

TEACHING BRAILLE LINE TRACKING USING STIMULUS FADING

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Line tracking is a prerequisite skill for braille literacy that involves moving one's finger horizontally across a line of braille text and identifying when a line ends so the reader may reset his or her finger on the subsequent line. Current procedures for teaching line tracking are incomplete, because they focus on tracking lines with only small gaps between characters. The current study extended previous line-tracking instruction using stimulus fading to teach tracking across larger gaps. After instruction, all participants showed improvement in line tracking, and 2 of 3 participants met mastery criteria for tracking across extended spaces.

Key words: braille, errorless learning, line tracking, literacy, stimulus fading, visual impairment

Braille is a common form of literacy among individuals with visual impairments. Despite the increasing availability of alternative technologies, braille literacy remains an important educational goal for children with visual impairments. A recent survey of adults with visual impairments indicated that respondents preferred braille reading to alternative technologies, found braille reading to be crucial for certain subject areas, and believed that early braille instruction was important for later literacy (D'Andrea, 2012).

Before reading braille, learners must develop prerequisite skills such as tactile discriminations and appropriate hand mechanics. Line tracking is one of these appropriate hand mechanics. It involves using the index finger of the left hand (a) to mark the onset of a line and (b) to move vertically between lines. The right hand must move horizontally in a continuous motion to avoid repeatedly feeling one letter (i.e., scrubbing), which is detrimental to braille fluency

(Davidson, Wiles-Kettenmann, Haber, & Appelle, 1980).

Mangold (1978) evaluated a program to teach line tracking to legally blind braille learners. Thirty student participants were divided into 15 matched pairs; one participant received the experimental program and one received braille education as usual. Initially, Mangold presented lines of varying lengths that were composed of identical braille characters without spaces (6.2 mm between characters) and then increased the difficulty by including tracking across (a) dissimilar characters without spaces, (b) like characters with two spaces, and (c) dissimilar characters with two spaces. The protocol followed a precision teaching model with criterion tests, predetermined goals for mastery, and rewards for progressing between worksheets. Participants in the experimental group scored higher on a posttest line-tracking assessment than the control participants. This program has since served as the standard for teaching line tracking.

Although the program is effective, the terminal goal of Mangold's (1978) training program did not encompass all of the line-tracking skills required of braille readers. In particular, the program assessed tracking with at most a two-space gap between

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doi: 10.1002/jaba.129