given to James before any interventions took place (Appendix E). It consisted of opinion questions that he could answer as “true” “sometimes” and “not true”. This same writing survey was given to James post-intervention as well. Pre and post-intervention, I asked James to write more than his usual two sentences during his writing time so that I could use a rubric to rate his work. This rubric was on a 15 point scale and focused on his usage of a topic sentence, supporting details, a concluding sentence. It was also used to rate his handwriting with a section for legibility as well as comprehension (Appendix A-D).

In conclusion, James’ academic background and the procedures used for these interventions have been detailed. While creating these procedures, the research kept in mind James’ academic and social/emotional background as well as his previous written work. The researcher worked with James in a one on one setting three times a week for twenty minute interventions. The goals of the study were to improve James’ phonological awareness skills, his writing skills as well as his confidence which were assessed through an ELA Literacy Mastery Test, a rubric and a student survey post-intervention.

CHAPTER FOUR: Results

For this study's results, data collection began on April 28th, 2014. and lasted until June 7th, 2014. Throughout the seven weeks, interventions took place three times a week for twenty minute durations. In this chapter, the researcher presents the results, using both collected qualitative and quantitative data. The results will be analyzed and conclusions will be drawn about the case study of James.

The researcher felt that, in addition to his poor phonological awareness skills, his lack of confidence and motivation in the classroom may also have contributed to his poor writing skills. In order to determine James' original attitude towards writing, a survey on writing was given to him before any interventions took place (Appendix E-F). The survey consisted of 10 opinion questions that he could answer as "true" "sometimes" and "not true" and a question that asked the student what they like to write about. On James' survey, he answered 7/10 as "not true". Because of the questions in which he answered "not true", the researcher could conclude that James had low confidence in his writing skills and originally did not think writing was fun, did not enjoy writing stories or notes to people, did not like sharing his writing with others, and did not think he or his friends could read his stories. James answered 2/10 questions as "sometimes" in which the researcher could conclude that James, sometimes enjoyed writing in his free time, and sometimes experienced trouble thinking of what to write. James answered 1/10 questions as "true" in which the researcher could conclude that James found writing boring. In the space provided for James to write what he liked to write about, he originally left it blank. After collecting his survey, the researcher orally asked him what he liked to write about and he answered "my mom" so the researcher entered that information. Overall, the survey showed that James did not enjoy

writing nor did he display much confidence in his skills. This same writing survey was given to James post-intervention as well (Appendix F). This time he responded “not true” to 3/10 questions. The researcher could conclude from his “not true” answers that he still did not enjoy writing and did not think it was fun. Although he answered the straight forward questions about enjoying writing as “not true”, his other answers showed that he was starting to enjoy writing more and that his confidence in his skills was growing. He answered “sometimes” to 5/10 questions and the researcher could conclude that he only thought writing was boring sometimes, that he enjoyed writing notes to people in his free time, and that he thought he could sometimes read a story to his friends and that they could read his stories as well. Finally, he answered 2/10 questions as “true” indicating that he recognized that he had trouble thinking of what to write and also enjoyed sharing his writing with others. In the section to write what he liked to write about, he answered “my mom and my dad”. The researcher did not write it for him this time but instead sounded out the words as he wrote it. By comparing the pre-intervention writing survey to the post-intervention writing survey, the researcher could conclude that James’ confidence and enjoyment level in writing had improved.

The researcher first realized James’ poor phonological awareness and writing skills when assessing him with the ELA first grade Literacy Test created by the standards of Common Core. Three sections within this test, “short/long vowel blending”, “sight words”, and “syllables”, rely on the student’s phonological awareness to find the correct answer. The class took this test three times a year (fall, winter, spring), and these scores were used by the school / district to determine student mastery of grade level learning targets. The school determined that a score of 80% or above in the subject would count as the student achieving mastery in that subject. The three main learning targets in the section testing

phonological awareness were: #9-I can pronounce short and long vowel sounds within a word (15 points), #10- I can blend sounds to read a word (25 points), and #11- I can break a word into syllables (5 points). The researcher administered this assessment to James pre-intervention and he scored a total of 5/45 points which indicated his achievement of 11% mastery in phonological awareness (Appendix I). The area he struggled with the most was the "short / long vowel blending" in which he scored 0/15. After the seven weeks of intervention, the researcher administered this same test as the phonological awareness post-assessment (Appendix J). On the post assessment, James scored 20/45 points which indicated his achievement of 44% mastery in phonological awareness (Appendix J). He improved his scores on all three sections of the test and even tripled the number of sight words he could read from the pre-assessment. Although James did not reach the goal of 80% mastery, he did show much improvement in that his phonological awareness was growing.

Pre and post-intervention, the researcher asked James to write more than his usual two sentences during his writing time so that I could use a rubric to rate his work. This rubric was on a 15 point scale (3 points maximum per section) and focused on his usage of a topic sentence, supporting details, a concluding sentence (Appendix A-D). It was also used to rate his handwriting with a section for legibility as well as comprehension. The week before interventions began, the researcher read a story to the class called Sylvester and the Magic Pebble by William Steig. Since James seemed to enjoy listening to this story and attempted to complete the class writing assignment, the researcher decided to use this story for his pre-intervention and post-intervention writing sample. The researcher asked James to write about a scenario imagining he found a magic pebble by describing where it would be and what he would wish for and why. The researcher stated to the student that he

should include a topic sentence, three details to support what the topic sentence was about, a sentence to conclude the story, and to use his best possible handwriting. James' pre-intervention work was typical of most of his written work in class meaning it was not phonologically accurate and mainly illegible. However, he had a clear idea of what he wanted to write so when he was finished, he dictated his story to me and I wrote down in green marker what he was originally trying to write (Appendix) Based on the writing rubric, I scored James a 5/15 (Appendix B). He received a score of 0 in the areas of "Concluding sentence" and "Legibility". However, the researcher scored him a 2 in "Topic Sentence" because he did dictate one to me, a 1 in "Supporting Details" because he did write what he wished for and a 2 in "Comprehension" because he could read to the researcher what his writing meant to say. His overall score of 5/15 (33%) was very low and displayed his struggle with writing. Seven weeks later post-interventions, the researcher read the same book, Sylvester and the Magic Pebble by William Steig, to James and asked him to write about the story in the same regards as previously explained for the pre-intervention writing sample. This time, James scored a 9/15 (60%) by the standards of the researcher's rubric (Appendix D). The researcher granted him 3 points for "Topic sentence", 2 points for "Supporting details", 2 points for "Legibility" and 2 points for "Comprehension". James displayed that he now could introduce a topic, provide information about the topic, write in a legible manner, and most importantly use phonological awareness to phonetically spell his words. The post intervention writing sample displayed that James improved his writing skills and increased his overall writing sample score by 4 points.

Finally, a weekly spelling test was used to track James' growth in using phonological awareness to improve his writing skills. A weekly spelling test was administered to the class using "words of the week". However, James was a part of a small group that would focus on

certain words for a longer period of time and take a different spelling test from the class. During intervention, James and I would focus on twenty eight words of similar phonological patterns for seven weeks (about four words a week). The chosen words followed patterns of soft and hard vowel sounds with prominent double consonants. James was given a spelling test during his first week of interventions on ten words and a challenge word. The researcher was most concerned with James being able to identify the phonetic spelling patterns rather than spelling the words 100% correct. The spelling pre-test was conducted after learning the words for a week and a half with the class and indicated that James spelled 1/10 words correctly (Appendix G). The test also indicated that he was recognizing beginning letter sounds as well as some consonant sounds but experiencing difficulty putting all of the sounds together to make a phonetically accurate word. The researcher used the ten words from the spelling pre-test as 10/28 words that were focused on during interventions and administered the same test to James the last week of interventions. This time, he achieved a score of 7/10 words correct (Appendix F). By examining his spelling patterns (on correct and incorrect words) the researcher could conclude that James had improved his phonological awareness and was progressing in his spelling skills. The researcher also compared James' handwriting from the spelling pre-test to the spelling post-test and determined that his writing was more legible and followed more rules of print (writing on the line, upper case vs/ lower case, etc.).

In conclusion, chapter four disclosed the results of the pre-assessments and post-assessments administered by the researcher to collect data. Through analyzing the results of these assessments, the researcher concluded that after the seven-week intervention, his confidence and attitude towards writing improved, his phonological awareness had increased, his writing skills and handwriting had progressed, and his spelling skills were

becoming more accurate as well. The following chapter provides an explanation of the results of this study and connects them to the literature presented in Chapter 2. Chapter 5 also explores the strengths and weaknesses found within this study and recommendations for future directions.

CHAPTER 5: Conclusions

In this concluding chapter, the researcher first draws connections from this study to existing research. Then, the results of this study are further explained and the strengths and limitations of this study are recognized. Finally, the researcher utilizes the results of this study alongside research to provide future recommendations for the student, James.

Connections to Research

The research of Cristina Romani, Jamie Ward, and Andrew Olson (1999) explained dysgraphia's effects and proved the importance of researching the underlying cognitive disorders causing the disorder in order to treat it. Engel-Yeger and Rosenblum (2010) utilized the findings of Romani, Ward, and Olson's (1999) work to prove that understanding certain aspects of the disorder improved handwriting as well. In both case studies, the need for research to understand the underlying causes of dysgraphia as well as methods towards improvement were explored. The case study of James supports the research of Romani, Ward, Olson (1999) and Engel-Yeger and Rosenblum (2010). James received tri weekly individual interventions focused on specific strategies for understanding his dysgraphia and utilizing tools that may aid his handwriting. The researcher saw improvement in his handwriting legibility as well as his overall writing skills from pre-assessment to post-assessment.

The research of Vernon and Ferreiro (1999) proved that phonological awareness and its' effect on early learner's writing skills was prominent and that phonological abilities could be improved orally as well as by writing and listening. Erdogen found that mastery of phonological skills at an early age had an effect on the student's writing skills later in life.

Finally, Nancollis (2005) proved that researchers and teachers should consider their students' backgrounds and specific needs when deciding on literacy interventions and found that certain aspects of these literacy interventions did improve the students skill set to become a better writer. James' case study supports the research of all of these studies. James started first grade as a below level student with no academic history and poor phonological awareness and writing skills. As the interventions continued on phonological awareness, James' phonological awareness as well as his writing skills proved to be correlated in the way that they both improved. Nancollis' (2005) research also was supported by James' study because the researcher became more aware of the student's background when planning the interventions and was able to focus in on his phonological needs as well as on the things he generally liked to motivate him.

Explanation of Results

At the start of the study, James' overall skill level was low and far behind his other classmates. By assessing his skill level with first grade mastery tests aligned with the Common Core Standards, the researcher determined that he struggled deeply with his phonological awareness skills as well as his writing skills.

James' phonological awareness increased 33% after the seven weeks of interventions, evidenced by his score of 44% on the phonological awareness section of the ELA Literacy Mastery test (Appendix J). His general writing skills as well as his handwriting legibility also improved by 26%, evidenced by his final rubric score of 9/15 (60%) for his final writing assessment. Although his scores did not meet the 80% mastery mark, the researcher and student were still encouraged by the growth.

Through a post-intervention writing survey, James indicated that his confidence and enjoyment in writing had grown throughout the intervention period which in turn may lead him to be a more motivated writer in his future academic career. James showed growth in his overall writing skills and techniques by completing a writing post-assessment that was more focused and legible than much of his writing in the past. He displayed his growth in phonological awareness by improving his identification letter sounds and blending by scoring 60% higher on his spelling test as well as improving his ability to read words and break words into syllables. Since the writing interventions were taught utilizing strategic phonological awareness interventions, the improvement in both areas displays a positive correlation between these two aspects of literacy. Although his scores did not reach the mastery goal of 80%, his literacy improvements will help him progress near grade level as he continues his academic career.

Strengths and Limitations

The most prominent strength of this study was that the strategic lessons could be taught during individual interventions. Since the researcher had a teacher aide within the classroom, the researcher could remove James from the potentially distracting atmosphere during centers and work with him on a more purposeful level. This individual time really allowed the researcher to grasp the strengths and weaknesses of the student and discover the best methods to aid him. Another strength of this study was the parent's willingness to allow their student to participate in these interventions. James' mother was hesitant at first when I approached her about James' academic troubles. However, her openness and willingness to help and make sure James made it to school as the study progressed

motivated James to try his best and understand that the individual teacher – student lessons were important.

The most prominent limitation of this study was the lack of resources the school had to offer for this study. The school did not have many tools or activities for teaching phonological awareness to early developing (or below first grade level) learners. The school also did not have any supplies such as tripod grips or jumbo pencils to aid the students with certain motor issues. The researcher made sure to gather the necessary supplies for this study before it started, however it was difficult and expensive to find all of the right tools to best aid a student with special needs.

Recommendations for James

This study focused on improving writing through phonological awareness to reach grade level mastery learning targets as well as the standards determined by the Common Core. Common Core Standard ELA-Literacy W1.1 states students in First Grade should be able to “write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure” (2014 Web). Common Core Standard ELA Literacy R.F 1.2 which states students should be able to demonstrate understanding of spoken words, syllables, and sounds (phonemes)” (Web 2014). The recommendations in this section refer to ways in which James can continue to improve his literacy skills and master these standards.

James displayed significant improvement in the areas of phonological awareness and writing throughout the seven weeks of intervention. The researcher believes there are two main factors that have contributed to James’ literacy success. The first factor which helped James succeed was one on one learning time with the teacher. Many times, James

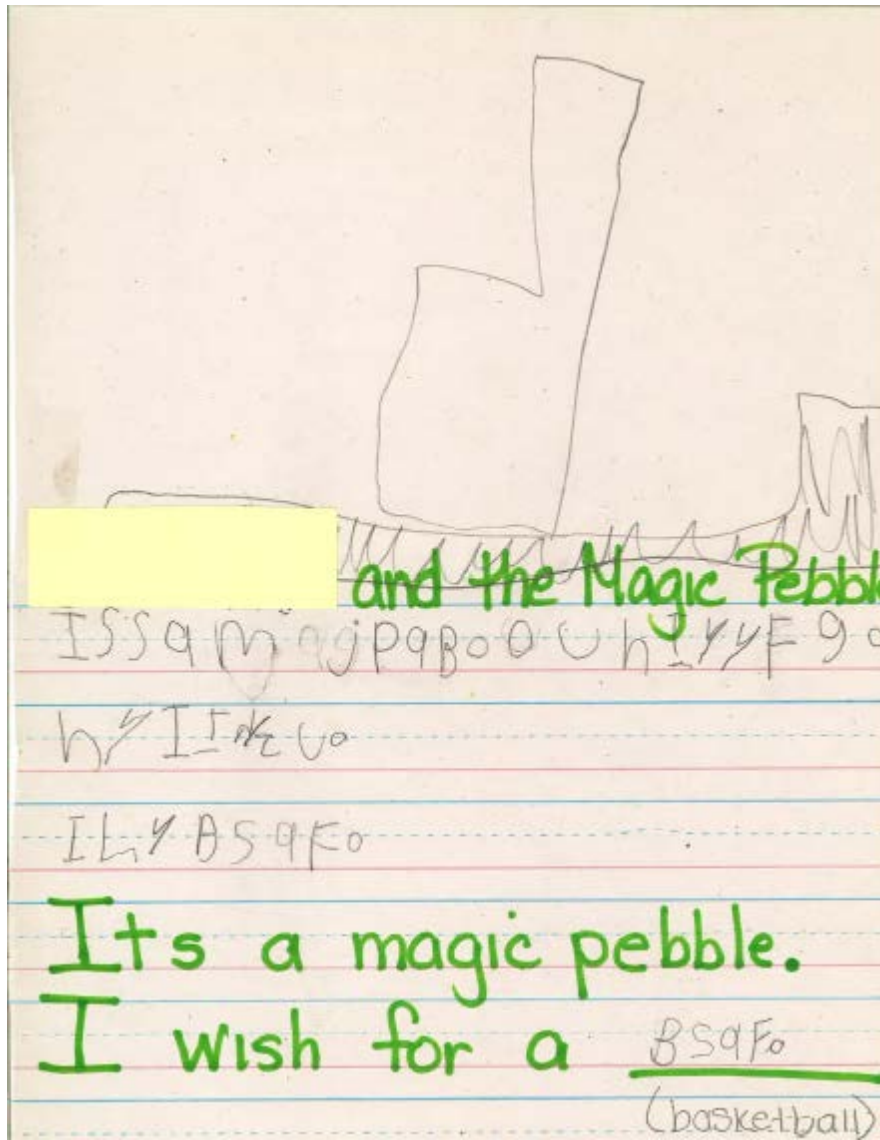
would either act up or become discouraged in the classroom when he did not want to work or felt discouraged because of his low level. The second factor was based on Nancollis' (2005) research since it had to do with the researcher utilizing the student's social interests and economic background to trigger motivation. The researcher learned that James' uncle, whom he spent a lot of time with and looked up to, was a rapper. The researcher incorporated rap and break dancing into the phonological lessons which encouraged James to be more interested and motivated.

Conclusions

Both of these factors contributed to James' success in the interventions and the researcher would recommend both of these strategies to his future teachers. It is recommended that he be involved in short tri-weekly interventions since he thrived during one-on-one time and managed to bring some of his learned focus back into the classroom setting. He also grew to enjoy literacy more through learning about it in a method he enjoyed so it is recommended that his future teacher spend time getting to know him and the best ways to motivate him. Since it is understandably difficult for teachers to find time to understand their students' strengths, weaknesses, backgrounds, and likes, it has been proven in this study that these factors play a key role in improving early learners' literacy skills.

Appendix A

Pre-Intervention Writing Sample



Appendix B

Rubric Based on Pre- Intervention Writing Sample

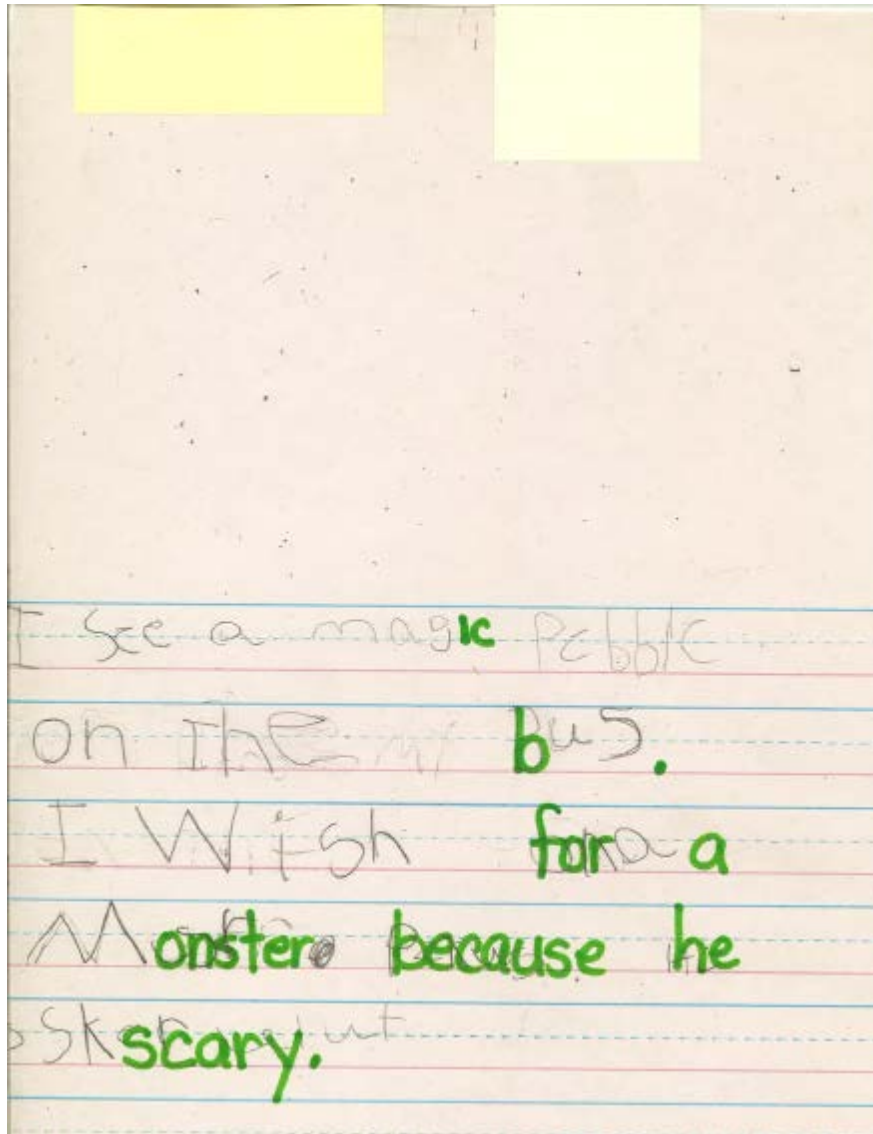
Writing Rubric

Name: [Redacted] Week: 1

	3 Points	2 Points	1 Point	0 Points
Topic Sentence	Topic sentence is written in a complete sentence. Topic sentence accurately introduces the topic.	Topic sentence is written and somewhat relates to the topic of the writing sample. <i>verbally stated</i>	Topic sentence is not written in a complete sentence and/or does not relate to the topic of the writing sample.	No topic sentence written.
Supporting Details	There are at least 3 supporting details within the story.	There is at least 2 supporting details within the story.	There is at least 1 supporting detail within the story. <i>1 wis</i>	No supporting detail is written.
Concluding Sentence	Concluding sentence is written in a complete sentence. Sentence accurately summarizes the topic.	Concluding sentence is written and somewhat relates to the topic of the writing sample.	Concluding sentence is not written in a complete sentence and/or does not relate to the topic of the writing sample.	No concluding sentence written.
Legibility	Reader does not experience difficulty reading the story and words follow general phonological standards.	Reader does not experience much difficulty reading the story and words follow some phonological standards.	Reader experiences some difficulty reading the story and words do not follow most phonological standards.	Reader experiences much difficulty reading the story and words do not follow phonological standards.
Comprehension	Student can read the story as written without difficulty to a peer audience.	Student can read the story as written with some difficulty to a peer audience.	Student can read the story as written with much difficulty to a peer audience.	Student cannot read the story as written without difficulty to a peer audience.

Total: 5/15

→ could dictate what he wrote/wanted his story to say. Followed along with his finger when dictating his story

Appendix C**Post - Intervention Writing Sample**

Appendix D

Rubric Based on Post-Intervention Writing Sample

Writing Rubric

Name: XXXXXXXXXXXX Week: 7

	3 Points	2 Points	1 Point	0 Points
Topic Sentence	Topic sentence is written in a complete sentence. Topic sentence accurately introduces the topic. <i>* Introduced topic *</i>	Topic sentence is written and somewhat relates to the topic of the writing sample.	Topic sentence is not written in a complete sentence and/or does not relate to the topic of the writing sample.	No topic sentence written.
Supporting Details	There are at least 3 supporting details within the story.	There is at least 2 supporting details within the story. <i>2 copy the story. finish mobile</i>	There is at least 1 supporting detail within the story.	No supporting detail is written.
Concluding Sentence	Concluding sentence is written in a complete sentence. Sentence accurately summarizes the topic.	Concluding sentence is written and somewhat relates to the topic of the writing sample.	Concluding sentence is not written in a complete sentence and/or does not relate to the topic of the writing sample.	No concluding sentence written.
Legibility	Reader does not experience difficulty reading the story and words follow general phonological standards.	Reader does not experience much difficulty reading the story and words follow some phonological standards.	Reader experiences some difficulty reading the story and words do not follow most phonological standards.	Reader experiences much difficulty reading the story and words do not follow phonological standards.
Comprehension	Student can read the story as written without difficulty to a peer audience.	Student can read the story as written with some difficulty to a peer audience.	Student can read the story as written with much difficulty to a peer audience.	Student cannot read the story as written without difficulty to a peer audience.

Total: _____/15

can read this story by spelling - he did not have to dictate.
still experienced some hesitation reading after marking on picture but slowly sounded out words.

Appendix E

Pre-Intervention Writing Survey

John

[Redacted]

Writing Survey

Date: 4/28/14

1. I like writing stories.

Not true sometimes true

2. Writing is boring

Not true sometimes true

3. I like to write in my free time.

Not true sometimes true

4. I like to write notes to people.

Not true sometimes true

5. I like writing.

Not true sometimes true

6. I have trouble thinking of what to write.

Not true sometimes true

7. I like to share my writing with other people.

Not true sometimes true

8. Writing is fun.

Not true sometimes true

9. I can read my stories to a friend.

Not true sometimes true


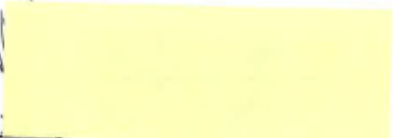
10. I think other friends can read my stories.

Not true sometimes true


I like to write about My mom

Appendix F

Post-Intervention Writing Survey

Writing Survey

Date: 6/4/14 

1. I like writing stories.

Not true sometimes true

2. Writing is boring

Not true sometimes true

3. I like to write in my free time.

Not true sometimes true

4. I like to write notes to people.

Not true sometimes true

5. I like writing.

Not true sometimes true

6. I have trouble thinking of what to write.

Not true sometimes true

7. I like to share my writing with other people.

Not true sometimes true

8. Writing is fun.

Not true sometimes true

9. I can read my stories to a friend.

Not true sometimes true

10. I think other friends can read my stories.

Not true sometimes true

I like to write about my mom and my iPad

Appendix G

Spelling Pre-Test (Pre -interventions)

Name: [REDACTED] Date: 4-28/4

Spelling Test #26

1. used used	6. Mix mixed
2. hoi hop	7. rid riding
3. mix	8. may may
4. grab grabbed	9. play playing
5. hip hopped	10. apr April
Challenge Words! 😊	
1. bees	*3*
2. because	

Appendix H

Spelling Post-Test (Post-interventions)

Name:

Date: 6/2/14

Spelling Test #26

1. Get	6. Mixed
2. hop	7. waiting writing
3. Mix	8. may
4. GrABBED	9. Plaing playing
5. hopped hopped	10. april
(7/10) U	
Challenge Words! ☺	
1. BECAUSE because	*3*
2.	

Appendix I

ELA Literacy Mastery Test (based on the Common Core standards) Phonological Awareness Section Pre-assessment

Winter 2014

7.) Read the sentence. Circle "asking" or "telling."

Where did he go?
asking telling

ELA1.8- I can identify an "asking" or "telling" sentence.

Short / Long Vowel and Blending

ELA1.9- I can pronounce short and long vowel sounds within a word.
 ELA1.10- I can blend sounds to read words.

	mastery	non-mastery		mastery	non-mastery
zan		X	hute		X
keb		X	breet		X
dit		X	plog		X
vop		X	wuff		X
nug		X	leck		X
rame		X	strime		X
bine		X	shabe		X
wope		X			

0 / 15

Sight Words

ELA1.13- I can read sight words.

the	like
I	is
and	he
to	are
in	go
you	with
for	she
it	all
out	at
on	this
how	have
be	what
had	

4 / 25

Syllables

	mastery	non-mastery
bedtime		X
run	1	X
outside		X
tighter		X
walked		X

1 / 5

ELA1.11- I can break a word into syllables.

0/15
 + 1/5
 + 4/25

 5/45 = 11%

Appendix J

ELA Literacy Mastery Test (based on the Common Core standards) Phonological Awareness Section Post-assessment

Spring 2014

7.) Read the sentence. Circle "asking" or "telling."

Where did he go?
asking telling

ELA1.8- I can identify an "asking" or "telling" sentence.

Short / Long Vowel and Blending

ELA1.9- I can pronounce short and long vowel sounds within a word.

ELA1.10- I can blend sounds to read words.

	mastery	non-mastery
zan	X	
keb		X
dif	X	
vop	X	
nug	X	
rame		X
bine		X
wope		X

	mastery	non-mastery
hute		X
breet		X
plog		X
wuff	X	
leck		X
strime		X
shabe		X

5 / 15

Sight Words

ELA1.13- I can read sight words.

the	like
I	is
and	he
to	are
in	go
you	with
for	she
it	all
out	at
on	this
how	have
be	what
had	

12 / 25

Syllables

	mastery	non-mastery
bedtime	X	
run	X	
outside	X	
tighter		X
walked		X

3 / 5

ELA1.11- I can break a word into syllables.

5/15
 + 3/15
 + 12/25
20/45
44%

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