

Learning Rates with Direct Instruction, Precision Teaching and the Corrective Reading Series

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The QLC Educational Services located in Belleville (Ontario, Canada) has been tutoring students of all ages since 1979. The QLC teaching model, which was derived by Michael Maloney, is an amalgam of existing behavioral technologies. These include: Behavioral objectives for goal setting; 2. Behavior analysis and behavior management to bring the student under instructional control; 3. Direct Instruction to teach effectively at a faster than normal rate; 4. Precision Teaching to measure progress daily; 5. Directed and independent practice to reach fluent performance levels (Maloney, 1998). Although the Center provides instruction in all areas of basic curriculum for both elementary and secondary levels, the largest number of its students need remedial reading instruction to learn decoding skills. As a result, the program most commonly applied is Engelmann's Corrective Reading (Decoding) Series. Of this series, Decoding Strategies level B1 (Engelmann, Johnson, Carnine, Meyer, Becker, & Eisele, 1988) and level B2 (Engelmann, Meyers, Carnine, Becker, Eisele, & Johnson, 1988) are the most frequently used entry level programs. While there are some data regarding the efficacy of these programs in themselves (Carnine, Silbert, & Kameenui, 1997), there is almost no information about learning rates attained with this material, as charted on the Standard Celeration Chart. The purpose of this study was to make a portrait of the celeration rates of attending students between the age of 7 and 17 years old engaged in the Corrective Reading programs, level B1 (Engelmann, et al., 1988), and level B2 (Engelmann, et al., 1988). The study was conducted during winter 2000. An attempt is made to predict the amount of time required to reach fluency levels, based on the acceleration rates of the students. Relationships to the reading program level and to sex were examined.

METHOD

Participants and setting

The participants of this study were 49 boys (31 in level B1, and 18 in level B2) aged between 7 and 15 years old, and 11 girls (7 in level B1, and 4 in level B2) between 8 and 17 years old. They all live in or around Belleville. Each student attends for two one-hour tutoring sessions per week before or after school, or on week-ends. Most have been labeled "learning disabled"; some have been diagnosed as having also conduct disorders according to their school files or parent interview reports.

Measurement procedures

The pinpointed behavior was the number of words read correctly in a one-minute timed reading test; results were charted on the Standard Celeration Chart (SCC). The data collected were the celeration rates, on successively more complex stories, for each student involved in either levels of the Corrective Reading series, for the year 1998-1999. Then, the median of these celeration rates for both boys and for girls was computed.

RESULTS

As expected, more boys than girls attending the QLC Educational Services have reading disabilities. According to DSM-IV (1994), 60% to 80% of diagnosed learning disabled students are boys in the general population. This trend was evident at the QLC Center (registration indicates more than 4 boys for 1 girl). This result is consistent with other sources where a proportion of 3 boys for 1 girl having learning disabilities is reported (Anderson, 1997; Badian, 1999).

It was also found that there are significant higher number of 8-year old boys involved in this remedial reading program. This result is consistent with literature where learning disabled third graders have the highest ratio between boys and girls (Badian, 1999).

Each story was read by the student (one-minute readings) until the level of fluency was attained. For boys, data were collected on a total of 150 completed stories in level B1, and 59 completed stories in level B2. For girls, data were collected on 15 completed stories in level B1, and 6 completed stories in level B2. According to the Precision Teaching literature, the minimal rate increase requested for a significant celeration is $\times 1.25$ per week (Beck, Conrad, & Anderson, 1995; White & Haring, 1976). In this sample, the median celeration rates were $\times 1.5$, and $\times 1.6$ for boys in B1 and B2 level, and $\times 1.5$ and $\times 1.25$ for girls in B1 and B2 level respectively.

Moreover, as illustrated in Figure 1, the number of days required to attain fluency is typically small, fluency being defined as reading 200-250 words per minute with 2 or fewer errors (Binder, 1996; Johnson & Layng, 1996). All students reached fluent reading levels before moving to a subsequent more challenging story.

DISCUSSION

The data review shows that all rates were significantly superior compared to the minimal celeration rates expected in the Precision Teaching literature (Beck, Conrad, & Anderson, 1995; White & Haring, 1976). It was also observed that a relatively short period of time was required to reach a level of fluency. When combining the short time to attain fluency and the superior celeration rates that were obtained, it seems clear that the students at QLC Educational Services are effectively learning to decode increasingly difficult stories. Unfortunately, due to the small number of girls enrolled in these reading programs, it is difficult to extrapolate a reliable celeration rate for girls. Some indirect support can be drawn from the fact that there are no significant sex difference effects in comparison between celeration rates of boys and girls.

Direct Instruction may be enhanced in remediating reading deficits when paired with one-minute timed reading in which the student is held to a firm fluency criterion of 200-250 words per minute with 0-2 errors. More information is needed on female students than is provided by these data.

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