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THE EFFECT OF NUMBER OF MATH DRILLS PER DAY ON MATH PERFORMANCE

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Frequency testing or short drills on basic math facts has been shown to be an effective method of increasing proficiency in an expedient manner (e.g., Bitgood, submitted; Bitgood & Mitchell, submitted; Haughton, 1980; Van Houten & Thompson, 1976). The purpose of the present study was to find the optimum number of drills per day for frequency testing. Information on the optimum number of drills per day would be important since it would allow the precision teacher to develop more cost-effective instructional procedures.

Eight youths, 12 to 16 years of age, with grade levels from 5th to 9th grade, served as participants. At the time of the study they were all temporary residents of a group home for youths judged by the courts to be in need of supervision. Math achievement performance levels for these youths on the Wide Range Achievement Test varied from grade level 3.6 to 7.6. The students were given daily drills in all four math operations (i.e., addition, subtraction, multiplication, and division); answers were written on mimeographed worksheets each containing 100 basic math facts. The number of drills per day for each math operation was fixed at either one, two, four, or eight. Drills per day and math operation were counterbalanced. Thus, two students received one drill per day on addition, two on subtraction, four on multiplication, and eight on division; the next two students received one drill per day on subtraction, two on multiplication, four on division, and eight on addition; the next two students received one drill per day on multiplication, two on division, four on addition, and eight on subtraction; and the last two students received one drill per day on division, two on addition, four on subtraction, and eight on multiplication. Students were given a total of 16 drills on each math operation across training. Training was distributed over 16 days for the one-drill-per-day condition, eight days for the two-drill-per-day condition, four days for the four-drill-per-day condition, and two days for the eight-drill-per-day condition. Each drill was one minute in duration.

Chart 1 displays the data for each drills-per-day condition. Each data point represents an average of all the drills performed by the eight students that day. Across all four math operations, the two-drills-per-day condition produced a celeration of X1.4 per week, while the one-drill-per-day condition produced a celeration of X1.3 per week. The available data points from the four-and-eight-drills-per-day conditions indicate the possibility of much higher celerations.

These data suggest that two drills per day on math operations is likely to produce slightly higher celeration than one drill per day. Some evidence is presented suggesting that four or eight drills per day may produce considerably higher celerations.

REFERENCES

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- Van Houten, R. V., & Thompson, C. The effects of explicit timing on math performance. *Journal of Applied Behavior Analysis*, 1976, 9, 227-230.

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Patrick McGreevy

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CALENDAR WEEKS

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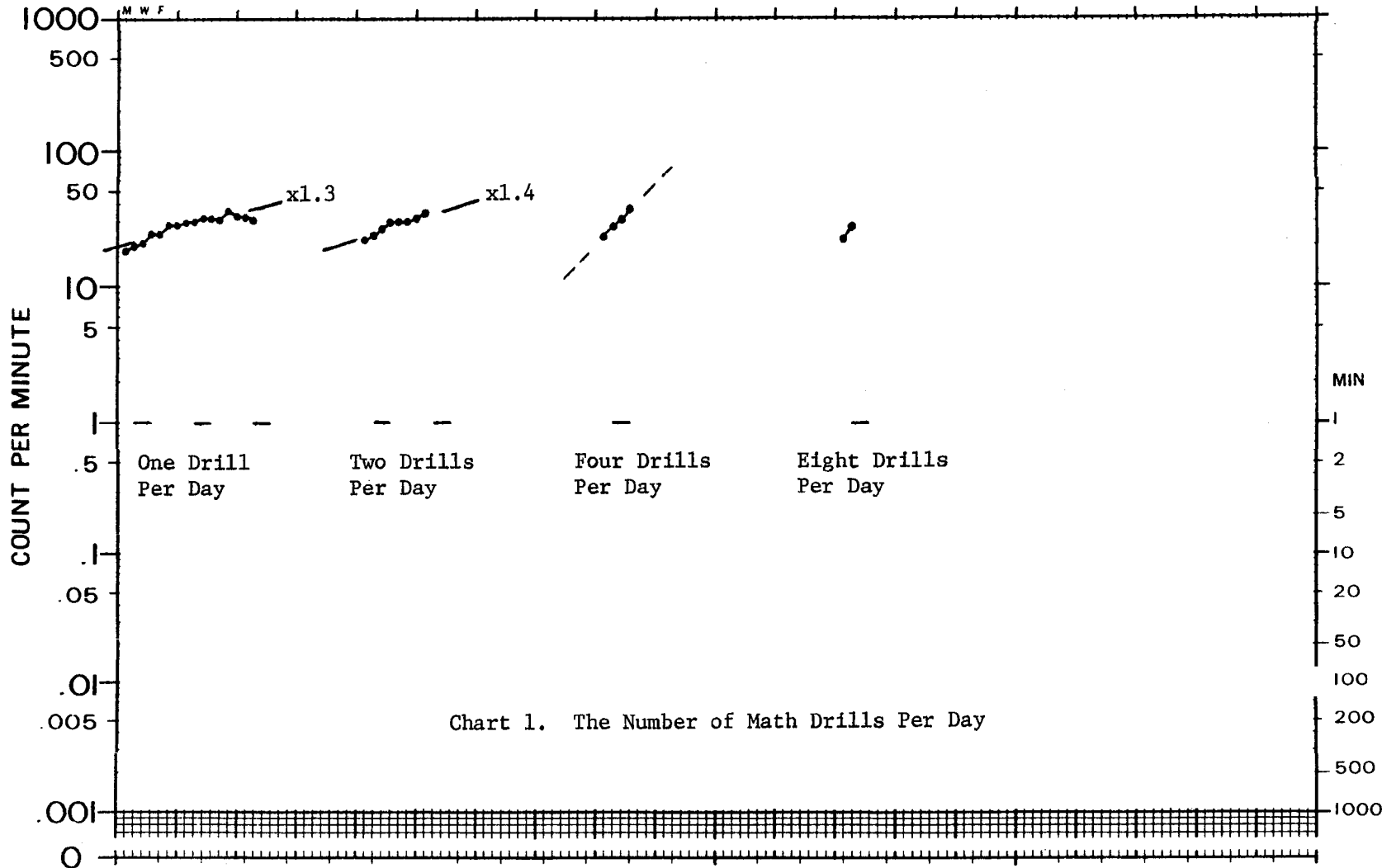


Chart 1. The Number of Math Drills Per Day

Raggio, Sharon and Bitgood, Stephen C. The effect of number of math drills per day on math performance. *Journal of Precision Teaching*, Volume III, Number 2, Summer, 1982.

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S. Bitgood		S. Raggio		CALENDAR DAYS		8 Youths		12-16		see/write digits	
SUPERVISOR	ADVISER	MANAGER				BEHAVIOR	AGE	LABEL	COUNTED		
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