Thirus Report: A Case for Systematic, Daily Handwriting Instruction

By Marlene Smith and Dr. Robert L. Smith

In a 2001 *New York Times* article, Peg Tyre states that "Nurturing the development of fine motor skills is considerably complicated. Helping a child succeed in fine motor tasks requires planning and time." *Wendy Halperin, a well-known illustrator and author of children's books, has been going into preK-3 classrooms for the past ten years to instruct children in drawing and writing. The drawing lessons are usually 90 minutes long and occur one time weekly. There are research papers on her website, www.drawingchildrenintoreading.com, which substantiate that these weekly lessons build fine motor skills to* a level not seen before in kindergarten. During the 2014-2015 school year, Ms. Halperin went into seven kindergarten classrooms, in one elementary school, in Homewood, Illinois. Ms. Halperin worked with each of the classrooms, which were heterogeneous mixes of students, once a week for 90 minutes. In November, she posed a couple of action research questions: **"If a classroom of children wrote their sight words, and wrote them in sentences every day over several months, would they become faster at copying letters? And could they record the words more accurately?"**

Project Description

In December 2014, teacher Wynde Thirus and two other kindergarten teachers decided to write sight words daily with their students, using the document camera in their instruction so the children could see the teacher's finger movements easily. The daily instruction took about 25 minutes a day. The children had one new sight word each week, which was posted on a bulletin board. At the beginning of the writing lesson, the children would start by writing their sight word several times on the first line of the paper. Then, as a class, the children would compose two or three sentences that they would write together, the teacher writing at the document camera, and the children at their desks. Via the document camera, which projects a large image, the children could easily see the teacher's work and copy the words of the sentences precisely. The children would practice reading their sentences, so the writing instruction included reading lessons. After one month, due to time constraints, two of the teachers decided to drop out.

Ms. Thirus continued to do this regimen for the remainder of the school year. Wynde Thirus reported that the daily instruction took about 25 minutes a day at the beginning; but as the children became more proficient, it took only about 15 minutes each day.

Evaluation of Project Results

On May 20, 2015, after working with the seven classrooms once a week through the school year, Ms. Halperin conducted an evaluation. Its purpose was to quantitatively measure speed and accuracy of the children's handwriting. For context, she talked with the children about going on a picnic with their family. They might have their mother and father, or an aunt and uncle, and their brothers and sisters. Together they drew both big and small people, someone carrying the picnic basket, and other items relevant to going on a picnic.

After the children drew their pictures, Ms. Halperin told them that they were going to do something very different with their handwriting that day. All year she had been encouraging

them to write slowly, carefully forming their letters. She explained to the children that writing development requires repetition and slowing down their movements. She believes "slow" saves time and "If you do not practice it right, you practice it wrong."

But today they were going to write as fast as they could, and still make their letters correctly. Ms. Halperin and the children composed a story together, and she wrote the story on the board. The story told about the picnic drawings:

"We ate the food with our mom and dad. It was so good. Now we are going to run and play."

The children were told to leave their pencils on the desk until Ms. Halperin told them to pick them up and write; and that they were to write as quickly, but as neatly, as they could until she told them to stop. When she told them to stop, they set down their pencils and drew a yellow line on their paper where their writing had ended. Then she allowed them to finish copying the sentences.

Evaluation Results

This paper will look at the writing samples from all seven classrooms that Wendy Halperin worked with, drawing and writing all year. Its purpose is to compare the fine motor skills as shown in the children's writing of the letters. We will show how the single classroom which engaged in daily handwriting practice out-performed the other classrooms which received only weekly drawing instruction.

For this research we used only the 90-second sample, not the entire three sentences. We were looking for letters correctly written between the lines using the midline on the paper as a benchmark. At this point it should be pointed out that special paper had been designed by Ms. Halperin features narrower spaces than the lined paper from school supply companies. The rationale for special paper is that Ms. Halperin teaches children to use a proper pencil grip, and to use the muscles in their fingers to write and draw. If one uses commercially published paper, the lines are so far apart that the children must use their hands to write and not their fingers alone. All participants in the assessment had been using this special paper with narrower lines throughout the school year.

The story that was copied by the children during the 90-second writing, contained 64 letters: three capital letters (one at the beginning of each sentence), three periods (one at the end of each sentence), and 21 spaces between the words. Ms. Halperin believes writing is a visual process that involves seeing the spaces between the words, as well as the letters and punctuation.

Let's go back to one of Ms. Halperin's original questions: How might writing sight words daily as well as writing sentences daily affect the fine motor abilities of students?

Because the smallest class had only 18 students present the day that the 90-second paper was accomplished, the researchers randomly chose 18 papers from each of the seven classrooms to keep the numbers the same for ease of comparing the classrooms.

Figure 1 below shows:

- Left hand column -- The total letters written incorrectly in 90 seconds by 18 children per class
- Middle column -- The total letters written in 90 seconds by 18 children in each class
- Right hand column -- The total number of letters written correctly between the lines and midline
- The classrooms are represented by random numbers with the exception of Ms.Thirus' class

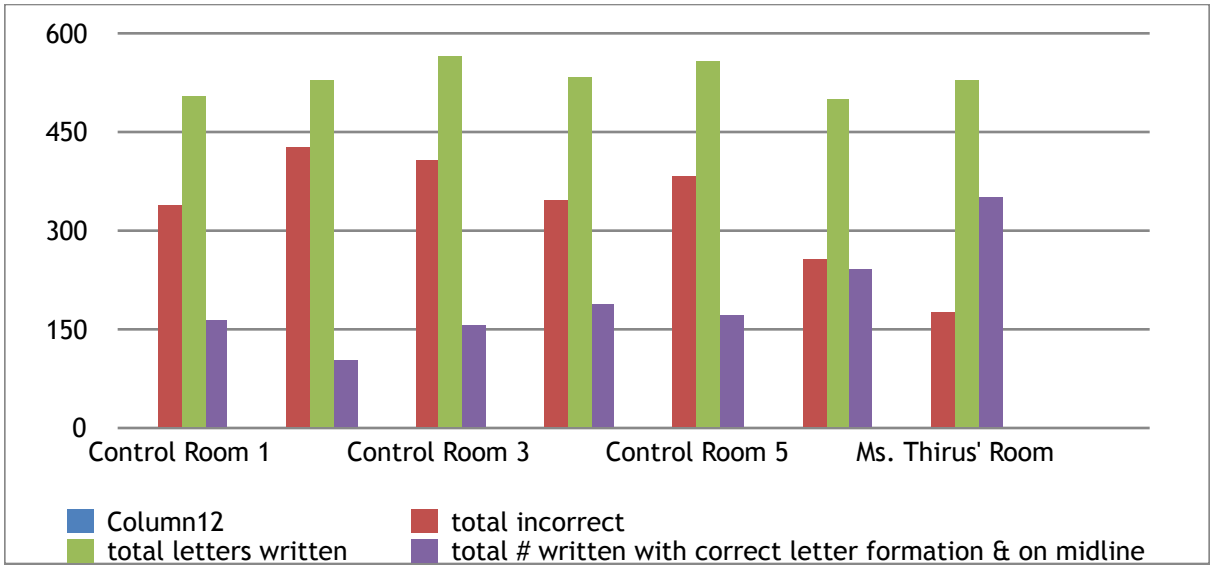


FIGURE 1: Thirus Report Bar Graph on Homewood Elementary School, 2015

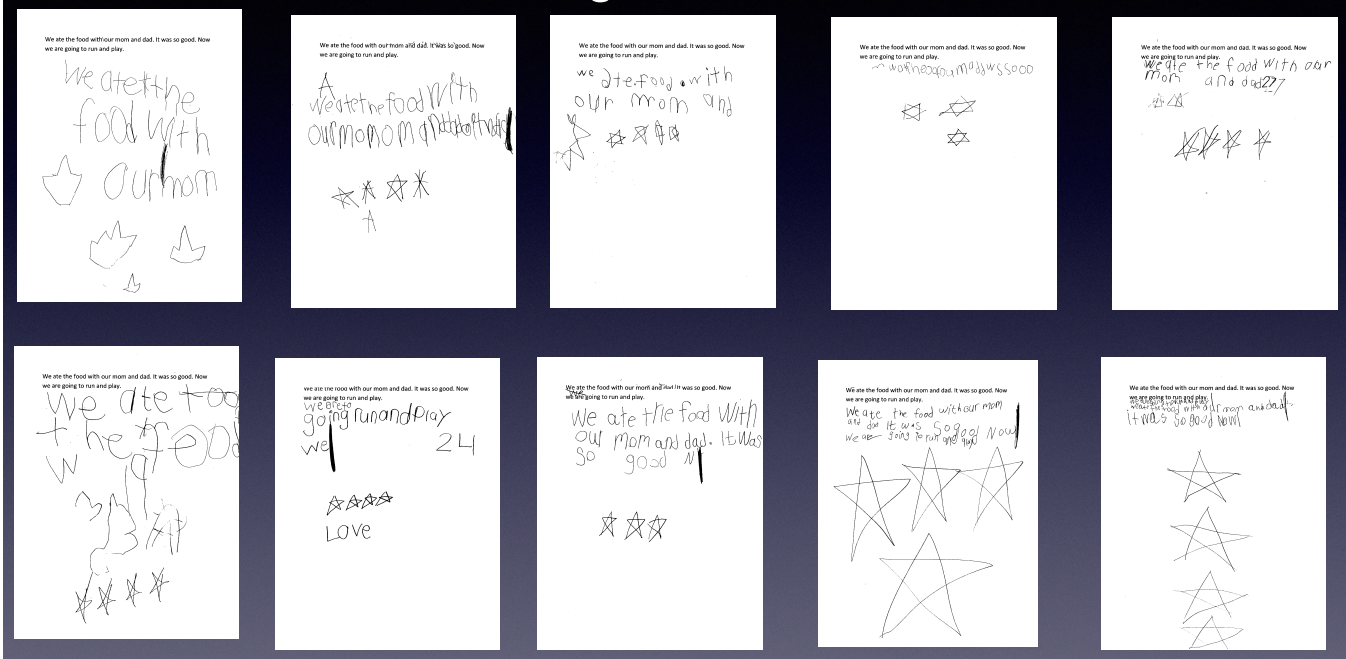
All of the classes wrote between 503 and 564 letters in 90 seconds. Ms. Thirus' class collectively wrote 528 letters. The total number of letters written correctly between the lines and using the midline varied between 165 and 352. Ms. Thirus' class produced 352 letters correctly written. The total number of incorrect letters varied from 176-427 across the seven groups, with Ms. Thirus' entire class having only 176 incorrectly formed letters – less than any of the other classrooms.

The bar graph (figure 1) clearly shows that Ms. Thirus' class more often reproduced the letters correctly. The children did not write faster than five of the seven classes, but were not significantly slowed down in order to obtain accuracy. Unfortunately, these quantifications cannot fully or accurately explain the difference in the writing. When one says that the letters were not made correctly, it often meant that the letters were unrecognizable or barely decipherable. See Figure 2 (examples from Ms. Thirus' class) and Figure 3 (examples from two of the control classes).

FIGURE 2: Examples from Ms. Thirus' class Homewood Elementary School, 2015

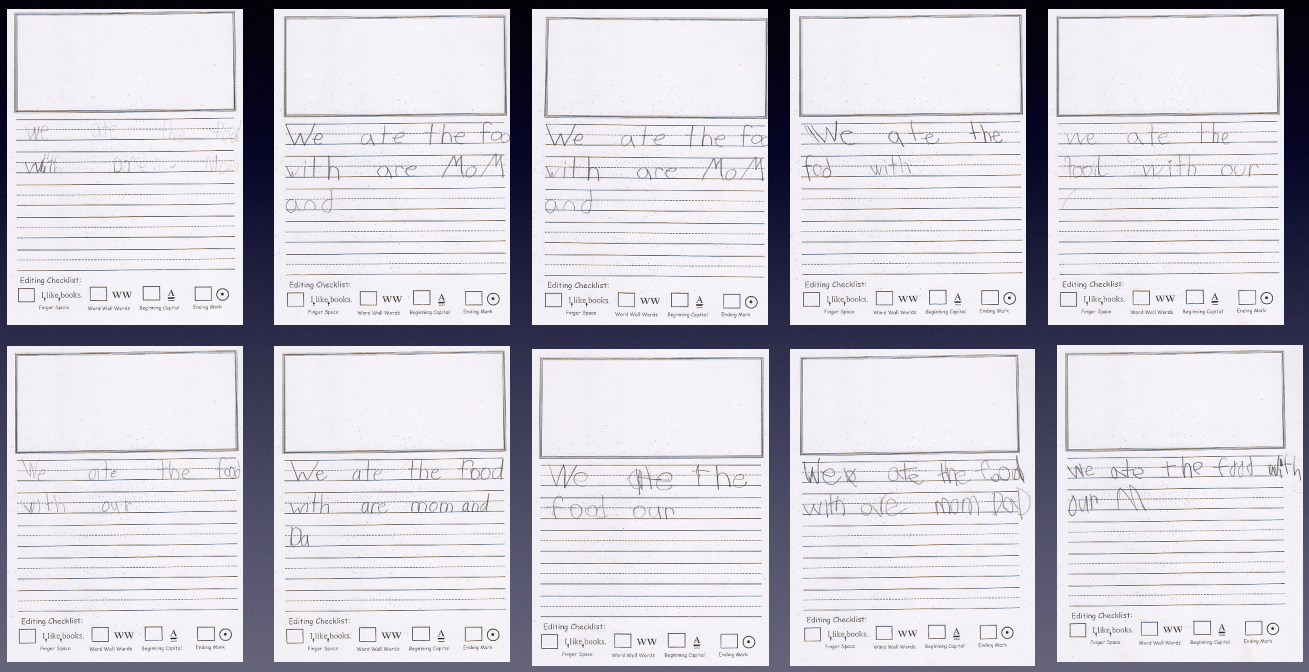
Group 5

A Kindergarten Class 2015



Group 6

A Kindergarten Class 2015



FIGURES 3: Examples from two of the control classes, 2015

Conclusion

Carol A. Christensen in *Educational Psychology* suggests there is a strong relationship between orthographic-motor integration related to handwriting and students' ability to compose well-written text. She means that it is easier to construct meaning when the mechanical challenge of forming letters assumes less mental attention. It would be interesting to follow the students in Ms. Thirus' classroom as they progress through the grades and see if their handwriting strength is allowing them to be good writers from the stand point of composition.

Grissmer and colleagues (2010) have asserted the importance of maintaining ongoing motor skills exercises. They analyzed six data sets and found that, indeed, "fine motor skills were a strong predictor of later achievement." They stated that there "is a clear connection in the circuitry of the brain between areas controlling fine motor skills and area controlling cognition. These areas are developing simultaneously, with exceptional speed during early brain development. Motor skills are a proven indicator of future math and reading success."

There is a physiological connection between using the fingers and brain to write that encourages future academic success. A growing body of studies points to handwriting's basic role in helping students compose with both creativity and structure; conversely, lack of automaticity in recalling letter shapes (Medwell & Wray, 2007) as well as lack of maturity with fine motor skills hamper written communication for early-elementary authors (Cameron *et al.*, 2012). With this kind of information becoming available, it would appear that a systematic plan for teaching handwriting in early elementary should be implemented. While practicing the writing of sight words daily takes time, such activity has been shown to yield significant dividends.

References

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