

EFFECTIVENESS OF THE FIRST STROKES MULTI-SENSORY HANDWRITING PROGRAM ON
HANDWRITING PERFORMANCE

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ABSTRACT

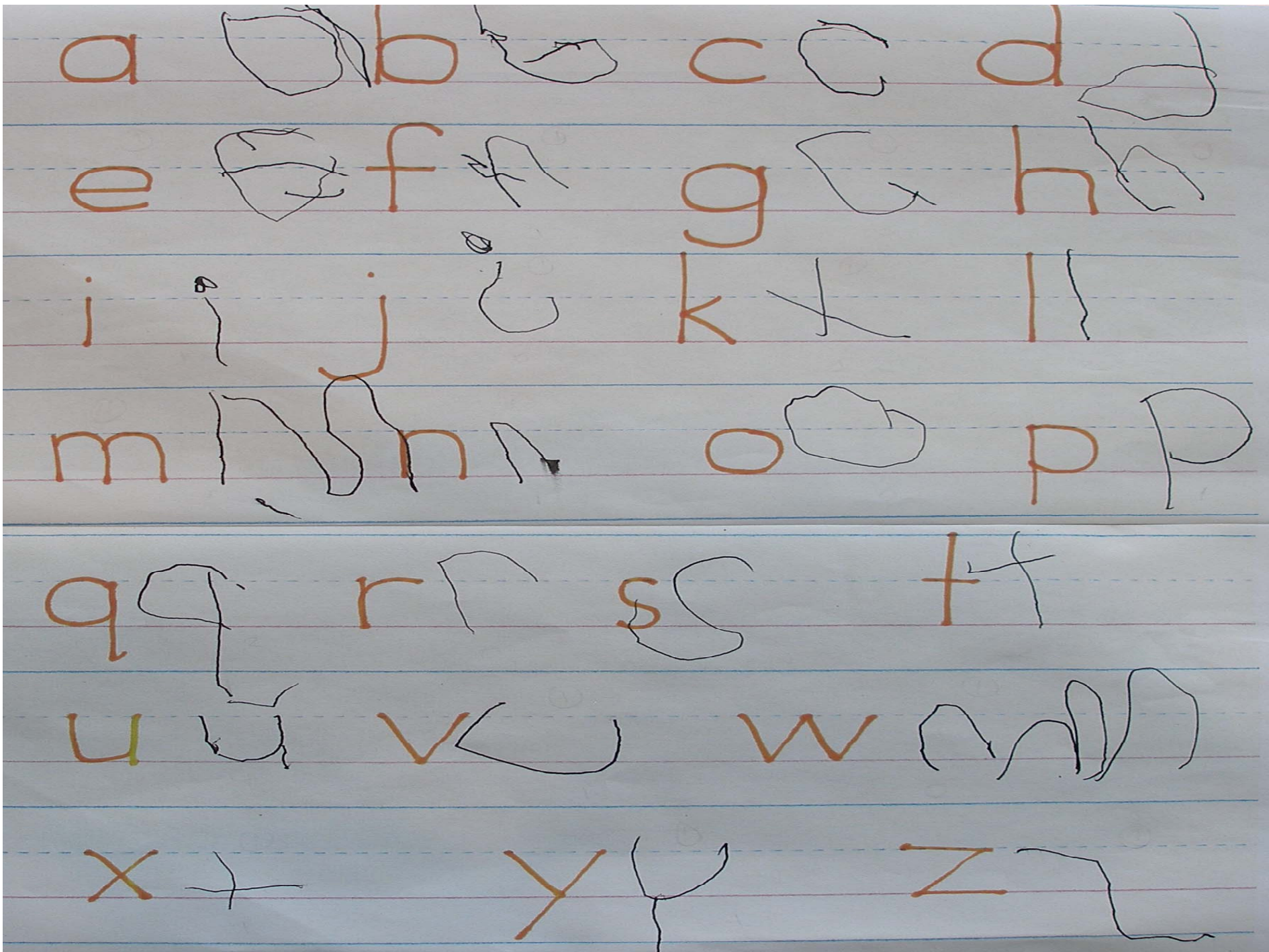
The First Strokes Multi-Sensory Handwriting Program at The Handwriting Clinic was developed by Jan McCleskey, OTR. The program emphasizes grasp development and letter formation using lined paper with a focus on letter spacing, consistency of letter size, and prevention of letter reversals. Using a repeated measures design, this study analyzed the program’s efficacy on improving the quality of handwriting amongst kindergartners and first graders.



INTRODUCTION

Handwriting has been linked to achievement with reading, spelling, and math and is fundamental in completing homework, accomplishing assignments, and academic placement tests (Feder & Majnemer, 2007). Children spend a significant time of their day in school working on and completing handwriting assignments during their first years of school (McHale & Cermak, 1992). With an estimated 10% to 30% of children experiencing handwriting difficulties, it is necessary to address factors affecting legibility (Feder & Majnemer, 2007). Typically, handwriting is introduced in kindergarten and written assignments intensify as they move up grade levels and into the school’s curriculum. Therefore, acquisition of motor and sequencing skills needed for handwriting must be achieved early.

Before



PURPOSE

The purpose of this study was to assess the effectiveness of the First Strokes Multi-sensory Handwriting Program on improving the quality of handwriting as demonstrated by legibility, touch point accuracy, and letter sequencing

METHODS

Participants
A sample of 25 students between the ages of 4 and 6 entering kindergarten or first grade in fall 2011.

Setting
The Handwriting Clinic in Plano, TX

Design
Utilizing a repeated measures design, handwriting samples of the lowercase alphabet were obtained at three time points: before instruction (pre), after completion of the program (post), and at a follow up review session before the start of school.

Measurements
Stroke sequence, legibility, and touch point accuracy were examined in the pre-, post-, and follow up samples. Kindergartener’s used lined paper and were provided with a visual of the letter. First graders used lined paper, but had to write the alphabet from memory. If they forgot a letter, they were then provided with a visual. All samples were video recorded.

Stroke sequencing criteria was based upon the clinic’s First Strokes Multisensory Hand Writing Program curriculum, and the correct or incorrect sequence was manually recorded by the researcher while observing the participant during the handwriting sample. Scores ranged from 0-26 with higher scores indicating better performance.

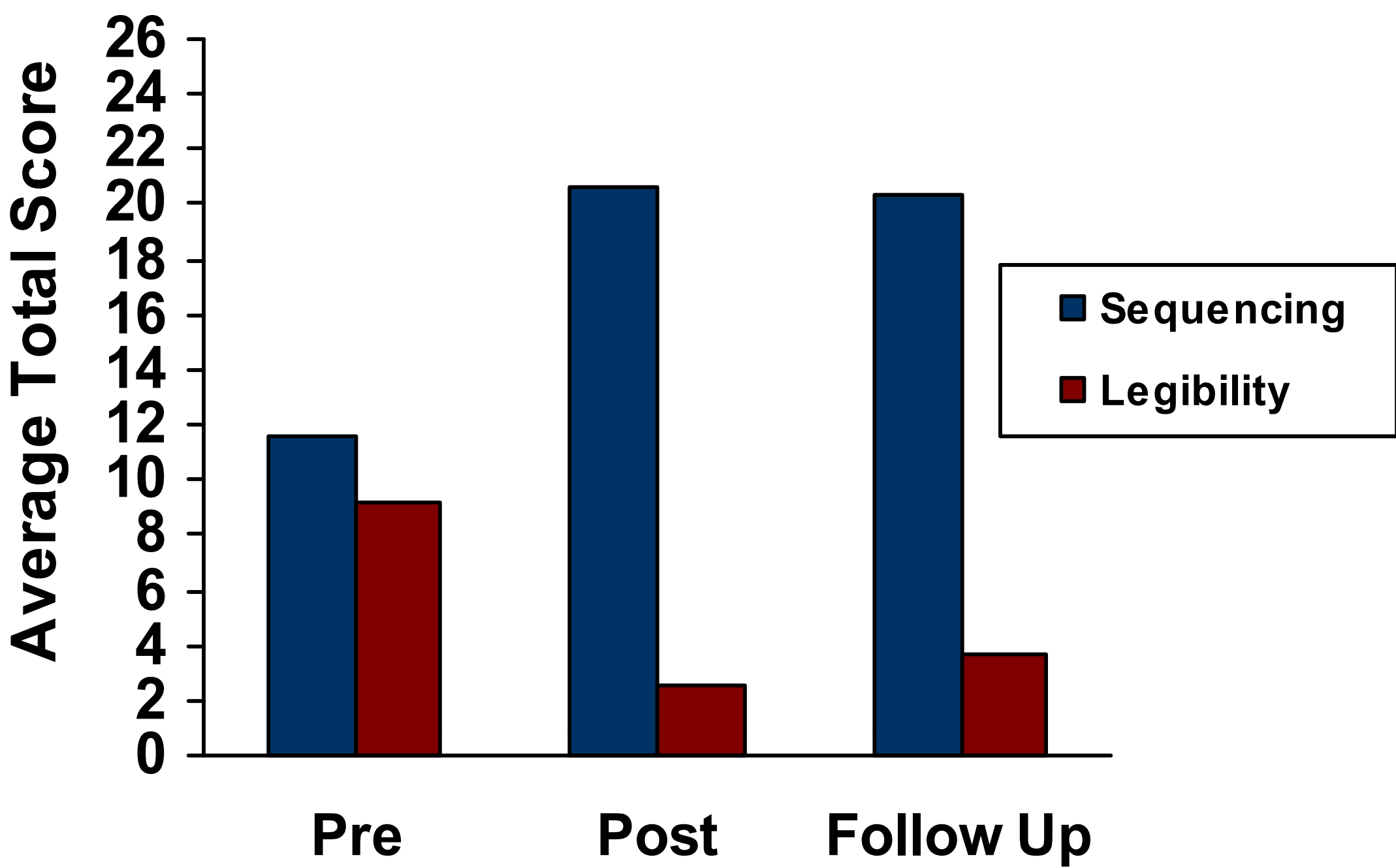
Legibility was scored using the standardized Minnesota Handwriting Assessment. Scores ranged from 0-26 with a higher score indicating more errors.

Objective criterion was established for touch points by using a ruler to determine if the letter was within 1/16” from the intended touch point line. The total number of touch points was different for each letter. Scores ranged from 0-90 with a higher score indicating better performance.

Analysis
Using SPSS, a paired samples t-test was used to describe changes in performance from Pre- to Post-, Pre- to follow up, and Post- to Follow up.

RESULTS

Sequencing and Legibility



Touch Point Accuracy

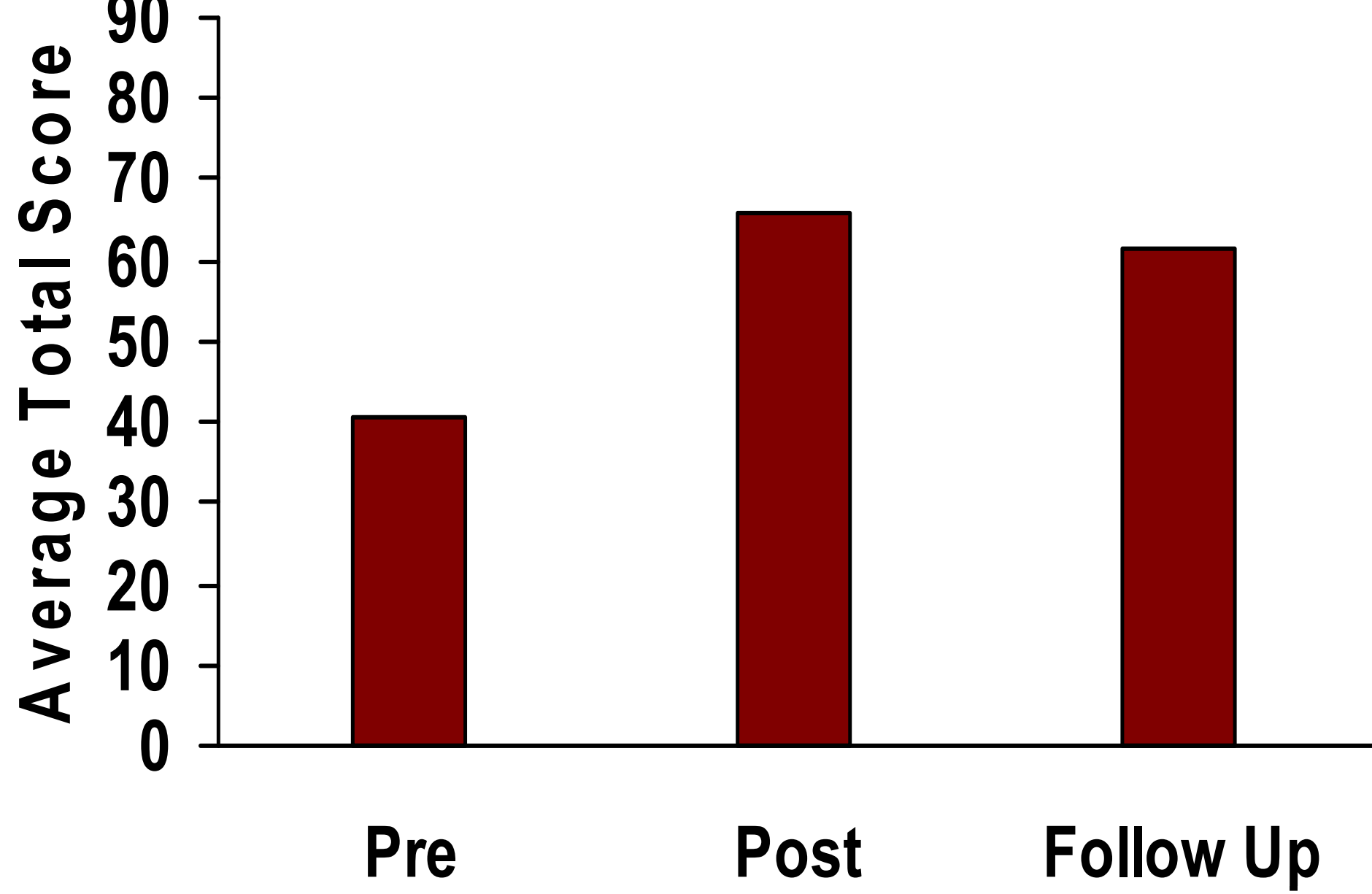


Table 1. Repeated Measures Analysis of Handwriting Performance

	Pre	Post	FU	Pre-Post	Pre-FU	Post-FU
Measure	M	M	M	p	p	p
Legibility	9.16	2.52	3.72	<.001	<.001	.04
Sequencing	11.54	20.69	20.38	<.001	<.001	.61
Touch Points	40.38	65.65	61.73	<.001	<.006	.09

DISCUSSION

The First Strokes Multi-sensory Program was effective in improving handwriting performance in this population as demonstrated by significant improvements in legibility, sequencing, and touch points. As a result, children became more interested in handwriting and coloring.

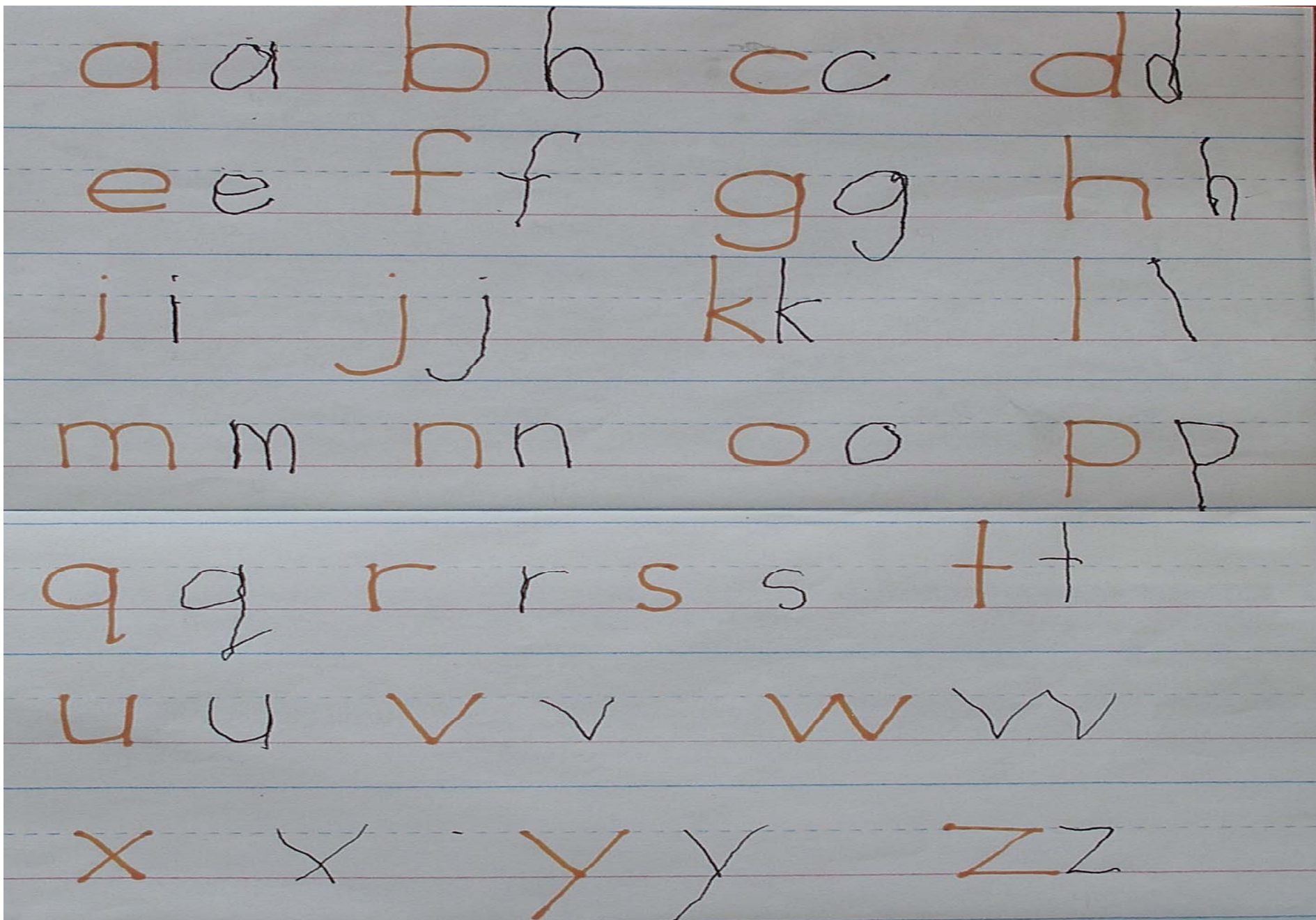
Limitations
•Evaluators were not blinded to whether they were scoring pre-test, post-test, or follow up test, which could have led to grading bias.

•Kindergartners and first-graders completed handwriting samples using different formats. Therefore, the analysis may have been different if the results were evaluated for each cohort.

•The time that elapsed from post to follow up potentially influenced outcomes.

Recommendations for Future Study
Participants had the option of using the “tip grip protocol” used to enhance motor skills. Further analysis is needed to evaluate its potential impact on handwriting performance.

After



CONCLUSIONS

The KBP class curriculum may be one to follow during intervention when assisting school age children improve the quality of their handwriting skills. Students who participated made noteworthy gains in handwriting legibility, touch points, and sequencing. Further research is warranted to assess the effectiveness of the program with students with diagnosed learning disabilities and the effectiveness of the program during the academic year.