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## The Effect of Handwriting Without Tears on Montessori Four-year-olds' Handwriting Ability

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The Effect of Handwriting Without Tears on Montessori Four-year-olds'  
Handwriting Ability

An Action Research Report  
By Shelley B. Valdez

The Effect of Handwriting Without Tears on Montessori Four-year-olds' Handwriting Ability

Submitted on November 12th, 2017

in fulfillment of final requirements for the MAED degree

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Advisor\_\_\_\_\_

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### **Abstract**

The action research question for this study was, “What effect would the addition of a program by Handwriting Without Tears (HWT) called, *Transition to Kindergarten*, in a block everyday have on the development of handwriting skills of my four-year-old students?” Beyond utilizing the HWT program, the reviewed literature on handwriting instruction expounded on six major themes: brain benefits of handwriting, blocks of handwriting instruction (speed and legibility), name writing (gross & fine motor skills), the connection between writing and reading, and phonological awareness. This project was conducted in a private Montessori school in South Florida, where six preschool participants (age four) were studied and evaluated for six weeks. Data was compiled by using a presentation log, attitude scale, and a self-generated rubric to track the following: pencil firmness on paper, directionality, letter formation, spacing, line usage, circle closure, name writing, and copying a sentence to a line. The researcher's overall results were positive when assessing handwriting attributes of formation, size, neatness, speed, posture, pencil grip and helping hand position. Future implementation of the action research project will be introduced to the entire preschool as a new addition to the handwriting curriculum.

*Keywords:* Handwriting without Tears, *Transition to Kindergarten*, brain benefits, speed and legibility, academic success, name writing, and phonological awareness.

## Introduction

Guiding young students by use of Maria Montessori's method is my life's work. The spontaneous energy observed in a four-year-old when picking up a pencil is exhilarating. Children have a sensitive period for handwriting (Lillard, 2007). Currently, the Common Core does not recognize this sensitive period, or innate desire within that a child radiates when writing their first phonemic sounds. In the last ten plus years, educational researchers have worked to identify solutions to the problem of early childhood students having difficulty with basic letter formation and writing their names. Many four-year-old students are expected to print their name and copy a full sentence including punctuation on a line before transitioning to kindergarten.

The problem I am trying to solve at my school is the four-year-old children leaving the Montessori preschool program are unable to write their name and/or copy a full sentence (uppercase and lowercase letters) including punctuation on a line. This skill-set is required as part of the learning objectives tested on the Metropolitan Readiness Assessment or MRT for kindergarten. Kindergarten teachers have informed me that lowercase handwriting skills and beginning initial sound knowledge is necessary for success when children enter kindergarten.

A Private Montessori school in South Florida, enrolling approximately 315 children aged two to the eighth grade was the location of this action research study: specifically, an early childhood classroom with ages three to five which offers a ratio of eight students to one teacher. Here, thirty children are in the classroom; 82% of these children are Caucasian, 6% are of Asian descent, 4% are of Eastern European background, 2% are African American and 6% are Hispanic. All four teachers hold a form of teacher training for ages three to six. Our classroom is a two-year cycle before moving onto an innovative kindergarten program utilizing differentiation. Classroom physical dimensions create a capacity to hold thirty-two students with

four Montessori trained guides. Each teacher works with eight children in a learning group that rotates in the following fashion: Monday: Practical Life, Tuesday: Language, Wednesday: Math, Thursday: Sensorial, and Friday: Outdoor Learning Environment. This work cycle is considered our Montessori morning work time; work cycle length is around ninety minutes.

My goal is to arrange a block of time for my action research project within our classroom. I will then be able to arrange my role of Montessori Director around this block of teaching hours. Children spend two years in this Montessori prepared classroom environment before an evaluation is conducted by use of the Metropolitan Readiness Test (MRT) for acceptance into a kindergarten classroom. The kindergarten class is not a Montessori based program. Instead, it utilizes differentiation and first-grade textbooks and workbooks. Typically, there are twelve children in a kindergarten classroom with a floating assistant. Our students are challenged in a supportive environment; our families given the opportunity to get involved on campus, and our faculty and staff are encouraged to be innovative and continually go above and beyond the call of duty.

I am hoping that the addition of *Transition to Kindergarten* by Handwriting Without Tears (HWT) will provide added initial letter sound knowledge and fine motor skill-building. I plan to look for research on the effects of the actual program by HWT. Purposefully, this action research study is to determine what effect utilizing a program by Handwriting Without Tears called *Transition to Kindergarten* in a block every day had on the development of handwriting skills of my four-year-old students.

### **Literature Review**

Graham et al. (2008), discovered that 23% of children have difficulty in handwriting, an identifiable concern. Issues of legibility, size of letter, space between, and reversals are of

interest when assessing handwriting skills (Dinehart, 2015). Evidence from research data communicated that when children write less they are more likely not to read at grade level or write at grade level. Composition still takes place, but it is not inventive. Children have to worry about rules within the English language before cultivating creativity in writing (Berninger et al., 1997; Graham, 2010; Puranik & Al Otaiba, 2012).

Current literature on educational best practices shows a variety of approaches to solving this problem through direct instruction on the skill of handwriting. An initial benefit of direct instruction is that handwriting will potentially become more and more legible (Graham, 2010). Proper letter formation is significant because it has been studied to be a contributing factor to future academic success. Growth in the skills associated with handwriting, including letter formation directionality (Lifshitz & Har-Zvi, 2015), have been related to practicing tracing letters and writing one's name. The implementation of the Handwriting Without Tears (HWT) program has proven to be effective in facilitating the development of handwriting skills (Handwriting Without Tears, 2015).

The HWT curriculum teaches students uppercase letters before lowercase letters, then clusters of letters with similar strokes or the same starting points are taught together. The HWT intervention is designed to be implemented daily (Handwriting Without Tears, 2015). When used daily, this explicit handwriting instruction has been attributed to academic success. In a three-year study conducted by HWT involving over 14,000 kindergarten students who utilized the program, the children demonstrated an improvement of 27 percent from the beginning of the academic school year (Handwriting Without Tears, 2014). This study also found that 83 percent of these students were able to demonstrate innate memory of letter placement on a line (Handwriting Without Tears, 2015).

Many traditional schools implement blocks of handwriting instruction for kindergarten aged children. Handwriting curricula, such as HWT, have been utilized in many applications like assisting the child in writing his or her name. The latest research solution came from LeBrun, McLaughlin, Derby, and McKenzie (2012) in a classroom of thirty-one early childhood students, aged three to five; some children did not know how to write initial letters and some children in the study needed to improve on letter formation. The adding of instruction through HWT resulted in growth for each student involved. The students who were performing worst with the lowest letter formation made the greatest improvements in handwriting. The researchers, LeBrun et al. (2012), were able to demonstrate that all students showed a marked improvement in handwriting using the HWT rubric by referring to the program as a “...well-developed, interactive means of teaching primary writing skills for students who are typically developing...” (p. 376). However, the researchers did find a gap in the effectiveness of HWT. This program was not beneficial to the highest learning group in that it lacked challenge as they “did not improve at the rapid rates as the two lower achieving groups” (LeBrun et al., 2012, p. 376). In fact, their findings showed the lowest handwriting group made the biggest gains. The work suggests that most young children, particularly those who are having the greatest difficulty with letter formation, soar in letter production with the use of HWT as supplemented curriculum. A similar study by Steele et al. (2015) tracked a four-year-old preschool student with developmental delays who showed improvement when asked to “write your name” after using HWT. Offering daily handwriting practice, allows young children to commit to a using a high degree and amount of cognitive functioning when forming letters (Graham, 2010). Therefore, explicit handwriting instruction needs to be conducted daily to provide this innate and automatic connection (Handwriting Without Tears, 2015).



Handwriting instruction is not just incorporated into traditional classrooms but also into Montessori learning environments. The philosophy emphasizes an innate desire of order, coordination, and independence (Montessori, 1936/1966; Montessori, 1949/1995). Montessori's pedagogical foundation came from research she did in the development of materials and exercises. Lessons promoting self-care offered an indirect preparation for holding a pencil. Maria Montessori observed that signs of handwriting development were found in infancy as she witnessed young children imitating the adult by grasping a writing utensil. In a Montessori, prepared classroom, by the age of four, children are developmentally ready and eager to begin the preparation for handwriting (Montessori 1949/1995). Letter-sound knowledge is absorbed by the fingers tracing lowercase letters; students simultaneously learn to hold a pencil using their three-finger pincer grip to control their handwriting. Children experiencing a sensitive period for writing gravitate towards lessons that involve penmanship. This purposeful movement spontaneously occurs in the preparation for handwriting. The added curriculum of HWT supports this pattern by its guided lesson plans (Handwriting Without Tears, 2015).

### **Handwriting Development**

Children enter an early childhood classroom already knowing about writing before they begin school. Yet, there is little research on handwriting before kindergarten (Dinehart, 2015; Puranik & Al Otaiba, 2012). Handwriting in preschool is typically composed of universal characteristics. Young children begin literacy work by drawing or scribbling, with space between lines offering the suggestion of handwriting. Previous studies on handwriting indicate that children in early childhood begin scribbling letter-like forms around age two. The act of scribbling acquires characteristics of writing in directions such as left to right, top to bottom, and diagonally (Dinehart, 2015; Puranik & Lonigan, 2011). An introduction to handwriting is beneficial to the

four-year-old. Puranik and Al Otaiba (2012) contributed that as students approach their kindergarten year, their handwriting skill sets have developed to writing sentence structures which lead to a composition.

The act of handwriting is kinesthetic (Hart, Fitzpatrick, & Cortesa, 2010). Independently creating letters and words by hand is an intricate skill which requires children to combine their knowledge of letter formation with fine motor skills. In the Montessori classroom, daily life skills such as strengthening the three-finger pincer grip, are imperative for the child to develop fine motor skills (Dinehart, 2015; Hoy, Egan, & Feder, 2011) and hand strength in preparation for holding a pencil (Montessori, 1936/1966) even before kindergarten (Hart et. al., 2010). Lifshitz and Har-Zvi (2015) defined pencil grip as stable yet dynamic. The wrist is placed on the writing surface to stabilize it. The fingers enable the dynamic use of the writing tools, such that it may move in the directions required for formation of a letter. The three-finger-pincer grip hold is ideal for tracing and copying letters by memory (Steele et al., 2015). When the young hand is strengthened, the child will be less frustrated in holding a pencil (Lifshitz & Har-Zvi, 2015). Children must develop “fundamental skills” (Dinehart, 2015) for handwriting, which Montessorians support by creating lessons that foster fine motor development through intensive repetition (Hoy et al., 2011). Children in pre-K develop their pencil grip by first creating scribbles, then straight lines, and finally curved lines (Steele et al., 2015). When assessing fine motor skills for handwriting there is no gold standard (Piek, Hands, & Licari, 2012), yet there are a few ways of assessing readiness for handwriting.

Dinehart (2015) conducted a systematic review of standardized handwriting readiness assessments. In this extensive study, 3000 preschool-aged participants were assessed for fine motor skills in handwriting instruction. The large participant group sets this study above others

of its kind. Supporting the statements of Maria Montessori, this study found that handwriting instruction prepares students for reading success (Dinehart, 2015).

Beyond utilizing the Handwriting Without Tears program, the reviewed literature on handwriting instruction expounded on six major themes: brain benefits of handwriting, blocks of handwriting instruction (speed and legibility), name writing (gross & fine motor skills), the connection between writing and reading, and phonological awareness.

### **Brain Benefits**

Writing is an intellectual process combined with manual dexterity. It is the ability to express thoughts with graphic symbols. Although there has been relatively little research on handwriting in early childhood, there is the support that cognitive function serves a role in handwriting instruction (Dinehart, 2015; Graham, 2010; Hoy et al., 2011; Puranik & Al Otaiba, 2012; Standing, 1998).

Students benefit from the types of handwriting interventions with a cognate focus where “students received instruction to help them think their way through letter formation and self-correction” (Hoy et al., 2011, p. 19). Overall, handwriting instruction has not only been implemented to serve as a foundation of literacy skills (sound recognition), but it also has been shown to impact neurological processes. Puranik and Al Otaiba (2012) found a connection between tracing letters with the hand and the section of the brain for memory retrieval.

Cognitive connections must occur to be a fluent writer (Dinehart, 2015). The results obtained by Graham (2010) in a national survey of first grade to third grade teachers indicated that over half admitted that handwriting is fundamental to completing a writing assignment as early as first grade. His findings argued that children who have developed letter formation can compose quicker on paper, which relates to enriched content.

Handwriting needs to be practiced for the connection to become automatic. Prepared lessons that make this possible were of particular interest to Maria Montessori when she said, “The hand has now become the instrument of the brain: and it is through the activity of his hands that he enriches his experience, and develops himself at the same time” (Standing, 1998, p. 112). Children had prepared their hand, and their mind to be then able to write.

For many years, significant effort has been devoted to the study of the efficacy of HWT for students from kindergarten to upper elementary. However, very few publications can be found in the literature that addresses the issue of writing before kindergarten. In a rare study of two preschool-aged children, with the goal of teaching these children to write their name, each student was provided handwriting instruction through Handwriting Without Tears worksheets and practice tracing letters over the teacher's yellow highlighter to form lowercase letters correctly. Results indicated that the children's letter formation in name writing improved on the criteria of “slant, size, and formation” (McBride et al., 2009, p. 22).

### **Blocks of Time**

Maria Montessori called writing a “natural phenomenon” (Montessori, 1936/1966). Since her time, the literature focuses primarily on “explicit instruction” in handwriting (Berninger et al., 1997; Graham et al., 2008). An excitement for writing, “recurs annually in a well-functioning Montessori Primary classroom when the first 4-year-old suddenly realizes, after months of working with the preparatory materials, that he or she can write” (Lillard, 2007 p. 198). Research suggests blocks of handwriting instruction result in positive outcomes and academic success (Berninger et al., 1997). Handwriting is a “sequential process” (Puranik & Lonigan, 2011) which is supported by frequent practice in a Montessori classroom. Hoy et. al. (2011) advocated for ample handwriting practice, specifically occurring bi-weekly for twenty

minutes each session. In addition to group instruction, Hart et al. (2010) suggested that individual instructional time is also beneficial within handwriting practice to promote independence. Graham (2010) proposed that daily instruction in handwriting could lead to quality of writing. Offering daily handwriting practice allows for the processes to be less taxing on thought processes and more innately driven, enabling children to devote a higher amount of neurological resources to use for letter formation. Dinehart (2015) explored differentiated writing experiences and instructing on explicit handwriting instruction to innately cultivate the internal automatic letter formation that will then make room for the brain to gather complex composing skills. As students practice the skill of handwriting, they are able to sustain attention for longer periods of time. The lengthened concentration models order, coordination, and independence.

### **Handwriting Instruction and Academic Success**

The current literature on handwriting abounds with examples to support future academic performance and success (Berninger et al., 1997, Hart et al., 2010, Hoy et al., 2011). Dinehart (2015) concludes, “The extent to which these factors are applicable to children before they enter formal schooling is unclear, but recent work suggests that the influence of handwriting on later academic performance may have some of its roots in the years before children enter school” (p. 102). In the Montessori classroom, academic success begins in the practical life area with activities involving tweezing, tonging, and transferring from left to right. Not only do these lessons indirectly promote left to right tracking, but they also strengthen the three-finger pincer grip in preparation of holding a pencil. Practical life work prepares for handwriting instruction, which in turn leads to literacy in early childhood. Handwriting instructional methods are used with explicit instruction by definition. Many studies have demonstrated that handwriting

interventions involving teacher modeling succeed in improving handwriting skills in children while promoting future academic success, especially in composition (Berninger et al., 1997).

In a study, close to 700 children in first grade were screened to determine which children were at risk for handwriting issues (Berninger et al., 1997). From the study, 144 students in first grade, 103 boys, and 41 girls, were found to be at risk when assessed in speed and legibility when recalling from memory. The children met three times a week for 20 minutes each session for a total of 24 sessions. “Converging evidence across multiple measures showed that combining numbered arrows and memory retrieval was the most effective treatment for improving both handwriting and compositional fluency comprising with time limits” (Berninger et al., 1997). The idea is that when the memory is sparked in writing letters, it is innately driven to “creation of retrieval routines” (Berninger et al., 1997, p. 654). An example of a retrieval routine is the teacher guiding the children to “think their way through letter formation and self-correction” (Hoy et al., 2011, p. 19). Other instructional approaches include motoric imitation, visual cues, memory retrieval, visual cues and memory, and copying. The research suggests the duality of visual cues and memory serving as a positive relationship when children assessed for handwriting success. The memory and visual cue retrieval tactic showed academic success on fluency of words (Berninger et al., 1997) contributing to composition.

Writing from memory and fluency of writing are crucial to composition and creative writing. Several publications have appeared in recent years suggesting the terms “speed” (Julius, Meir, Shechter-Nissim, & Adi-Japha, 2016) and “legibility” (Graham, 2010) to define quality handwriting (Dinehart, 2015; Hoy et al., 2011). As reported by Graham (2010), quality letter formation is necessary for the brain to focus more on comprehension versus letter direction. A young mind is beaming with ideas to articulate through written text. A hindrance to self-esteem

and productivity is when a child has to first think about letter orientation, printing of letters followed by remembering what the story is trying to convey to the reader. Graham (2008) relates that the confidence to perform as a creative writer is taken over by how to construct letter formations. In fact, Kohn (2000) found that students who turn in a legible essay on the standardized test have a better chance of attaining a higher grade. If handwriting is legible, the students will be more successful in postsecondary education as notes are being taken during lecture only to read them later for study (Dinehart, 2015; Graham, 2010).

### **Writing One's Own Name**

One of the most important aspects of handwriting for young writers is developing the skill of writing one's name. Puranik and Lonigan (2011) conducted a study among 372 three to four-year-old children in Florida. They found children naturally gravitated toward their name in print visually because it is attractive to them and, therefore, use it to practice the symbol and conventions of writing. "Children's knowledge about their names at 3 and 4 years of age extends beyond the universal characteristics of all language systems to include specific shapes of letters" (Puranik & Lonigan, 2011, p. 581). The research study suggests that practice writing one's name may be an enticing way for students to engage in handwriting practice.

### **Writing in Early Childhood Leads to Reading**

Montessori (1936/1966) discovered that children discover writing before reading; writing naturally precedes reading. As handwriting develops, children with healthy and confident fine motor skills do better not only in composition but also in reading assessments as late as age eleven (Dinehart, 2015). Writing by hand not only teaches letter formation but aids in sound-letter correspondences, a skill necessary for decoding in reading (Puranik & Lonigan, 2011; Puranik & Al Otaiba, 2012; Wolf, 2016).

### **Phonological Awareness**

Letter writing skills are naturally a part of early childhood development (Puranik & Al Otaiba, 2012). Guided practice, where the teacher models the connection between letters and sounds, develops phonological awareness (Berninger et al., 1997). Handwriting before kindergarten results in letter-name recognition. Puranik and Al Otaiba, (2012) found that “Being able to spell words is a major step in the writing process where children demonstrate knowledge of phonological awareness skills and knowledge of letters and letter-sound correspondences to mimic conventional writing” (p. 1525). The research demonstrated the feasibility of innate connection with letter-sound knowledge or “cognitive focus” (Hoy et al., 2011, p. 19).

“Alphabet knowledge” (Jones, Clark, & Reutzel, 2013) or letter-name knowledge is the “most durable” indicator of future academic achievement in literacy. It is recommended that pairing a letter’s name with its respective sound leads to academic success (Berninger et al., 1997).

### **Conclusion**

The addition of handwriting instruction among four-year-olds offers a guideline for the best practices for students in pre-Kindergarten. Given the importance of handwriting for developing students’ writing and reading skills, there is little research on how to best support preschool-aged students in this area. Handwriting Without Tears has been established as a program that has resulted in student growth in letter formation, yet it has not been studied enough in early childhood learning environments and has not been studied in Montessori classrooms. Given the necessity of handwriting instruction for student outcomes, additional research on the implementation HWT in a Montessori classroom could offer a framework for teachers for how to best add a curriculum to instruct using quality handwriting instruction. The



literature review could serve as future improvements of Montessori teacher training in preparation for children going to kindergarten.

The key to an authentic Montessori language arts curriculum is the quality of the materials a teacher provides for children's introduction to writing. This sensitive period for language acquisition innately guides the children to investigate their environment. Children are attracted to handwriting, such as how to make the letters, the order in sounds represented by letters, and the order that follows with phonological awareness instruction is the ability to hear and identify, individual sounds-phonemes in spoken words. Thus, it is a natural conclusion that HWT may be an instinctive way to supplement the Montessori curriculum in the kindergarten year to support students' growth in handwriting. Again, the literature provides support for a potentially successful handwriting implementation for teaching students age four. Proving the importance of handwriting instruction for four-year-old's could offer an opportunity for teachers on how to best supplement the curriculum to provide quality handwriting instruction.

### **Methodology**

Over the past four years, I observed my students falling behind on literacy skills, particularly those of writing initial letters, name writing, and copying a sentence onto a line. I am often asked, "Miss Shelley, how do I make a(n) [insert letter]?" I feel there is a learning gap and the kindergarten teachers have informed me that lowercase handwriting skills and beginning initial sound knowledge are necessary for success when children enter kindergarten. Therefore, the problem I am trying to solve is the four-year-old children leaving the Montessori preschool are unable to write their name and/or copy a full sentence (uppercase and lowercase letters) including punctuation on a line. This skill-set is required as part of the learning objectives these on the Metropolitan Readiness Assessment or MRT for Kindergarten.

The methodology for my study focused on differentiated instruction utilizing HWT. Every day, during the morning work time, I provided explicit handwriting instruction from the HWT *Transition to Kindergarten* curriculum to my six students in blocks of 20 minutes. I pulled all six children for twenty minutes each morning for explicit instruction. I collected data for six weeks from September 4<sup>th</sup> to October 13<sup>th</sup>, 2017. Daily handwriting instruction was modeled on a chalkboard using verbiage from the HWT lesson plan, to my group of six students and individually within the following four skill-sets:

- 1) Imitation (Demonstration)
- 2) Copying a Sentence
- 3) Independent Writing (Journal Artifact Collection)
- 4) Name Writing

It is normal classroom practice for my students to practice writing their name and copying a sentence onto a line one day a week while in the language area. This study added the HWT curriculum inviting children to handwriting instruction and independent writing time.

My first form of data was an anecdotal tool collection by self-generated Presentation Log and Reflection Journal [Appendix A]. I utilized the Presentation Log and Reflection Journal as a way to track what I am teaching each day. The data tool collection was also used for logging any events/situations that may have an effect on my action research study; to see if any factor could impact a child's ability or progress. I reflected on questions like the following:

1. Did I have to repeat lessons?
2. How did the children respond to the lessons?
3. Did anything outside of the norm affect the lessons?

My second data collection was in the form of an artifact collection of samples of CVC (consonant-vowel-consonant) written work in the student journals and/or other normal classroom work. Student journal work is a part of the students' normal classroom routine and work samples were given by use of the Handwriting Without Tears journal pages for the purpose of this study. Student journal work was scored according to the Printing Concerns Checklist [Appendix B] from HWT. Every Tuesday of my action research project I collected written work demonstrating CVC knowledge for the purpose of handwriting analysis. To keep student identity confidential, I did not include the student name, but instead a color word. Also, I used a 1-4 scale as follows:

1 = Does not meet

2 = Approaches

3 = Meets

4 = Exceeds

This number system is more quantifiable and correlates better with my other data collection tools. The purpose of this data was to see if the work during the HWT intervention is carried into their normal classroom work. Baseline data was collected (the first day of the study) using data tools number two [Appendix B], three [Appendix C] and four [Appendix D] described below. All data tools were used again at the end (concluding data) during the study.

The third form of data collection tool was an assessment of "write your name" and "copy a full sentence to a line". As a part of our normal classroom work, students were asked weekly to write their name and copy a sentence on a line. For the purposes of this project, students were provided a HWT journal in which to complete these tasks. Samples of these writing tasks were collected weekly (Monday) and used for analysis. These journal samples were then evaluated

against the rubric I created and titled, “Handwriting-Pre-K-Assessment: Writing Name & Sentence Rubric”, [Appendix C].

A fourth form of data tool collection was implementing a Student Attitude Scale [Appendix D], a quantitative data collection that used closed-ended self-assessment. The inquiry form was a visual scale presented to my students on the iPad (point of interest). Three choices were offered in “thumbs.” The first option is a “thumbs-up” with the word, “Yes”; the second is a “thumb-sideways” with the words “in between” and the third is a “thumbs-down” showing the word, “No.”

My students were given the opportunity to share their feelings about their handwriting, both at the beginning of my action research (for baseline data) and again at the end. I read the questions to the students. This feedback form allowed my four-year-old students to communicate how they felt about their own handwriting.

My fifth data collection tool was using the HWT workbook/work/writing that is produced as a part of the HWT lessons and project interventions. This was then collected weekly and scored with the Printing Concerns Checklist [Appendix B] by HWT. I did not include the student name, but instead a color word. Instead of the checkmark suggestion, I used a 1-4 scale as follows; this number system is more quantifiable and correlated better with my other data collection tools:

1= Does not meet

2 = Approaches

3 = Meets

4 = Exceeds

### **Analysis of Data**

While the purpose of this study was to improve the handprint of writing one's name and copying a sentence to a line, it is important to note the action research project was conducted in a two-year Montessori cycle, ages three to five, prepared environment. Not all calendar weeks were five consistent days due to Hurricane Irma in South Florida. The school was closed by our Head of School for one day and by Florida's Governor Rick Scott for six days. The Labor Day holiday and Rosh Hashanah holiday took away two of our school days; resulting in a total of nine missed days of data collection.

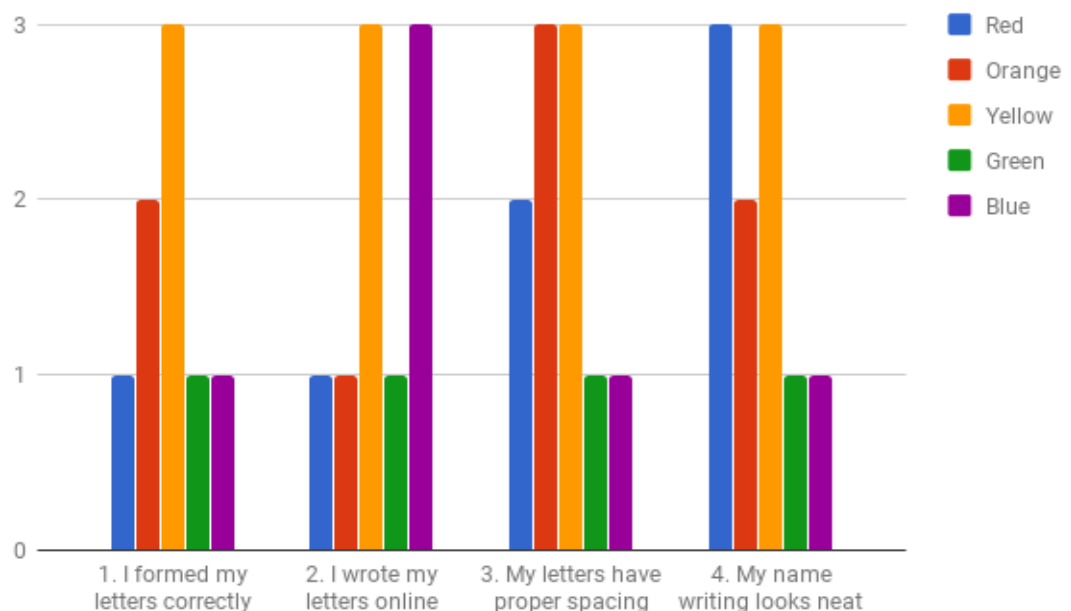
The classroom was not an authentically Montessori multi-aged classroom. Instead, the majority of children were age three which indirectly caused an unfavorable indoor work environment that presented a shift of my participating student's (age four to five) work cycles. Day two of my data collection I committed to conducting my action research project in our outdoor learning space which indirectly created an environment for some of the lessons being longer than the twenty minutes initially anticipated.

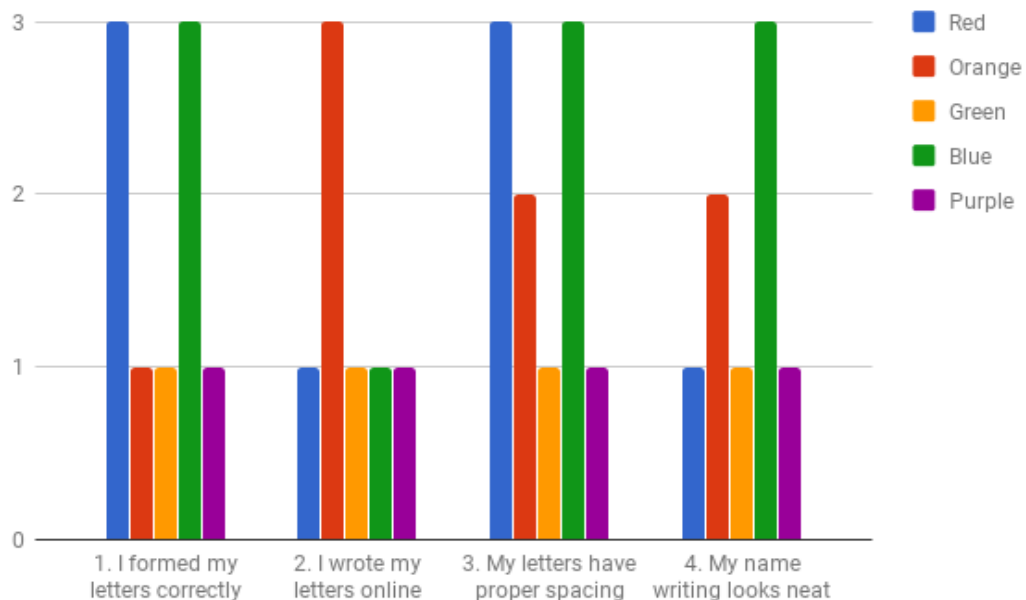
The overall results of this action research project study were positive! Qualitative data from the Attitude Scale [Appendix D] taken at the beginning and again at the end were coded by a number. I used number one to represent a "thumbs up"; number two to represent "in between" and number three to represent "thumbs down". Below is my tally sheet with a color word for each child in the study. Please note that if there is no number of data to show, that means the child was absent during the data collection.

Beginning of Project (8/28)	Students					
	Red	Orange	Yellow	Green	Blue	Purple
1. I formed my letters correctly	1	2	3	1	1	
2. I wrote my letters online	1	1	3	1	3	
3. My letters have proper spacing	2	3	3	1	1	
4. My name writing looks neat	3	2	3	1	1	
End of Project (10/13)	Students					
	Red	Orange	Yellow	Green	Blue	Purple
1. I formed my letters correctly	3	1		1	3	1
2. I wrote my letters online	1	3		1	1	1
3. My letters have proper spacing	3	2		1	3	1
4. My name writing looks neat	1	2		1	3	1

Here is my column chart to show the Attitude Scale [Appendix D] at the beginning of my action research project with my six participating students. My student coded the color Purple was not at school for this assessment. At the end of my six-week action research project, I repeated the Attitude Scale with the children. Below is another column chart to reflect the last week results. My student color code Yellow was not at school for this assessment. In the end, the results indicate that overall the children were in positive agreement that their letters were formed correctly, written on a line, modeled proper spacing, and they thought their writing looked neat.

**Beginning of Action Research Project:**



**End of Action Research Project:**

A Presentation Log and Reflection Journal, an anecdotal tool, shows that students were engaged in writing for a longer length of time after the inclusion of HWT strategies during the mini-lesson. During this uninterrupted research time frame, students were engaged in the smaller group instruction, while sitting in our outdoor learning environment. A handwriting lesson was presented and logged into the Presentation Journal [Appendix A] to track what lesson was presented each day. I also noted how long the students were engaged after my presentation. Students were found to work with concentration longer than the originally planned twenty minutes. The longest work cycle time was 43 minutes. During the smaller group lessons, the students would chat among themselves while enjoying the wonders of the outdoor environment. Students lengthened their writing time when there were no interruptions of a special such as physical education or rehearsals for our Peace Program. My students were able to write for longer lengths of time when they were given time to work on their writing, after my instructional lesson. Several students inquired if they could work on their HWT workbook during afternoon work time. One student consistently asked to work on the HWT workbook during rest.

When looking at the qualitative data collection tool used in the assessment, “write your name” and “copy a full sentence to a line,” the results were expected and yet a bit surprising considering the nine days the school was closed resulting in missed data collection days. For the purpose of this action research project and as a part of our classroom, students were provided a journal in which to complete the two writing tasks. Students were asked weekly to write their name and copy a sentence onto a line; I collected the data from this normal classroom work. The students used the HWT journal, and I took samples each week to be used for analysis. The journal samples were used against my self-generated rubric called “Handwriting Pre-K Assessment: Writing Name & Sentence Rubric” [Appendix C]. The categories and questions were arranged on my rubric to address attributes within handwriting, especially aims to address each of the following skill sets: Paper/Pencil; Directionality; Letter Formation; Spacing; Line Usage; Circle Closure; Name Writing; and Copy Sentence to a Line. My hope was there would be an improvement in handwriting when my students were asked to write their name and copy a sentence to a line. The self-generated rubric allowed me to analyze whether the implementation of my methodology (HWT) correlates with an improvement of handwriting in my classroom.

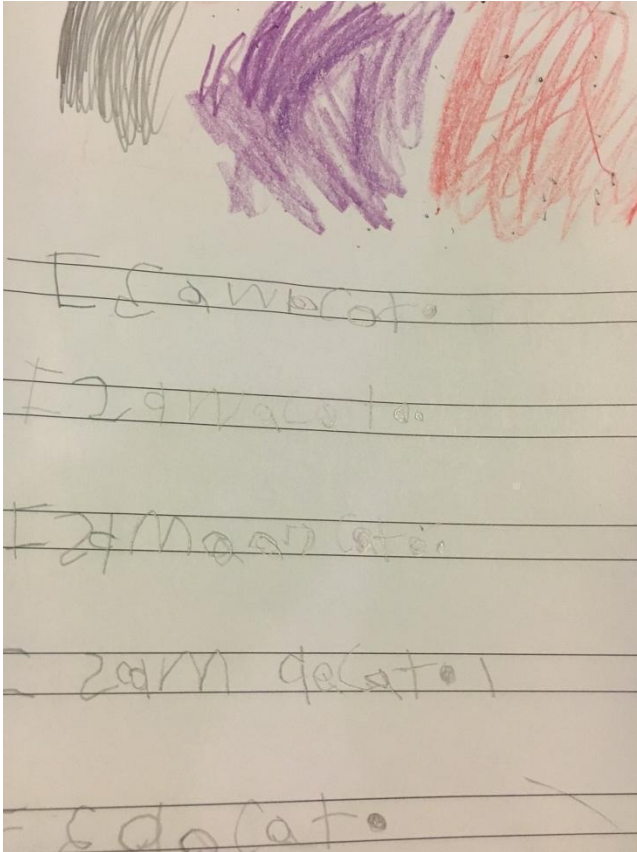
When assessing my student’s work, I specifically utilized the following:

- 1) Position/Pencil/Paper: Does the student model the three-finger pincer grip?
- 2) Directionality: Does the student begin and end letters at correct beginning points?
- 3) Letter Formation: Are the letters from top to bottom?
- 4) Spacing: Does the student demonstrate spacing between letter formations?
- 5) Line Usage: Does the student use the provided line in their journal?
- 6) Circle Closure: Do circles close in the letter formation?
- 7) Name Writing: Are the letter formation lines horizontal, diagonal and vertical straight?

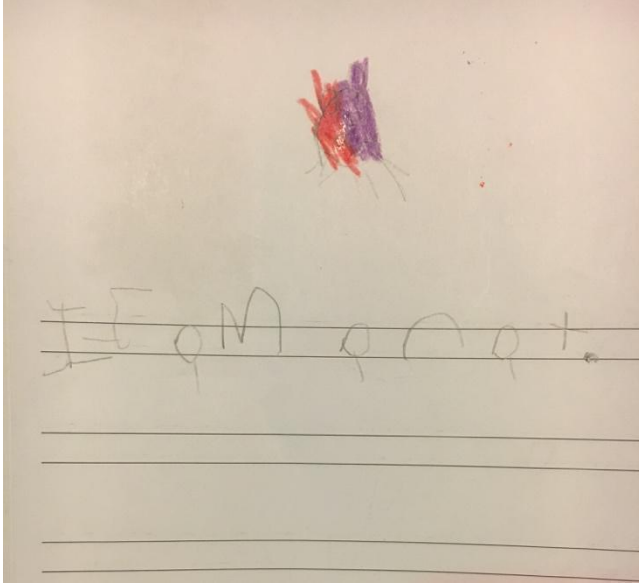


8) Copy a Sentence to a Line: Do the students copy the sentence to a line? Is there punctuation?

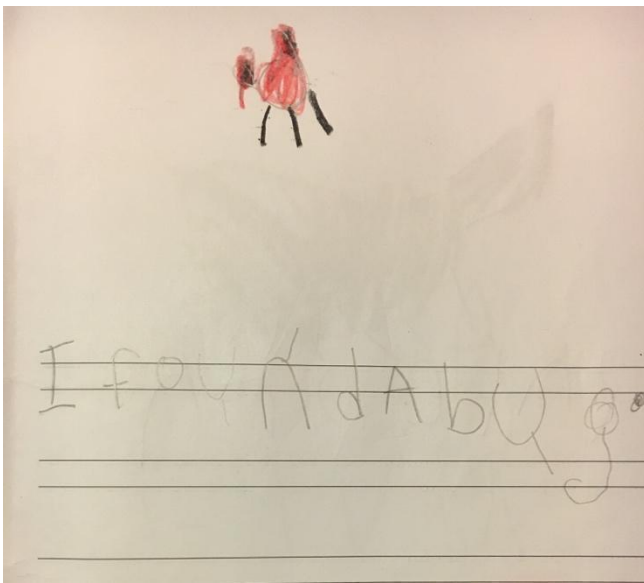
I took three photos to show work samples of “copy a sentence on a line” from week four of my action research study. Each child was given a sentence to copy; it was optional to add an illustration. I chose work samples from these three-color codes of student: Orange, Green and Blue.



“I saw a cat”.



"I am a rat".



"I found a bug".

The inference to be drawn from this is that when looking at week four, the first full week of school since Hurricane Irma, the children were detailed in neatness and letter formations. The x and y line graph below for the six children representing a trend of improvement for line usage, circle closure, and name writing persuades me to believe that the children were settling into the weeks after Hurricane Irma. Again, when this data collection was gathered, the children had already missed a total of nine days of school. Week four is significant because it is only the

second full week of school since the first day of school. See the x and y line graph summaries of averages below for each student. Again, I used a color word to represent each of my six students. Name writing was consistently higher than the other averages leading to believe that there was an improvement over the six-week intervention. The scale is as follows:

2.5 = Does not meet

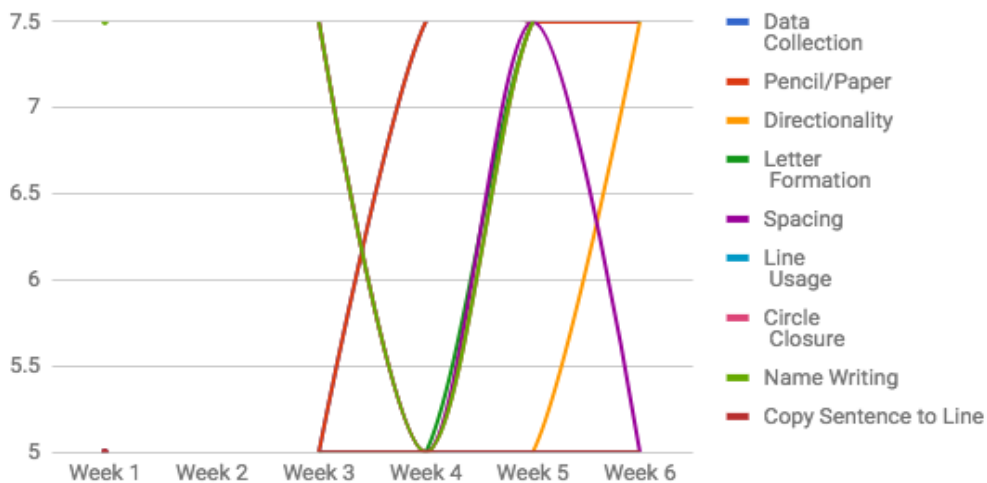
5 = Approaches

7.5 = Meets

10 = Exceeds

**RED:**

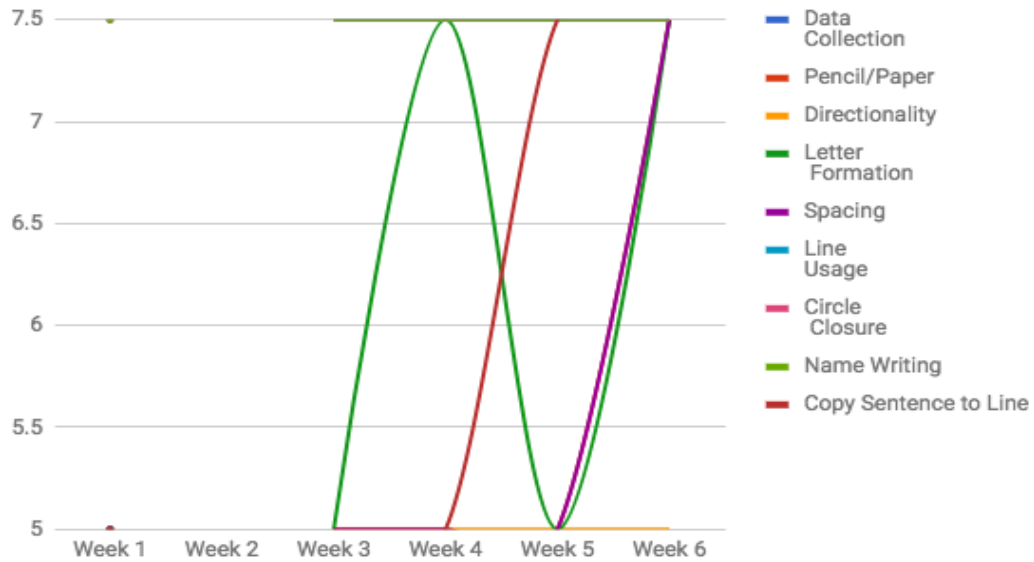
RED Student									
TEST	Data Collection	Pencil/Paper	Directionality	Letter Formation	Spacing	Line Usage	Circle Closure	Name Writing	Copy Sentence to Line
Week 1	5	5	5	5	5	5	5	7.5	5
Week 2									
Week 3	5	5	5	5	7.5	5	7.5	7.5	5
Week 4	7.5	7.5	5	5	5	5	5	5	5
Week 5	7.5	7.5	5	7.5	7.5	5	7.5	7.5	5
Week 6	7.5	7.5	7.5	7.5	5	5	7.5	7.5	5





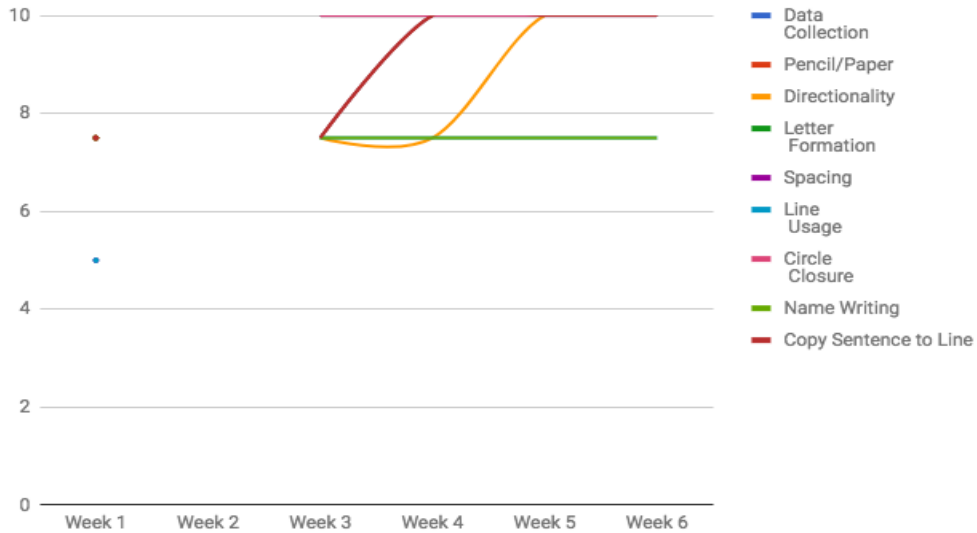
**YELLOW:**

YELLOW Student									
TEST	Data Collection	Pencil/Paper	Directionality	Letter Formation	Spacing	Line Usage	Circle Closure	Name Writing	Copy Sentence to Line
Week 1									
Week 2									
Week 3	5	5	5	5	5	7.5	7.5	7.5	5
Week 4	7.5	5	7.5	5	7.5	5	7.5	7.5	7.5
Week 5	7.5	7.5	5	5	5	7.5	7.5	7.5	5
Week 6	7.5	7.5	7.5	7.5	5	7.5	7.5	7.5	5



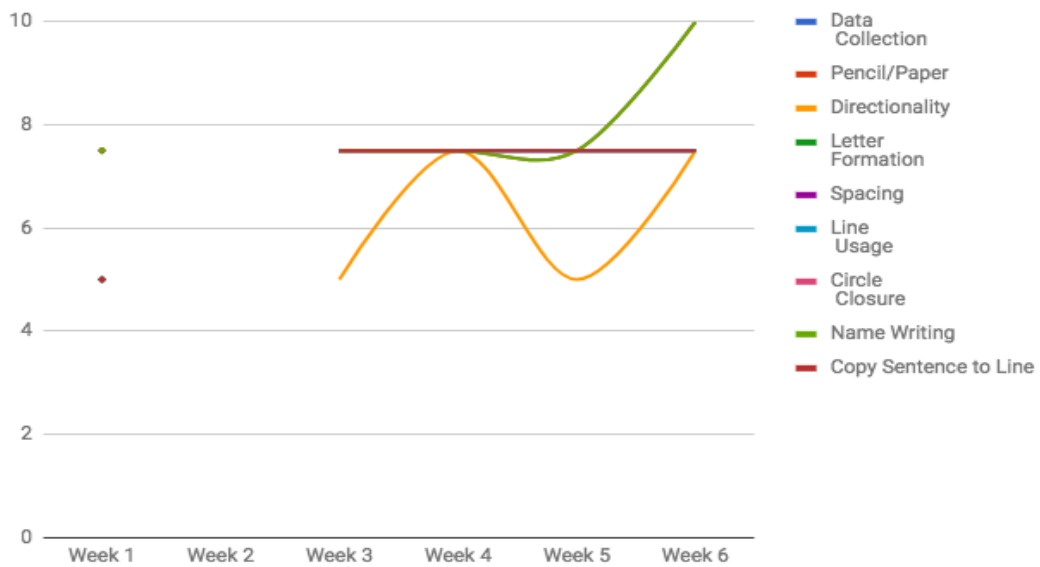
**GREEN:**

GREEN Student									
TEST	Data Collection	Pencil/Paper	Directionality	Letter Formation	Spacing	Line Usage	Circle Closure	Name Writing	Copy Sentence to Line
Week 1	7.5	7.5	7.5	7.5	5	5	7.5	7.5	7.5
Week 2									
Week 3	7.5	7.5	7.5	10	10	7.5	10	7.5	7.5
Week 4	10	10	7.5	10	10	7.5	10	7.5	10
Week 5	10	10	10	10	10	7.5	10	7.5	10
Week 6	10	10	10	10	10	7.5	10	7.5	10



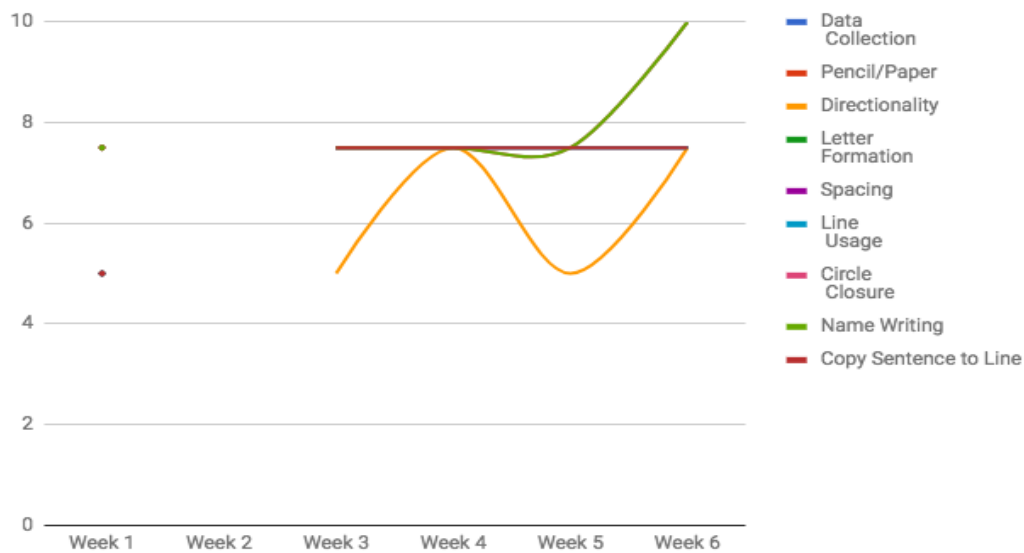
**BLUE:**

BLUE Student									
TEST	Data Collection	Pencil/Paper	Directionality	Letter Formation	Spacing	Line Usage	Circle Closure	Name Writing	Copy Sentence to Line
Week 1	7.5	7.5	5	5	5	5	7.5	7.5	5
Week 2									
Week 3	7.5	7.5	5	7.5	7.5	7.5	7.5	7.5	7.5
Week 4	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
Week 5	7.5	7.5	5	7.5	7.5	7.5	7.5	7.5	7.5
Week 6	7.5	7.5	7.5	7.5	7.5	7.5	10	10	7.5



**PURPLE:**

PURPLE Student									
TEST	Data Collection	Pencil/Paper	Directionality	Letter Formation	Spacing	Line Usage	Circle Closure	Name Writing	Copy Sentence to Line
Week 1									
Week 2									
Week 3	7.5	7.5	7.5	7.5	5	7.5	7.5	7.5	7.5
Week 4	7.5	7.5	7.5	7.5	5	7.5	7.5	7.5	5
Week 5	7.5	7.5	7.5	7.5	5	7.5	7.5	7.5	5
Week 6									



Every Tuesday of my action research project I collected written work demonstrating CVC knowledge for the purpose of handwriting analysis. A quantifiable number system was used as it correlates better and compliments my other data collection tools. The purpose of this data is to see if the work during the HWT intervention is carried into their normal classroom work.

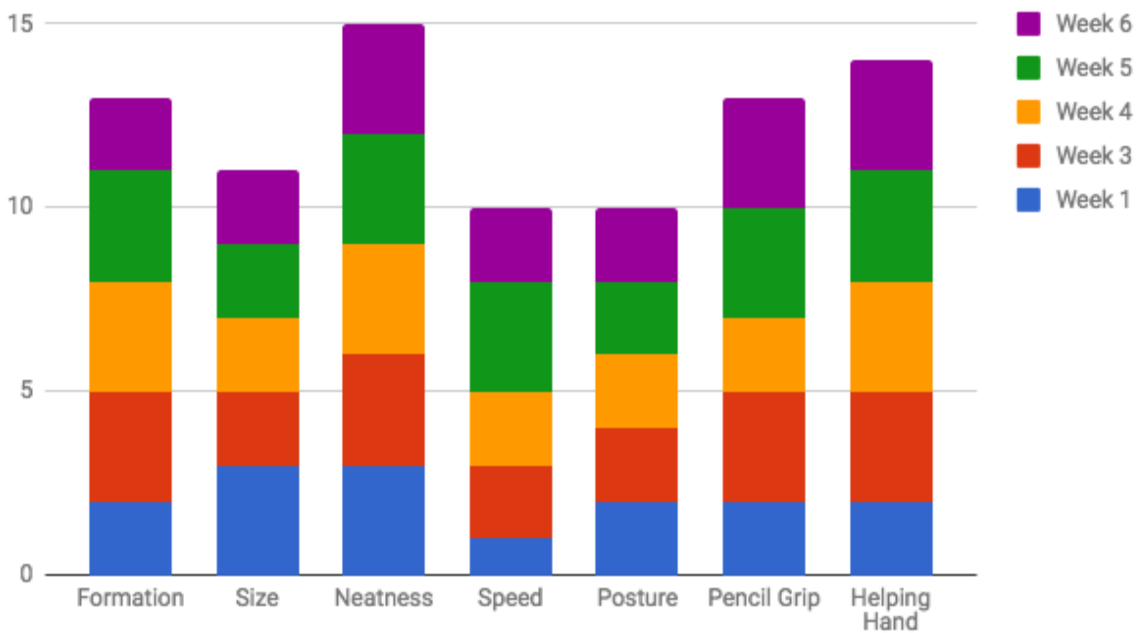
To answer question whether or not this implementation was successful is seen in week six of the x and y line graph. An implication being that children improved in neatness, formation and pencil grip. This again suggests that children were settling into a school routine after being



away for Hurricane Irma, Labor Day and Rosh Hashanah holiday. When comparing week one scores and week six scores, it noticeably shows that students grew in handwriting knowledge; the children really seemed to enjoy their journals! Below are the handwriting intervention results.

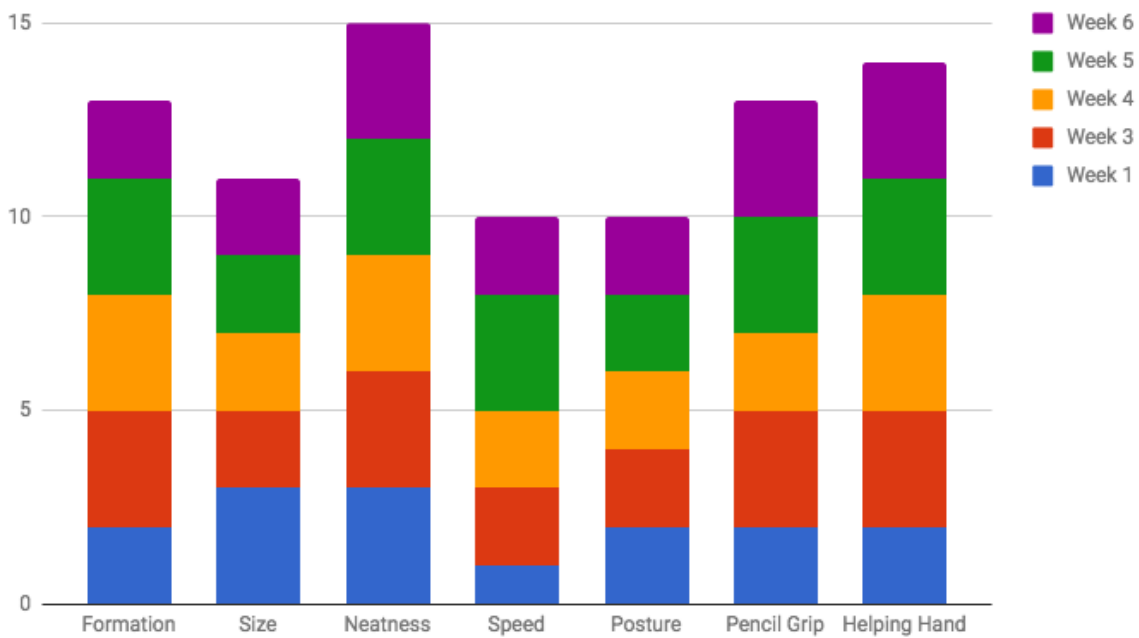
**Red Student:**

Week 1, Week 3, Week 4, Week 5 and Week 6



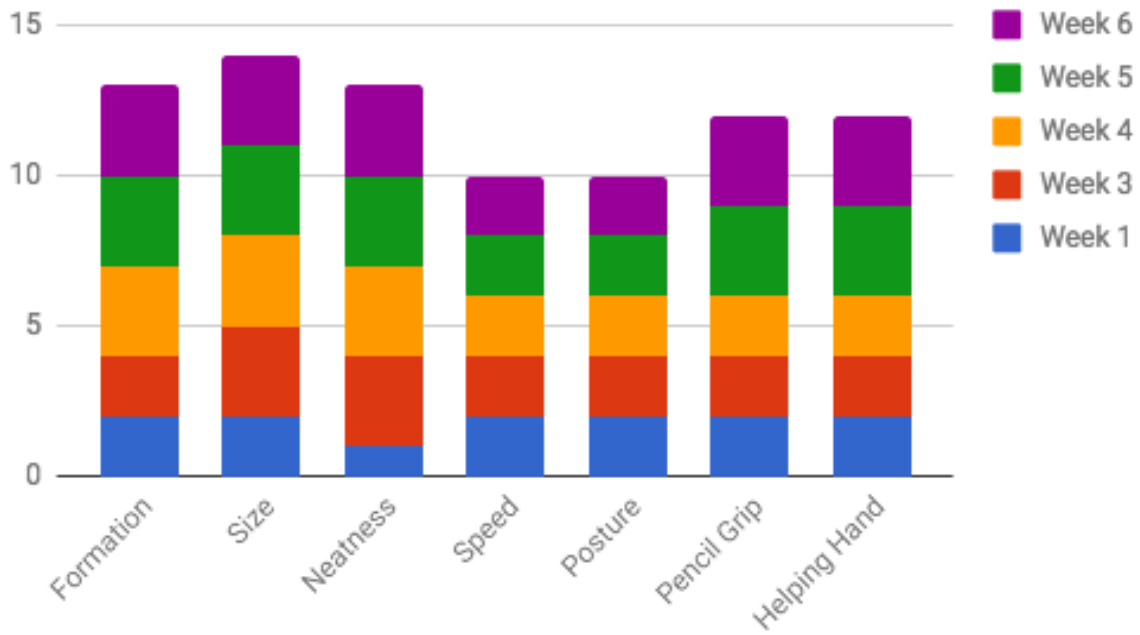
**Orange Student:**

Week 1, Week 3, Week 4, Week 5 and Week 6



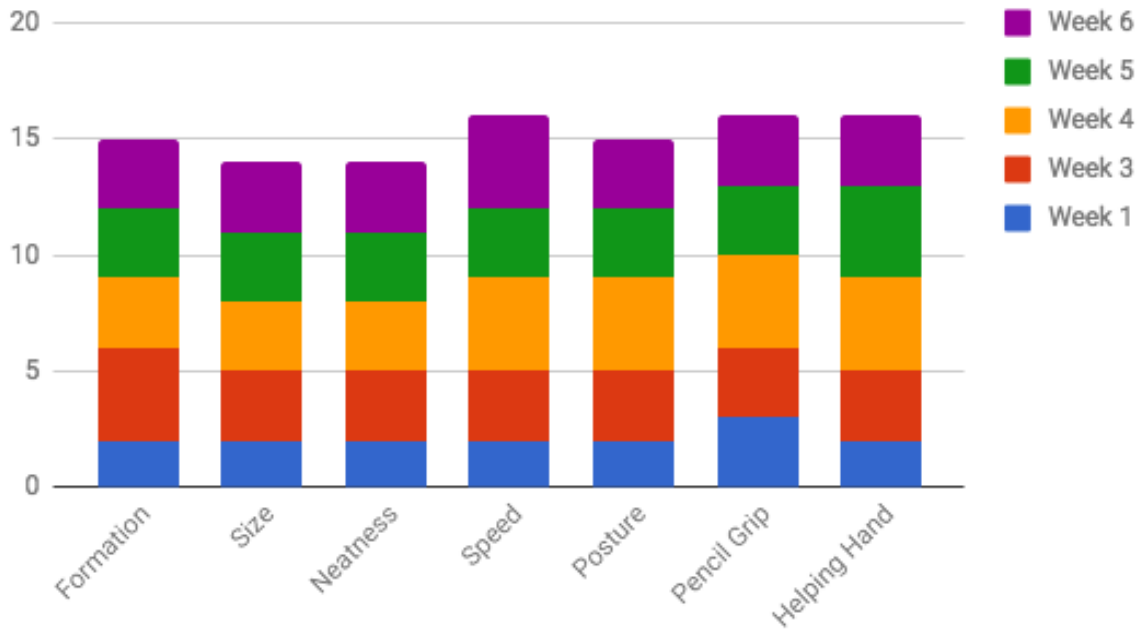
**Yellow Student:**

Week 1, Week 3, Week 4, Week 5 and Week 6



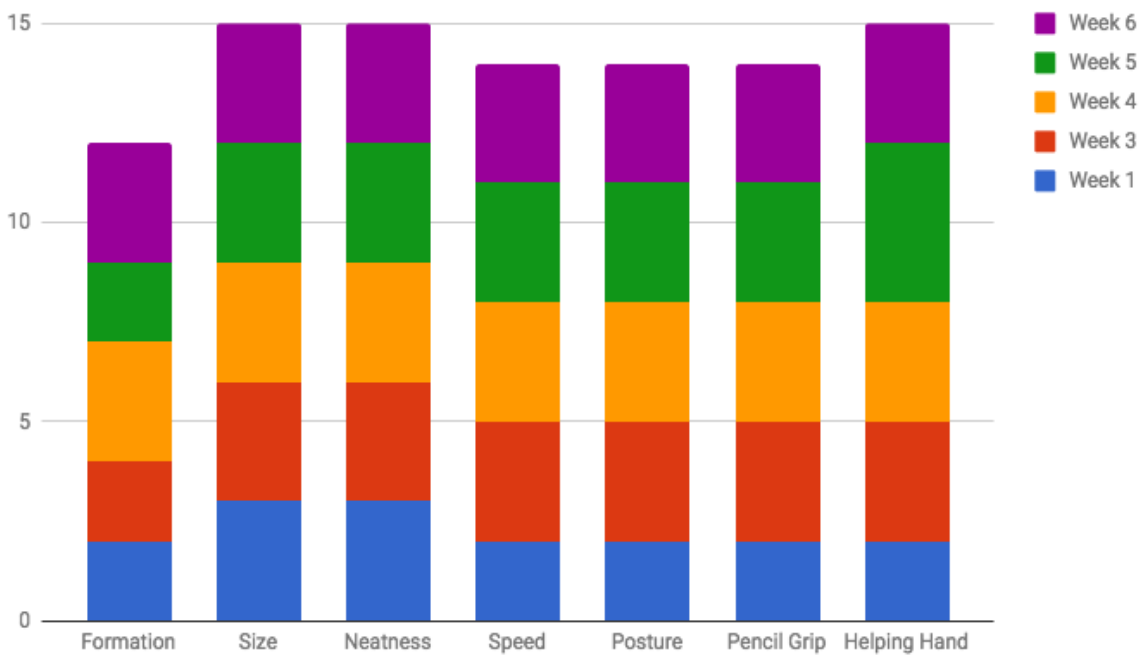
**Green Student:**

Week 1, Week 3, Week 4, Week 5 and Week 6



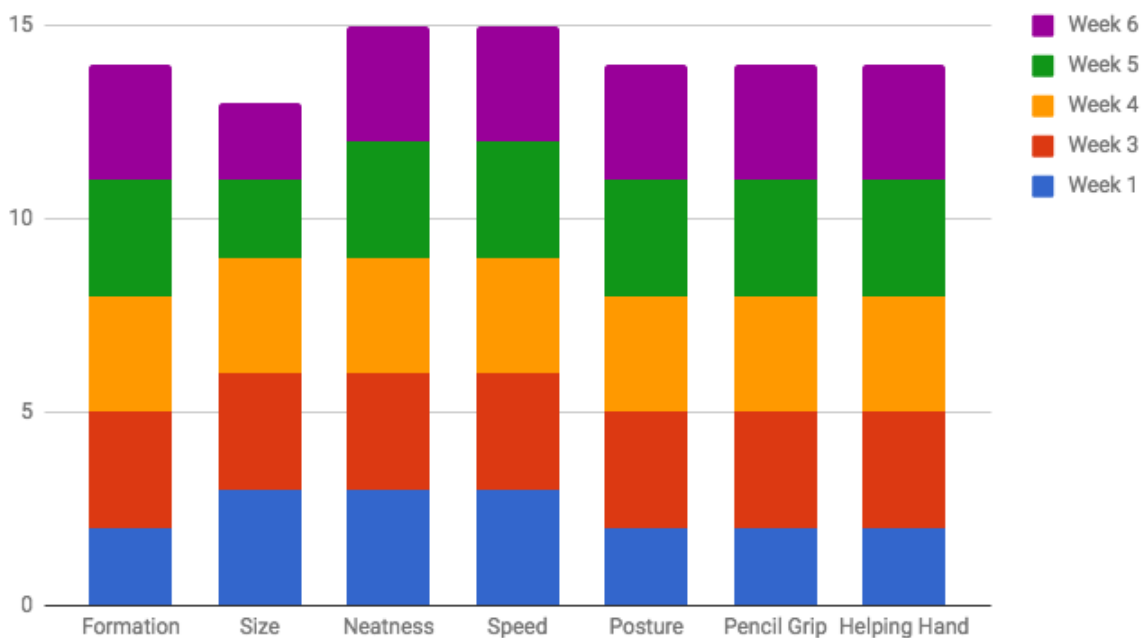
**Blue Student:**

Week 1, Week 3, Week 4, Week 5 and Week 6



**Purple Student:**

Week 1, Week 3, Week 4, Week 5 and Week 6

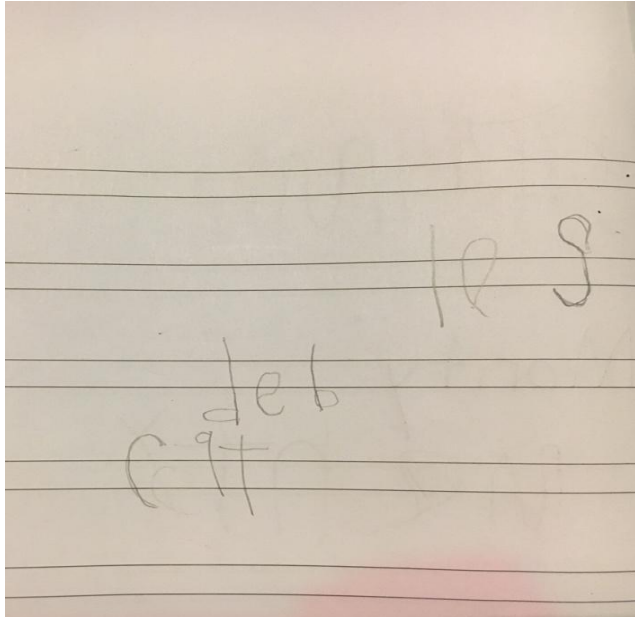


My next data tool looked at my student work choices during the Montessori afternoon work cycle for weeks four, five, and six. Data collection was only conducted for weeks four, five, and six; due to Hurricane Irma. The data shows the skill sets students' writing was assessed on after turning in their *Kickstart to Kindergarten* books each week; this writing involved a lot of tracing and coloring of letters.

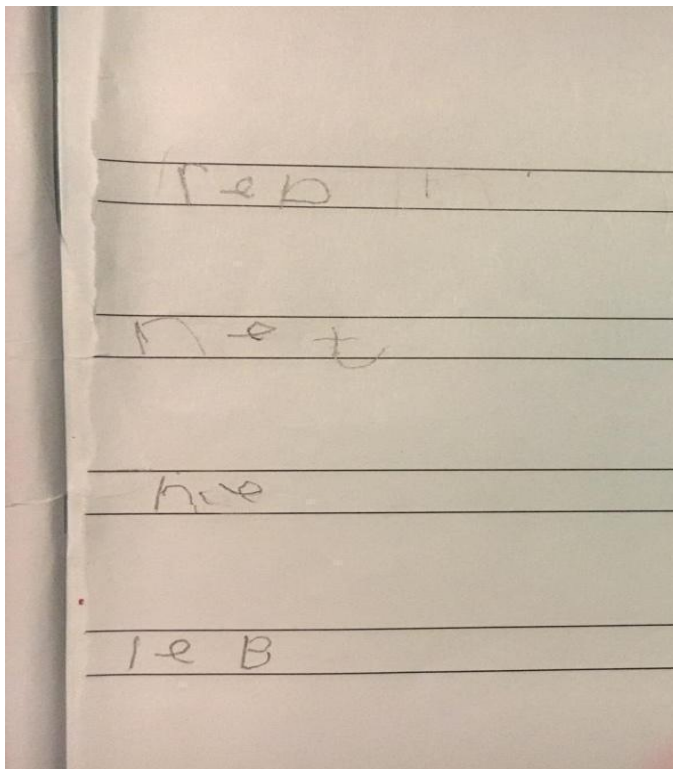
I observed skill-sets of circle closure and formation modeled as handwriting lessons were being added to the student journals. The students used skills of the “helping hand” which they learned in the HWT lessons in their journals while completing work. I included examples from the handwriting intervention when working with the Montessori Pink Series or consonant-vowel-consonant work. Data collection took place when my students were asked to write the CVC word that they spell or read into their HWT journal. This action is a part of normal classroom practice for a four-year-old. I used the Printing Concerns Checklist [Appendix B]. I took

photographs of spontaneous handwriting of the following three students: Red, Yellow, and Purple.

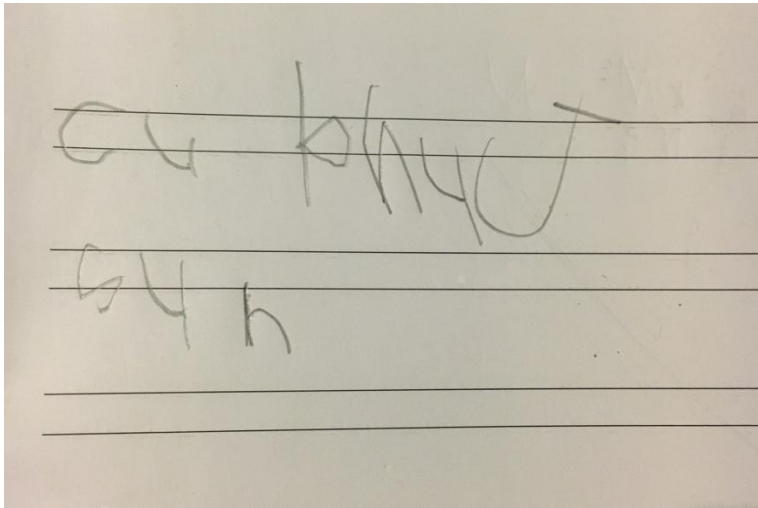
**Red Student:**



**Yellow Student:**



**Purple Student:**



Informative charts below show where students were placed; an example of this rating scale can be found in the [Appendix B] called Printing Concerns Checklist. Writing in the *Transition to Kindergarten* workbook samples were collected in late August to serve as a baseline of students writing, and another sample was collected in mid-October as a final sample.

<b>RED Student</b>						
	<b>WEEK 1</b>	<b>WEEK 2</b>	<b>WEEK 3</b>	<b>WEEK 4</b>	<b>WEEK 5</b>	<b>WEEK 6</b>
Formation	Data incomplete due to Hurricane Irma.			2	2	2
Size				2	2	2
Neatness				2	2	2
Speed				1	1	2
Posture				2	2	2
Pencil Grip				2	2	2
Helping Hand				1	2	2
			<b>WEEKLY AVERAGE</b>	<b>1.7</b>	<b>1.9</b>	<b>2.0</b>

<b>ORANGE Student</b>						
	<b>WEEK 1</b>	<b>WEEK 2</b>	<b>WEEK 3</b>	<b>WEEK 4</b>	<b>WEEK 5</b>	<b>WEEK 6</b>
Formation	Data incomplete due to Hurricane Irma.			ABSENT	2	3
Size					3	3
Neatness					2	2
Speed					2	2
Posture					3	3
Pencil Grip					2	2
Helping Hand					2	3
			<b>WEEKLY AVERAGE</b>		<b>2.3</b>	<b>2.6</b>

<b>YELLOW Student</b>						
	<b>WEEK 1</b>	<b>WEEK 2</b>	<b>WEEK 3</b>	<b>WEEK 4</b>	<b>WEEK 5</b>	<b>WEEK 6</b>
Formation	Data incomplete due to Hurricane Irma.			1	2	2
Size				2	2	3
Neatness				2	2	2
Speed				2	2	2
Posture				2	2	2
Pencil Grip				2	2	3
Helping Hand				2	2	3
			<b>WEEKLY AVERAGE</b>	<b>1.9</b>	<b>2.0</b>	<b>2.4</b>

<b>GREEN Student</b>						
	<b>WEEK 1</b>	<b>WEEK 2</b>	<b>WEEK 3</b>	<b>WEEK 4</b>	<b>WEEK 5</b>	<b>WEEK 6</b>
Formation	Data incomplete due to Hurricane Irma.			2	3	3
Size				2	3	3
Neatness				2	3	3
Speed				3	3	4
Posture				3	3	3
Pencil Grip				3	3	3
Helping Hand				2	3	3
			<b>WEEKLY AVERAGE</b>	<b>2.4</b>	<b>3.0</b>	<b>3.1</b>

<b>BLUE Student</b>						
	<b>WEEK 1</b>	<b>WEEK 2</b>	<b>WEEK 3</b>	<b>WEEK 4</b>	<b>WEEK 5</b>	<b>WEEK 6</b>
Formation	Data incomplete due to Hurricane Irma.			1	1	2
Size				1	2	2
Neatness				2	2	2
Speed				2	2	3
Posture				2	2	2
Pencil Grip				2	3	2
Helping Hand				1	2	2
			<b>WEEKLY AVERAGE</b>	<b>1.6</b>	<b>2.0</b>	<b>2.1</b>

<b>PURPLE Student</b>						
	<b>WEEK 1</b>	<b>WEEK 2</b>	<b>WEEK 3</b>	<b>WEEK 4</b>	<b>WEEK 5</b>	<b>WEEK 6</b>
Formation	Data incomplete due to Hurricane Irma.			1	1	ABSENT
Size				2	2	
Neatness				1	1	
Speed				2	2	
Posture				2	2	
Pencil Grip				2	2	
Helping Hand				1	2	
			<b>WEEKLY AVERAGE</b>	<b>1.6</b>	<b>1.7</b>	

Another element of the students' writing I observed was the length of time spent writing after lesson each day. While reviewing all the data, I noticed that the time spent writing varied from day to day. Throughout the project, while students were working on their writing, I allowed them to continue their work until I observed that some students became unfocused on the intervention of writing task. I went back to my Presentation Log to review my observational notes and I noticed that on days that were humid outside, their writing concentration was less than on days that were cooler in temperature outside.

My literature review explains the importance of tracing letters. What I like about HWT is



that they know to produce proper pencil holding, forming lowercase and uppercase letter, and *writing simple words and sentences*. That in itself was my problem!

After reviewing all the data sources, my conclusion is the addition of *Transition to Kindergarten* by HWT did provide added initial letter sound knowledge and fine motor skill-building for my six participants. I looked for research on the effects of the actual program by Handwriting Without Tears. The purpose of my action research study was to determine what effect utilizing a program by Handwriting Without Tears called “Transition to Kindergarten” in a block every day would have on the development of handwriting skills of my four-year-old students.

### **Action Plan**

The results of this action research project sparked change in my classroom practice as I used the addition of *Transition to Kindergarten* by Handwriting Without Tears to provide added initial letter sound knowledge and fine motor skill-building of my four-year-old students. How would it serve them in name writing and copying a sentence onto a line? My young students enjoyed these "workbooks" which involved a lot of tracing and coloring of uppercase and lowercase letters. My literature review explains the importance of tracing letters. What I like about HWT is that it is a program known to produce accurate formation of lowercase and uppercase letters, and writing simple words and sentences. That in itself was my problem I initially identified in my classroom. The program is designed as a fundamental strategy of imitation, tracing, and copying. Before my intervention, I never used the HWT program.

In addition to the workbooks, I provided journals to the children. Here, they practiced writing words or letters on a line. I created my own rubric to assess each week how the following rated: pencil firmness on paper, directionality, letter formation, spacing, line usage,

circle closure, name writing, and copying a sentence to a line. And, to assess CVC handwriting, I used the rubric from HWT which looked at the following: formation, size, neatness, speed, posture, pencil grip and "helping hand." I am pleased that I can witness progression and improvement when I look at the "x" and "y" on a line graph. I am now comfortable with the addition of this handwriting intervention in my Montessori prepared environment. As the Director of Montessori at this preschool, I can easily see myself training the twelve teachers under my guidance.

Student learning has been affected by this academic addition to the classroom. A possible impact I think my action research will have on student learning is now, the students have a workbook and an indirect introduction to print in a book. Next year the kids in my Action Research study will be expected to innately model the skill set of proper pencil holding by use of the three-finger pincer grip and be comfortable writing in a workbook. The children were thrilled to have their own workbook and journal to take out and write, especially in the afternoon work cycle. As a Montessorian, I am skilled at observation. My students have more extended concentration and an innate desire to write!

The parents who signed my consent form were excited to get a glimpse into the handwriting intervention from my action research project. I have been asked by one of the parents what my future plans are within the classroom for the next school year. I guess my work has been even more critical than I initially thought. A thorough analysis of the data indicates that my students gained in name writing and sentence writing which suggests possible methods to change current education practices, which leads questions for future research. Eleven of the thirty children in my class will have a sibling in my room in the next two years. I feel that I want to continue my investigation at my school, but this time for an entire school semester.

The act of handwriting on a line is essential. The space, size, letter formation, and orientation of the letter is vital. I know why I chose this topic! Handwriting of a four-year-old is an assessment my school gives before a child may enter our Kindergarten; a first-grade academic skill set.

I am confident in articulating my findings, it is crucial because the children have an assessment for letter size, shape, formation, closure, and writing on a line. My students cultivated knowledge about the attributes of handwriting development within the following areas: closure, configuration, spacing and size. I am very proud of their accomplishments! Now, our school has an actual handwriting program because of my action research project.

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Appendix A: Presentation Log and Reflection Journal

Week #		Minutes of Instruction
<b>Monday</b> <b>Attendance:</b>	<b>Name of Lesson:</b> <b>Reflection:</b>	
<b>Tuesday</b> <b>Attendance:</b>	<b>Name of Lesson:</b> <b>Reflection:</b>	
<b>Wednesday</b> <b>Attendance:</b>	<b>Name of Lesson:</b> <b>Reflection:</b>	
<b>Thursday</b> <b>Attendance:</b>	<b>Name of Lesson:</b> <b>Reflection:</b>	
<b>Friday</b> <b>Attendance:</b>	<b>Name of Lesson:</b> <b>Reflection:</b>	

Appendix B: Printing Concerns Checklist

**PRINTING CONCERNS CHECKLIST**

Place a check mark for each concern noted. Refer to the key below or scoring packets for identifying information and guidance.

	Last Name	First Name	Formation	Size	Neatness	Speed	Posture	Pencil Grip	Helper Hand	Other
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
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35										

**Formation** - Starts at the bottom or writes out of order  
**Size** - Writes too large for grade  
**Neatness** - Demonstrates poor quality of written work  
**Speed** - : slow to complete tasks compared to peers

**Posture** - Sits slumped, feet unsupported  
**Pencil Grip** - Has awkward grip  
**Helper Hand** - Does not use hand to hold paper  
**Other** - Exhibits cognitive, physical, language, or attention issues

Appendix C: Handwriting Pre-K Assessment: Writing Name & Sentence Rubric



**Student:**

**Date/Week Number:**

<p><b>Data Collection:</b> Use Journal entries of each students as work samples or artifacts ask thing the weekly assessment question, “ability to write a name” and “copies a full sentence onto a line.”</p>	<p><b>EXCEEDS: 10%</b>  <b>Name Writing: 20%</b>  <b>Copy Sentence: 20%</b></p> <p>Handwriting appears excellent with no reversals of letters.</p>	<p><b>MEETS: 75%</b>  <b>Name Writing: 15%</b>  <b>Copy Sentence: 15%</b></p> <p>Handwriting is modeled fair and maybe a few reversals.</p>	<p><b>APPROACHES: 5%</b>  <b>Name Writing: 10%</b>  <b>Copy Sentence: 10%</b></p> <p>Handwriting is weak and letters are reversed.</p>	<p><b>DOES NOT MEET: 2.5%</b>  <b>Name Writing: 5%</b>  <b>Copy Sentence: 5%</b></p> <p>Pre-writing phase of scribbling is offered as handwriting knowledge.</p>
<p><b>Pencil/Paper: 10%</b></p>	<p>Student uses three-finger-pincer grip (tripod) to hold a pencil.                  Uses correct paper position.</p>	<p>Student uses three-finger-pincer grip (tripod) to hold a pencil or another appropriate holding                  Usually uses correct paper position.</p>	<p>Student uses three-finger-pincer grip (tripod) with reminders.                  Uses incorrect paper position.</p>	<p>Appropriate three-finger-pincer grip is not demonstrated.                  Student is not aware of paper and its position to the hand in preparation of print.</p>
<p><b>Directionality: 10%</b></p> <p>Are students beginning and ending letters at correct points?</p>	<p>Student always writes letters by demonstrating proper starting points                  Begins uppercase and lowercase letters at appropriate point(s) all the time.</p>	<p>Few errors in direction of letter formation.                  Uses proper directionality most of the time; correct starting points and direction.                  Begins letter at appropriate point most of the time.</p>	<p>Some errors in direction.                  Sometimes, begins letter at an appropriate point and/or student writes a few letters using correct starting points and direction.</p>	<p>Student is not aware of correct starting points and direction.                  Multiple errors in direction.                  Student does not begin letter(s) at appropriate starting point.</p>

<p><b>Letter Formation: 10%</b> Both uppercase and lowercase letters are assessed.</p>	<p>Letters are formed legibly from top to bottom Usually uses upper and lower case letters correctly.</p>	<p>Most letters are formed legibly from top to bottom Sometimes mixes upper and lowercase letters.</p>	<p>Frequent malformations of lowercase and uppercase letters. Frequently mixes upper and lowercase letters.</p>	<p>The student's letter writing formation is often illegible. The student is in the prewriting stage of the drafting in scribbles.</p>
<p><b>Spacing: 10%</b> Does the student have the proper distance of space between the letters in their name and expected distance in between each word in their sentence?  <b>Line Usage: 10%</b> Does the student use the provided line in their journal?</p>	<p>Letters within a word are correctly spaced.  When copying, and writing a sentence, the words are properly spaced.  Always uses lines correctly. Letter touches correct lines.</p>	<p>Usually letters within a word are correctly spaced.  Usually the words are correctly spaced within the copied sentence.  Few errors using lines correctly. Letter touches some of the correct lines.</p>	<p>Uses uneven spacing between letters and words when writing a sentence.  Some errors in line usage. Letter touches a few of the correct lines.</p>	<p>Manuscript writing is often illegible.  Or, no effort is given in writing their name or copying a sentence to a line.  Many errors in line usage. Letter does not touch any lines.</p>
<p><b>Circle Closure: 10%</b> Do circles close in the letter formation?</p>	<p>Always closed</p>	<p>Mostly closed</p>	<p>Some closed.</p>	<p>Circles do not close.</p>
<p><b>Name Writing: 20%</b> Are the letter formation lines horizontal, diagonal, and vertical straight?</p>	<p>All lines are straight. The student can effectively print their name legibly in correct uppercase and lowercase lettering sequence and is correctly placed on the line.</p>	<p>Most lines are straight. The student can write their name, but may not be on the line and/or might demonstrate letter reversal(s). Or, can print their first name but does without demonstrating use uppercase and lowercase letters properly.</p>	<p>The student produced only a few straight lines that are straight and/or offer circle closure.  The student tried to print their name.</p>	<p>Lines are not straight. The student gave no indication of writing their name.</p>

**I formed my letters correctly.**

Thumb's Up: YES

Sideways Thumb: IN BETWEEN

Thumb's Down: NO



**I wrote my letters on the line.**

Thumb's Up: YES

Sideways Thumb: IN BETWEEN

Thumb's Down: NO



**My name letters have proper spacing.**

Thumb's Up: YES

Sideways Thumb: IN BETWEEN

Thumb's Down: NO



**My name writing looks neat!**

Thumb's Up: YES

Sideways Thumb: IN BETWEEN

Thumb's Down: NO



