D'Nealian and Zaner-Bloser
Manuscript Alphabets and Initial
Transition to Cursive Handwriting

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ABSTRACT Recently, a new manuscript alphabet has been developed. The new alphabet was designed to facilitate transition from manuscript to cursive handwriting. This study compared cursive handwriting samples from 112 first graders who had received instruction using the new alphabet and 134 first-grade students who were instructed using traditional manuscript forms. The two groups did not differ in production of cursive letters.

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raditionally, manuscript handwriting instruction has preceded instruction in cursive handwriting. Proponents of this approach suggest that the manuscript letter strokes are easier to perform than cursive strokes for kindergarten and first-grade students. The similarity between the manuscript letters and reading materials is considered an advantage for beginning readers and writers (Huitt, 1972).

The practice of progressing from manuscript to cursive strokes is not without opposition. Early (1976) found that exclusive use of cursive writing did not impair initial progress in reading or spelling. His results suggested that instruction in two alphabets was unwarranted. Lehman (1980) argued that manuscript strokes are not easier to initiate than cursive forms. Further, he contended that the use of manuscript writing may lead to frustration if students are given the impression that they should stop manuscript writing and learn “real” handwriting.

Recently, a new manuscript alphabet, the D’Nealian Manuscript (Scott, Foresman & Company, 1978), was developed. D’Nealian manuscript letters are written with a slant and show more resemblance to the cursive letters than do traditional manuscript alphabets. Most D’Nealian manuscript letters are formed with one continuous stroke.

Though materials used for sales promotion of the D’Nealian manuscript alphabet state that the program will facilitate transition between manuscript and cursive writing (Scott, Foresman & Company, 1982, p. 1), data are available to support this claim. The purpose of this study was to test the effect of training under two manuscript alphabets, D’Nealian and Zaner-Bloser, on first graders’ initial attempts at producing cursive letters.

Method

Eleven classes of first graders attending six schools in central Ohio served as subjects. Classes were selected using the following criteria:

1. an expressed interest, and cooperation, of both principals and teachers;
2. formal handwriting instruction only in manuscript letters had been given to students; and
3. previous training in writing the D’Nealian Manuscript Alphabet or the Zaner-Bloser Manuscript Alphabet (1976) had occurred.

One group of subjects came from five classrooms in which students were taught manuscript handwriting using the D’Nealian Alphabet. Class size ranged from 15 to 31 students. Of the total 112 students in these classes, 60 were girls and 52 were boys. The other group of subjects consisted of students who were taught manuscript handwriting using the Zaner-Bloser Alphabet. Class size

The authors would like to thank Lisa Roth for her assistance on this project. Address correspondence to David Hill, Ohio State University, 356 Arps Hall, 1945 N. High St., Columbus, OH 43210.
ranged from 18 to 33 students. Of the 134 students, 69 were boys and 65 were girls.

**Setting.** Students worked at their desks or tables in their classrooms. The work surface was clear except for the students’ writing materials.

**Materials.** Subjects used one training sheet of the 26 lower case cursive letters developed from the Zaner-Bloser Creative Growth Translational Cursive Alphabet (1976). The letters, constructed with a line weight of one millimeter, were printed on paper with sets of parallel lines. The spaces between the headline and midline, midline and baseline, and descender space below the baseline were seven-sixteenths of an inch (1.11 centimeters). Since there were no major differences between the Zaner-Bloser and the D’Nealian cursive alphabets, the same model letter sheet was used with all subjects.

**Copy paper.** Writing paper Number Two published by the Zaner-Bloser Handwriting Company was used. Spacing between the lines was seven-sixteenths of an inch (1.11 centimeters). The paper measured 8½ inches (21.59 centimeters) by 11 inches (27.94 centimeters) and contained red and green parallel lines.

**Evaluative overlay.** Trap-Porter, Gladden, Hill, and Cooper (1983) designed a set of overlays to measure one-millimeter deviations of student letter samples from model letters. Using the overlays, individual letter strokes are evaluated based on slant, length, containment within boundaries on the overlay, contact with other strokes, and closed circular strokes. (See Trap et al. (1983) for a complete description of the evaluation criteria and scoring procedure.)

**Procedures**

The experimenter began the session with verbal interaction designed to help students feel at ease. Students were then given one sheet of model letters, one sheet of copy paper, and one standard number two pencil. Students were told to write their name on the paper and then put their pencil down. When all students had finished writing their names, the experimenter asked the students if they had ever seen letters like those on the model letter sheet. The experimenter briefly discussed manuscript and cursive forms of writing.

Specifically, the experimenter pointed out that each cursive letter is written without stopping or lifting the pencil except to dot the i or j or to cross the x and t. The experimenter also stressed that the cursive letters are slanted and that the copy paper should be slanted when writing cursive letters. The experimenter pointed out that all letters sit on the red line (baseline) and that most strokes begin and end on either the red line or the blue line above the red line. The experimenter then drew lines on the chalkboard. Students were asked to figure out how to write each letter. The experimenter explained the numbers and arrows on the model letter sheet and demonstrated how to write the letter “a”. After any student questions were answered, the experimenter told the students to copy the letters from the model letter sheet on their copy paper. Students were told to try to make each letter look just like it did on the model letter sheet: the same size and shape. Students were then told to pick up their pencil and begin.

Student behavior such as listening, working, putting pencils down, and watching were praised. At no time did any student receive any feedback on the quality or correctness of his or her writing sample. When students had finished copying the letters, the copy papers, model letter sheets, and pencils were collected. Students were thanked for working and the experimenter left the room. The total session lasted between 20 and 30 minutes for each classroom.

**Interscorer agreement.** Two scorers were trained to assess the writing samples for letter strokes meeting criteria by using the evaluative overlays and procedures developed by Trap et al. (1983). The scorers practiced until a minimum of 85% agreement was met, then scoring of the samples began. The first scorer evaluated all 246 samples. Using a table of random numbers, 74 samples were selected for blind interobserver agreement checks. The second scorer was not involved in the study beyond the independent checking of samples. The second scorer did not know the purpose of the study or the difference in the groups. Percentage of agreement was calculated for each sample by dividing the number of agreements between observers by the number of agreements plus disagreements, and multiplying by 100.

The percentage of agreement on total strokes ranged from 81 to 100 with a mean of 93.3%. The percentage of agreement on the 39 Zaner-Bloser-trained students’ samples ranged from 86 to 100 with a mean of 94.2%. The percentage of agreement on the 35 D’Nealian-trained students’ samples ranged from 81 to 98% with a mean of 92.3%.

**Results**

The number of correct strokes made by each student was analyzed. For the group receiving training with Zaner-Bloser materials the average percentage of correct cursive strokes was 73.49% for males and 72.86% for females. The male and female students in the D’Nealian group averaged 72.81% and 72.40% correct cursive strokes, respectively.

The data were analyzed to determine whether there were significant differences between groups in the number of letters omitted during the copying task. Fifty students (37.3%) in the Zaner-Bloser group omitted letters. The difference was not significant ($\chi^2 = 0.37; df = 1; p = 0.70$).

An analysis of variance was performed to determine the type of instruction (Zaner-Bloser and D’Nealian) and sex differences in number of correct cursive strokes.
made. The results of the ANOVA are reported in Table 1. The results indicated no significant type of instruction \((F = 0.78; df = 1,242; p = 7.05)\) or gender difference \((F = 0.78; df = 1,242; p = 7.05)\). The type by sex interaction was not significant \((F = 0.03; df = 1,242; p = 7.05)\).

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<th>Table 1.—ANOVA Summary</th>
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**Discussion**

The results of this study suggest that first graders’ production of cursive letters was not enhanced by instruction employing D’Nealian manuscript instructional materials. There was no difference in the number of cursive letter strokes at criteria by students who had received either Zaner-Bloser or D’Nealian instruction in manuscript letter writing.

Several factors should be considered in interpreting these results. First, the actual instruction by the first-grade teachers using the two sets of materials was not controlled. The equality of performance between the two groups may have been due to the teacher’s varying from prescribed use of the materials. Second, students receiving D’Nealian instruction use writing paper with normal space-size. This study required the students to copy cursive letters on wide spaced transition writing paper. Space-size of writing paper may have affected the performance of the D’Nealian group. Third, the publishers of the D’Nealian materials suggest that students who receive D’Nealian instruction may learn cursive strokes more quickly when cursive writing instruction is given in later grades. This study did not address that possibility. Future research should consider instruction, space-size of writing paper, and the effect of instruction in early grades on the ease of acquisition of cursive strokes for older students in investigating the utility of the D’Nealian manuscript writing instructional materials.

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