

An Eleven-Year Old Girl's Use of Repeated Readings, SAFMEDS, and See/Write-Think/Write Practice to Develop Fluent Reading in Hebrew

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Instructional practice using see/write and think/write alphabet, SAFMEDS, and repeated readings combined with Precision Teaching measurement procedures resulted in important improvements in an 11-year-old girl's ability to read Hebrew. Results revealed an acceleration of correct responses across the see/write and think/write alphabet recognition exercises, SAFMEDS for letter-sound pronunciation, and three different repeated reading passages related to the acquisition and fluency development of Hebrew as a second language. Learning opportunities decelerated or maintained at low levels the different conditions employed for fluency development for reading in Hebrew. Important instructional implications related to measurably effective, data-based procedures for the acquisition and fluency development of foreign or second languages are discussed.

Fluency is an essential element of good reading (Allington, 1983). A lack of fluency in oral reading has commonly been attributed to poor reading skills. Sweeney (1992) pointed out that much of the research in reading remediation focuses on improving decoding skills, rather than in addressing important variables related to fluency and reading comprehension. Allington (1983) argues that a focus on decoding skills is incomplete. Research shows a direct relationship between low decoding rates and important deficits in reading comprehension (Biemiller, 1977-78; Deno, Mirkin, & Chaing, 1982; Jenkins & Jewell, 1992; Lovett, 1987; Starlin, 1992). Therefore, several authors are advocating the adoption of fluency strategies, such as repeated readings, as a means of improving both decoding and comprehension skills of deficient or at-risk readers (Slocum, Street, & Gilberts, 1995; Samuels, 1979; Sweeney, 1992; Sweeney, Omness, Janusz, & Cooper, 1992). Fluency, as Lindsley (1990, 1991) describes, is developed through a combination of instruction and repeated practice. Repeated readings promote automaticity in reading by making decoding automatic (Downs & Morin, 1990).

Fluency in a given task can be indicated by rate, latency or duration (Howell & Lorson-Howell, 1990). Rate, combined with accuracy, is the best measure of how well a student can do a given

task (Lindsley, 1990, 1991). When rate measurement of fluency is used, performance can be compared not only across students but between repeated measures of an individual student's responses (Howell & Lorson-Howell, 1990). Fluency is also closely related to the generalization and maintenance of skills (Binder, 1993; Dowhower, 1987; Scott, Stoutimore, Wolking, & Harris, 1990), the transfer or flexibility of learning, and the effective use of skills in demanding or stressful situations (Binder, 1993).

Precision Teaching techniques are not instructional strategies, but rather "measurement procedures and performance standards" used to record student response frequencies and provide a picture of behavior changes over time (Downs & Morin, 1990). Combining effective teaching strategies with precise measurement, recording, and charting of performance has produced impressive results (Binder, 1993). For example, fluency-building instructional procedures combined with Precision Teaching measurement practices raised elementary students' scores on the Iowa Test of Basic Skills between 20 and 41 percentile points over three years in one Montana study (Binder, 1993). Additionally, programs such as the Morningside Academy in Seattle, Washington produce an average improvement of three grade levels in children and youth in a

single year and guarantee an average of two academic years' worth of improvement in two separate academic skills for adults every five weeks (Binder, 1993).

Repeated reading is a practice procedure for learners to enhance basic reading skills (Samuels, 1979). The learner reads and rereads a short passage repeatedly until a satisfactory fluency level is attained (Sweeney, 1992). Readers can work with passages at any level of difficulty, with error correction immediately and consistently provided. Samuels (1979) compares repeated readings to athletic skill drills and recommends graphing results to further motivate students.

Research in the area of repeated readings was successful across a variety of curricula, classrooms, and student populations. The combination of repeated readings, a see/cover/write procedure, and Precision Teaching measurement procedures were employed to improve the reading and spelling of an adult with severe reading and spelling deficits (Sweeney, 1992). Carroll, McCormick, and Cooper (1991) combined repeated readings and Precision Teaching strategies to increase the reading fluency of students with behavior disorders who had severe reading disabilities. The combination of repeated readings with reciprocal peer tutoring and Precision Teaching measurement procedures were used to improve the reading fluency of third-grade students with learning disabilities (Lee, 1990). Repeated readings and free-retells were used by Sweeney (1992) to improve the oral reading performance and literal comprehension of eight fourth- and fifth-grade students who were identified as academically at-risk due to their reading problems in the classroom.

Downs and Morin's (1990) criteria for students in need of fluency training in reading includes students who: (a) read less than 80 words per minute; (b) frequently repeat, hesitate, or misread; (c) read below grade level; (d) read too fast and ignore punctuation; (e) lack expression and omit vocal inflection; and (f) hesitate to read orally, even in individual sessions. Standard teaching techniques often inhibit fluency by limiting practice and providing continuous feedback and error correction which interrupts and slows performance (Binder, 1993). Repeated reading procedures combined with Precision Teaching

measurement techniques not only give performance feedback but motivate students as well (Downs & Morin, 1990). Reading fluency is best built by reading passages, not by drills with isolated words or phrases (Howell & Lorson-Howell, 1990).

Another effective procedure for the acquisition and fluency of sight-words is the use of a SAFMEDS procedure (Eshleman, 1985; McDade, Austin & Olander, 1985). SAFMEDS stands for S - say, A - all, F - fast, M - one minute, E - every, D - day, S - shuffle. Essentially, this is a flashcard procedure with a stimulus on one side of a card and the desired response on the other side of the card. Research in this area has shown important accelerations and improvements in the acquisition and fluency of sight-word recognition for students (Eshleman, 1985; McDade et al., 1985). Further, SAFMEDS are used with a variety of different students, from those in elementary classrooms to those students at the university level, as well as with a variety of different curricula (e.g., math facts, research terminology, history facts, etc.).

Decoding words in a second language demands familiarity with the phonemes and alphabet of the language. The use of paired associations between English sight-words and the second language sight-words is usually the instructional mode adopted by most foreign language teachers (Hammerly, 1974; Hammerly, 1979; Oskarsson, 1975). In a recent study, Solman and Adepoju (1995) showed aural feedback was a successful instructional approach for the initial foreign language acquisition to 16 seventh-grade students.

Although Precision Teaching measurement procedures, combined with a variety of measurably effective instructional strategies, such as repeated readings and SAFMEDS, are successful at improving academic and social behaviors, the authors found only one Precision Teaching study that dealt directly with the acquisition of foreign or second languages by students with disabilities. Held (1992) used a computer generated, match-to-sample procedure with three high school aged students with severe behavior handicaps for the acquisition and fluency development of Spanish sight-words. The Precision Teaching measurement procedure showed impressive accelerations related to the acquisition and fluency of Spanish sight-words across all three participants.

The purpose of this study was to evaluate and improve the acquisition and fluency of Hebrew as a second-language with an 11-year-old, fifth-grade girl. A multiple intervention and Precision Teaching measurement system was employed to evaluate the fluency levels related to: (a) a see/write to see/think Hebrew alphabet acquisition; (b) a see/say Hebrew SAFMEDS procedure; and (c) a see/say Hebrew repeated readings procedure. The primary setting for the study was in the student's home.

Method

Participant and Setting

Adira, the 11-year-old daughter of the first author, served as the participant. Adira had taken Hebrew lessons for three years. Her classes were held at the local temple, one afternoon a week for two hours throughout the regular school year. Adira had received deficient reports from her teacher the previous spring, and the Temple school had recently decided that students not meeting the minimum requirements for each grade level would be held back from the next level of Hebrew instruction. The Temple school's five years of Hebrew lessons prepared children for their bar or bat mitzvah. [A bar or bat mitzvah (son or daughter of the commandment, respectively) is a Jewish religious ceremony acknowledging and commemorating that a son or daughter has reached a level of development where he or she is recognized as fully responsible for personal religious and moral actions. The bar mitzvah is the traditional male rite-of-passage into adulthood in the Hebrew faith, while the bat mitzvah is the traditional female rite-of-passage into adulthood in the Hebrew faith. Typically, a bar or bat mitzvah is celebrated when a boy is 13 years of age, or when a girl is 12, and after they have received extensive training in the language, traditions, and ceremonial and religious customs that accompany the Jewish faith. The bar/bat mitzvah ritual is usually held in the synagogue to mark the occasion. The young adult reads a prophetic Scripture passage (the haphtarah) in Hebrew to the congregation and may be called upon to lead all or parts of the service. The bar/bat mitzvah is then recognized as a full member of the congregation, legally responsible for his/her own actions and able to

count as a member of the required quorum of ten (Neusner, 1993).]

In Adira's temple, bar/bat mitzvahs are expected to lead both the Friday and Saturday services, with the option of also learning to read the Torah as time permits. Several bar/bat mitzvahs were canceled in the past because students were not meeting the Temple school's Hebrew proficiency criteria. Adira's bat mitzvah was set for two years and three months from the onset of the intervention, where she was significantly behind in her learning. After two years of Hebrew school, she was still unable to say or write the alphabet, sound out words, or read the prayer book. Adira met the criteria for lack of reading fluency stated by Downs and Morin (1990) by: (a) having an extremely low reading rate, according to her Hebrew teacher for the past two years; (b) performing poorly when asked to read, also based on teacher reports; (c) being well below expectations for her grade level, based on her rabbi's standards; and (d) choosing not to read in class or services when given the opportunity.

At the end of the current religious school year, Adira was expected to be able to chant 17 different selections in Hebrew and lead an entire Friday evening service. This service was a standard practice of the current rabbi at the synagogue she attends. It was important for her to be fluent in Hebrew pronunciation during the Friday evening service before she began fourth and fifth year classes. The fourth and fifth year lessons were taught by the rabbi and focused solely on the much more demanding Saturday morning service and haphtarah readings.

The temple school taught students to read the Hebrew prayers and blessings before teaching chants or tunes, so this study focused on repeated phonetic readings of Hebrew texts. The school did not necessarily teach Hebrew to be spoken, nor were readings taught for content. Students become familiar with the different sections of the services and the prayers and blessings associated with each, but direct translation was not learned. Content was taught by discussing English translations and the history of the prayers and blessings.

Instruction in this study took place in Adira's home in the evening using the dining room table or other quiet spots in the house.

Materials

During the first condition, a gaudy, foot-long, plastic ruler containing the Hebrew alphabet (i.e., spelled alephbet in Hebrew) in script was used as a guide and to check for correct and incorrect movements. Forty-one preprinted flashcards depicting the individual letters and vowel marks in book print were used in the second procedure. These forty-one flashcards composed a deck of SAFMEDS used for the acquisition of the Hebrew alphabet. The back of each SAFMEDS card named the letter or vowel, gave the correct pronunciation, and showed how to write each in manuscript and cursive. The pronunciation given for vowels was Sephardic (i.e., Spanish or Portuguese), so these were altered to reflect the Ashkenazic (i.e., German) pronunciation preferred by the local rabbi. The Friday night prayer book used in the local temple, *Likrat Shabbat*, was utilized for practicing all of the repeated reading passages.

All timings were recorded on a data record sheet, and charted on a Standard Celeration Chart. The student was shown how to record and chart data and frequently assumed responsibility for this.

Performances

Hebrew Alphabet Acquisition. The first condition moved from a see/write to a see/think learning channel set, with the goal of teaching Adira the Hebrew alphabet. Hebrew is both written and read from right to left. The Hebrew alphabet consists of 22 basic consonants, five of which have variant forms (differing by the placement of a dot), and five of which have final forms, used when a letter occurs at the end of a word. Vowel markings are used in prayerbooks in the U.S., but not in Torah scrolls or in Israel. Vowel marks are included to help beginning readers and others not fluent in the language. They are denoted by dots and dashes, usually placed beneath a consonant, but occasionally appearing above or beside one. There are nine basic vowel markings.

Letters were counted correct when Adira wrote accurately in script form in proper alphabetical order, and incorrect when the cursive letter form was inaccurately written, written out of order, or omitted. Two timings were conducted per session; the better performance was then recorded. An instructional aim of 60 letters per minute was selected based on the performance of an older,

experienced student who performed 64 letters in one minute.

A 12 inch ruler containing the 32 characters of the Hebrew alphabet was placed where Adira could easily see it. At least 10 minutes were spent in see/write repeated practice of the alphabet. Adira became adept at writing the alphabet without referring to the ruler after the first few sessions, so the learning channel changed from a see/write to a think/write. One-minute think/write timings were conducted immediately after each practice session. Adira self-corrected her work by visually comparing it to the ruler. Her work was then checked by the first author.

Hebrew SAFMEDS. The second movement cycle employed a SAFMEDS procedure of the Hebrew alphabet to teach letter and vowel/consonant sound recognition. Using the SAFMEDS, Adira was given one minute to see/say as many cards as she could, while the first author watched and recorded for correct and incorrect letter pronunciations. Corrects were defined as any card for which the sound produced matched the sound given on the card. Incorrects were defined as any mispronunciations or passes related to a given SAFMED. Corrections made by the student after a card was face-down were counted as incorrect. Two separate timings were conducted after each session; the better score was then recorded. An aim of 60 sounds per minute was established, based on suggested performance standards (Intermediate School District No. III, 1974; Koenig & Kunzelmann, 1977; Koenig & Kunzelmann, 1980; White & Haring, 1980).

Practice consisted of Adira flipping through the cards one at a time while pronouncing the sound associated with the letter or vowel mark depicted. SAFMEDS were placed face-down, so the response could be checked by the tutor. SAFMEDS on which Adira made frequent errors (usually vowels) were singled out for additional practice. After flipping through all SAFMEDS at least six times, she was timed for one minute.

Repeated Readings. The third movement cycle was a see/say learning channel set, using repeated readings practice. Adira was told to read as much of the selection as she could during a minute, repeating the passage until told to stop. Corrects were defined as words pronounced accurately, in order, and as written. Incorrects

were defined as words omitted, passed, or mispronounced. Two timings were conducted, and the better score was recorded. An aim of 160 words per minute was selected, based on the performances of two teenagers and an adult who were proficient readers of Hebrew (e.g., 145, 151, 168, respectively).

The tutor for the repeated reading practice was Adira's fourteen year old sister. Her older sister had five years of Hebrew lessons and had been bat mitzvah 9 months before the study. She was also employed by the local temple to tutor students in their final months of bar/bat mitzvah training.

Practice for the repeated readings was held for 10 to 60 minutes, depending on the tolerance level of the tutor. During this time, Adira read the selected reading as best she could. Initially she worked on pronouncing each word aloud correctly before moving on to the next word. Once a line was sounded out, the tutor instructed her to repeat the line several times. As her accuracy increased, Adira was told to read as quickly and correctly as she could, repeating the reading until the timing took place. Errors were corrected during practice by the tutor. When a word was mispronounced, Adira was told the correct pronunciation and instructed to repeat the word and then to either begin with the word immediately preceding the problem word or to go to the start of the line in which the word appeared and begin from there to ensure that the word was used correctly in context. One-minute timings took place after each practice session.

Ahavat Olam, a prayer using 45 words from the Ma'ariv or introductory section of the Friday night service, was selected for the first repeated reading because Adira did not know it. The second reading containing 24 words was Tzadik Katamar, from the Kabbalat Shabbat service. The third reading with 21 words was the Barhu, also from the Kabbalat Shabbat service. (Typical words in all three readings contained just over 4 consonants - vowels were not counted). The second and third readings were introduced simultaneously, during the repeated readings practice. Data were collected and scored separately for each reading. Adira was not working on these passages at Hebrew school and had never read them before the beginning of tutoring. She

was somewhat familiar with all of these, having been to services in which they were read.

General Procedures

The first author and her oldest daughter served as tutors throughout the study. Instruction during the study consisted of three major components: (a) see/write and see/think Hebrew alphabet acquisition; (b) Hebrew sight-word vocabulary drills using SAFMEDS; and (c) oral reading fluency of Hebrew text using repeated readings. Instruction for the first four weeks consisted of the see/write and see/think Hebrew alphabet recognition exercises, combined with the SAFMEDS to develop fluency with Hebrew sight-word vocabulary. Instruction for the remaining six and a half weeks consisted of repeated readings on Hebrew scripture passages. Each of these separate components was assessed daily using one minute timings to determine the effectiveness of the instructional components. The see/write and see/think direct instruction functioned as a warm-up activity to bolster and improve prerequisite tool skills. The tutors used direct instruction, guided practice, and independent supervised practice to ensure accuracy during the see/write and see/think portion of the instruction. After the completion of this see/write and see/think exercise, a one minute timing was conducted to assess Adira's fluency in Hebrew alphabet recognition. Adira and the tutor both counted the number of correctly written Hebrew letters and the number of incorrect letters by comparing them to the Hebrew alphabet models on the 12 inch ruler. Adira then self-corrected any errors made during her one-minute timing.

During the SAFMEDS practice, Adira practiced her SAFMEDS by seeing the front of one of the cards and saying the correct Hebrew letter or word on the back. If she said one of the cards incorrectly, she corrected herself and put the card back in the deck to go over again. The SAFMEDS that she correctly pronounced were put to one side and considered mastered for that session. After she practiced saying the SAFMEDS at least six times, she did a one-minute timing. The tutor again served as the counter during the one-minute timing.

The last component of instruction was the use of repeated readings to evaluate Adira's Hebrew oral reading fluency. The tutor followed along

while Adira read a selected passage aloud. The tutor identified reading errors as Adira read the passage and told her how to correctly pronounce a given word. Adira then correctly pronounced the word, reread the word in context, and resumed reading the remainder of the passage. At the end of this instructional reading period, Adira completed a one minute time trial over the selected repeated reading passage. The tutor served as counter and identified any errors made during the one minute timing and remediated any errors.

Results

Table 1 summarizes data from the acquisition of written Hebrew consonants. Additionally this table presents Adira's data on pronouncing Hebrew letters and sight-words. Results from Chart 1 show two accelerating data paths for the number of correctly written consonants and a fairly flat trend in learning opportunities during the see/write-think/write condition. During the first six sessions, the student's acceleration on correctly written consonants accelerated at $\times 15$ per minute. A second trend occurred during the final nine sessions, when the acceleration for the number of correctly written consonants accelerated at $\times 1.4$ per minute.

During the see/write-think/write, the student's overall performance change for correctly written consonants accelerated at $\times 18$ per minute, while learning opportunities and skips decelerated by $\div 15$ per minute.

Results from Chart 2 show an accelerating data path for the number of correctly pronounced sounds and a decelerating path in incorrectly pronounced sounds and skips. During SAFMEDS practice, Adira's correctly pronounced sounds accelerated at $\times 1.25$ per minute, while incorrects decelerated by $\div 1.8$ per minute.

During SAFMEDS practice, Adira's overall performance change for correctly pronounced sounds multiplied at $\times 15$ per minute, while incorrects divided by $\div 6.0$ per minute.

Table 2 indicates both preassessment and practice session data for all three repeated readings. Repeated reading #1 results from Chart 3 show an

accelerating data path for the number of correctly read words, and a decelerating path in learning opportunities during the see/say condition. During the first repeated readings practice, the student's correctly pronounced sounds accelerated at $\times 2.25$ per minute, while incorrects showed a $\div 1.0$ deceleration with a $\times 8.0$ bounce. Only two data points went above 5 per minute during the 18 repeated reading practice sessions.

During the first see/say, repeated readings condition, the student's overall performance change for correctly read words multiplied by a $\times 20.3$ per minute, while incorrects divided by $\div 9.0$ per minute.

A maintenance check, conducted 12 days after this movement cycle ended, showed a score of 152 correctly read words per minute and only one incorrectly read word.

Results from Chart 4 show two distinctive acceleration data paths for the number of correctly read words and a decelerating trend in learning opportunities during the second see/say repeated reading condition. Adira's correctly pronounced sounds initially accelerated at $\times 5.0$ per minute across the initial five sessions but slowed to an acceleration of $\times 1.7$ across the final 11 sessions. Incorrectly pronounced sounds showed a deceleration of $\div 1.8$ per minute with a $\times 6.0$ bounce. Only two data points went above 5 per minute during the 15 repeated reading practice sessions. During the second see/say repeated readings condition, the student's overall performance change for correctly read words accelerated at $\times 40.0$, while learning opportunities decreased by $\div 12.0$.

Results from Chart 5 show an accelerating data path for the number of correctly read words and a decelerating trend in incorrectly read words during the third repeated reading condition. During the third repeated reading practice, Adira's acceleration of correctly pronounced sounds was a $\times 3.0$, while incorrectly pronounced sounds decelerated by $\div 1.6$. Adira's overall performance change for correctly read words multiplied by $\times 21.0$, while incorrectly read words divided by $\div 9.0$.

Table 1

Student Performance on See/Write and Think/Write Consonants and See/Say Sounds

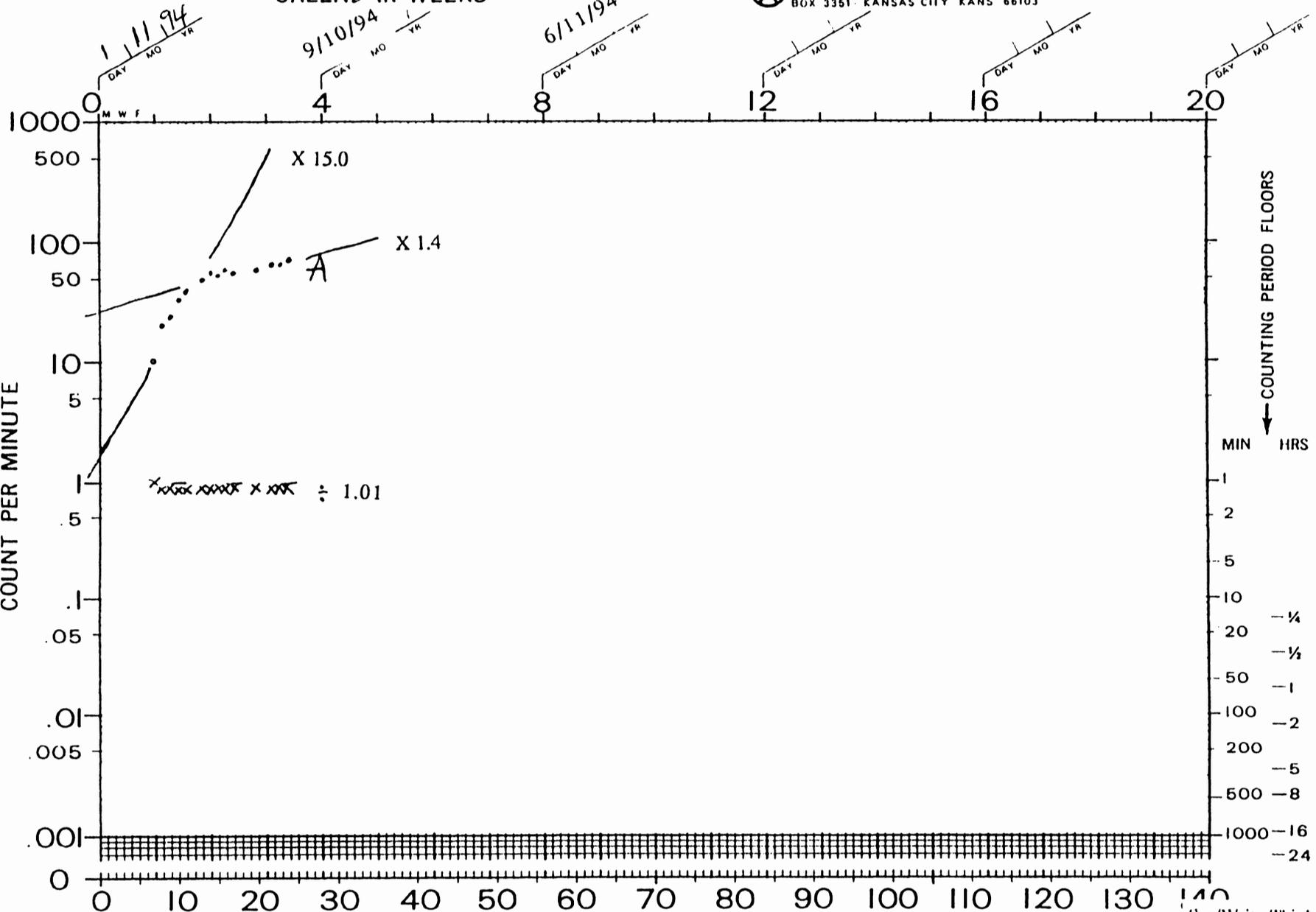
	<u>Hebrew Alphabet Acquisition</u>	<u>Hebrew SAFMEDS</u>
Preassessment	4 correctly written consonants/min.	4 correctly pronounced sounds/min.
Intervention	14 See/Write and Think/Write Sessions	12 SAFMEDS Sessions
Median Correct	53.5 Correctly written consonants/min.	56 Correctly pronounced sounds/min.
Range Correct	10-67/min.	35-68/min.
Median Incorrect	5 incorrectly written consonants or skips/min.	2 incorrectly pronounced sounds/min.
Range Incorrect	0-13/min.	0-5/min.

* Written incorrects never exceeded 1/min., but skipped/omitted letters ranged from 1-12/min.; incorrect performances only occurred during 4 of the 14 sessions.



DAILY BEHAVIOR CHART (DCM-9EN)
 6 CYCLE - 140 DAYS (20 WKS)
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CALENDAR WEEKS



48

W. J. Sweeney W. J. Sweeney
 SUPERVISOR ADVISER MANAGER
 University of South Dal
 & Glasgow University

SUCCESSIVE CALENDAR DAYS

B. Bolich Sweeney/Adira/Bolich

Adira 11
 BEHAVIOR AGE LABEL

Sec/Write/Think/Write
 Hebrew Alphabet
 Recognition
 COUNTED

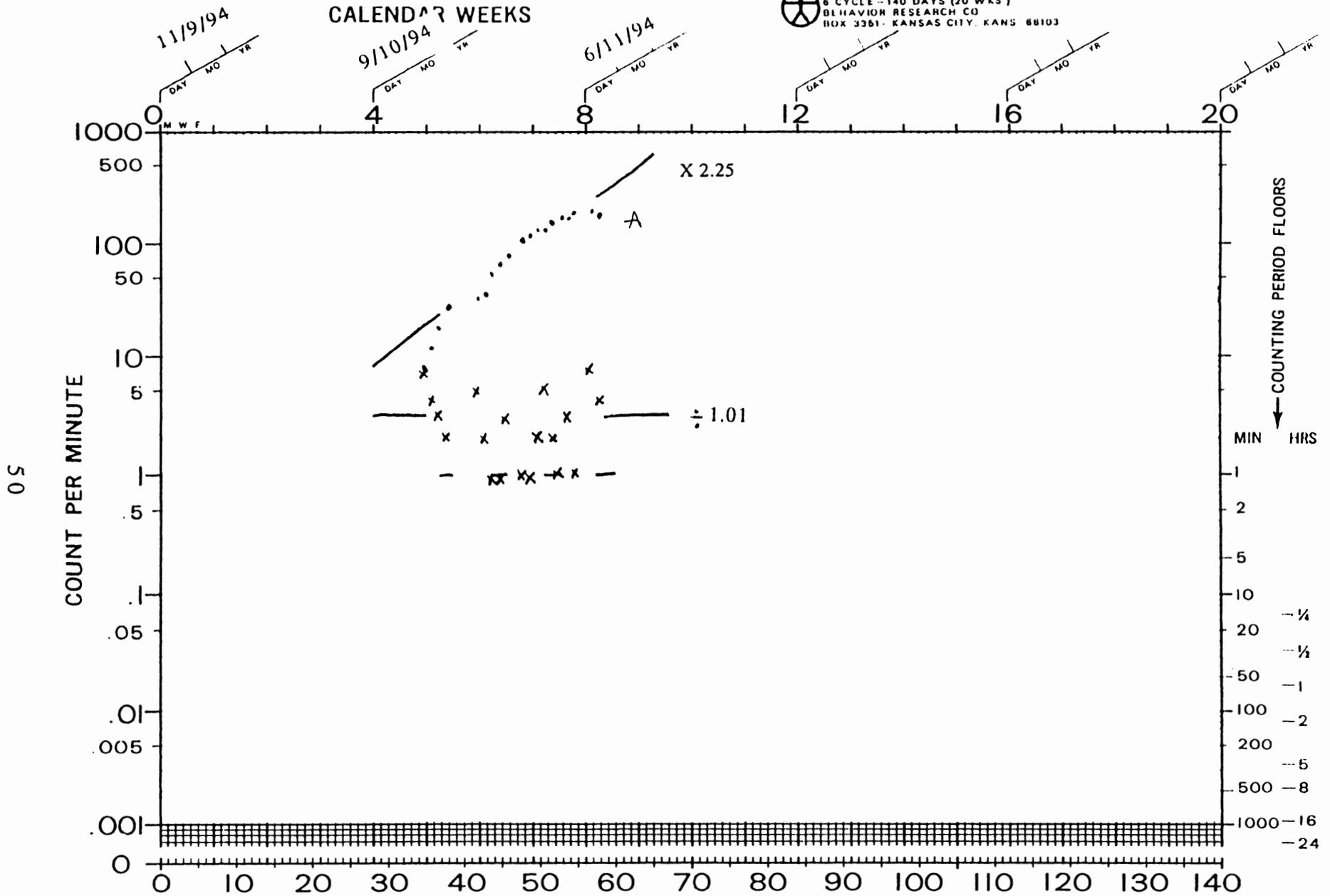
Table 2

Student Performance on Three Repeated Readings

	<u>Repeated Reading #1</u>	<u>Repeated Reading #2</u>	<u>Repeated Reading #3</u>
Preassessment			
Number of correctly read words	8/min.	5/min.	8/min.
Number of incorrectly read words	7/min.	3/min.	8/min.
Practice			
Number of sessions	18	15	10
Median of correctly read words	108/min.	116/min.	123/min.
Range corrects	12-180/min.	11-202/min.	27-171/min.
Median of incorrectly read words	2.5/min.	3/min.	3/min.
Range Incorrects	0-8/min.	0-6/min.	0-6/min.



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SUCCESSIVE CALENDAR DAYS

W. J. Sweeney	W. J. Sweeney	B. Bolich
SUPERVISOR	ADVISER	MANAGER
W. J. Sweeney	University of South Dakota & Gonzaga University	

B. Bolich

Sweeney/Adira/Bolich

Adira	11
BEHAVIOR	AGE

LABEL

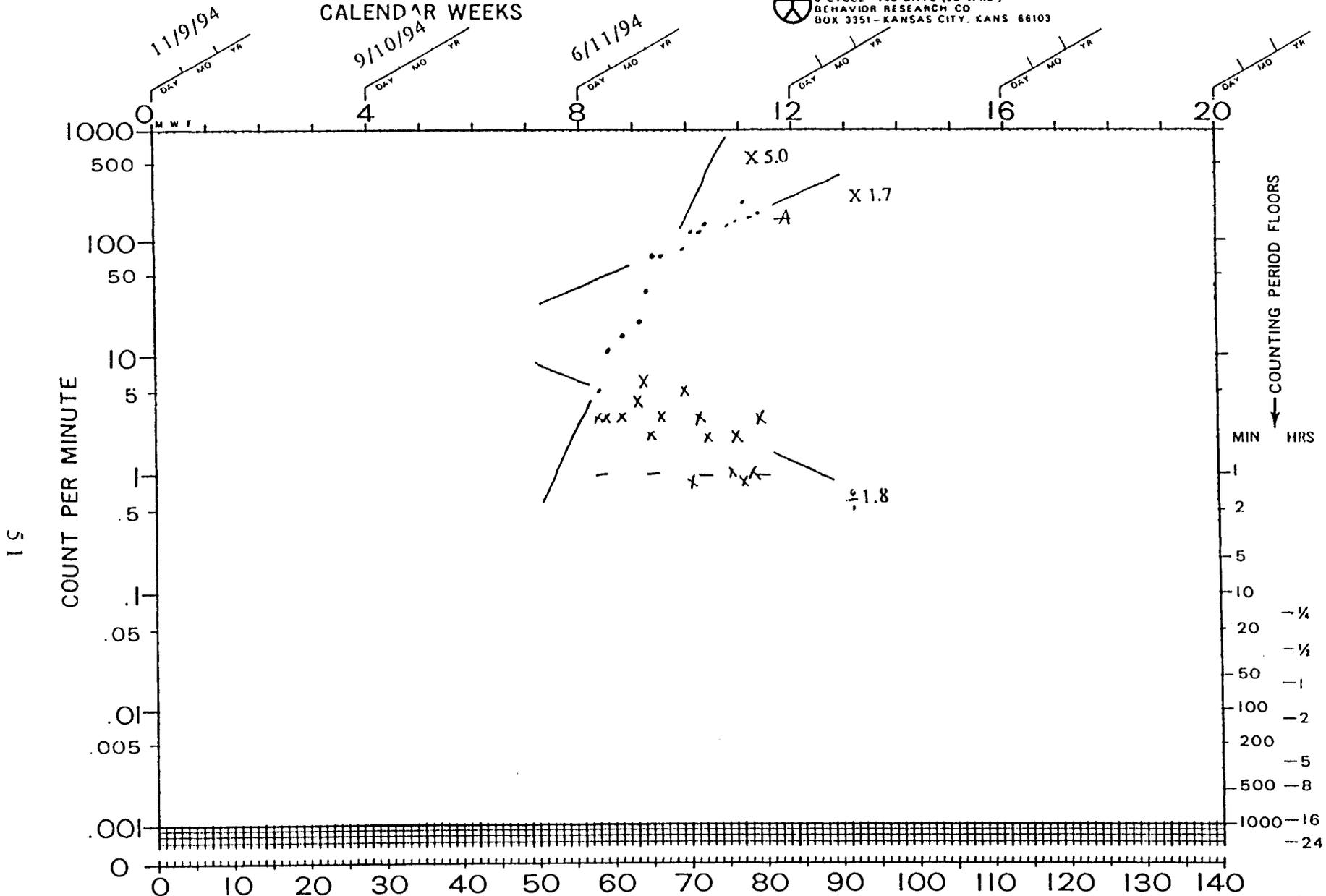
See/Say, Reading Passage
 #1- Repeated Readings
 COUNTED

Adira/Bolich

CALENDAR WEEKS



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15

See/Say, Reading Passag
#2- Repeated
Readings

W. J. Sweeney	W. J. Sweeney	B. Bolich
SUPERVISOR	ADVISER	MANAGER
W. J. Sweeney	University of South Dakota & Gonzaga University	
DEPOSITOR	AGENCY	

SUCCESSIVE CALENDAR DAYS

B. Bolich	Sweeney/Adira/Bolich
TIMER	COUNTER

Adira	11		
BEHAVIOR	AGE	LABEL	COUNTED
Adira/Bolich			
CHARTER			

DAILY BEHAVIOR CHART (DCM-9EN)
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CALENDAR WEEKS

11/9/94
 DAY MO WK

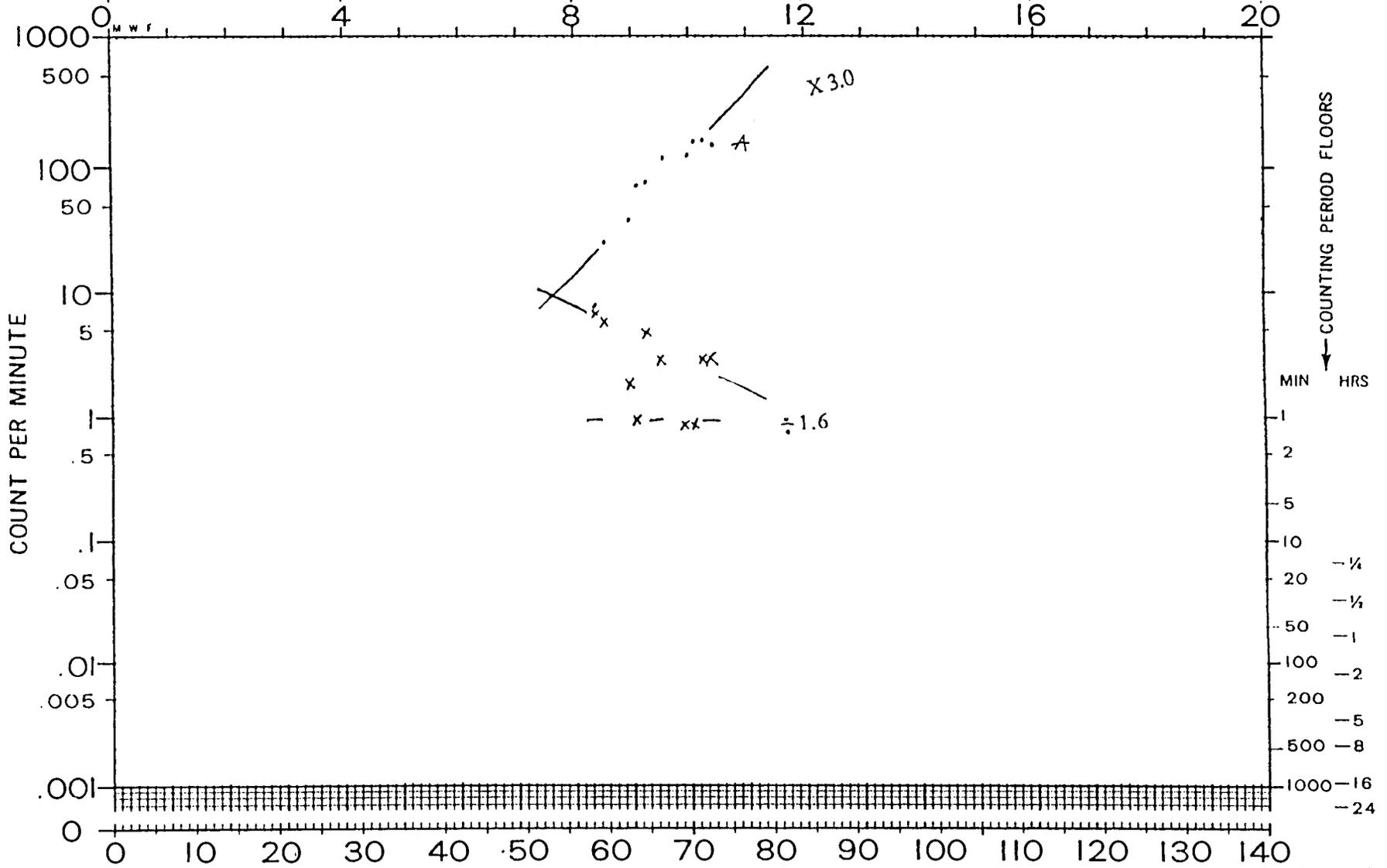
9/10/94
 DAY MO WK

6/11/94
 DAY MO WK

12
 DAY MO WK

16
 DAY MO WK

20
 DAY MO WK



W. J. Sweeney W. J. Sweeney B. Bolich
 SUPERVISOR ADVISER MANAGER
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SUCCESSIVE CALENDAR DAYS

Adira 11
 BEHAVIOR AGE LABEL COUNTED
 Adira/Bolich

See/Say, Reading Passage
 13- Repeated Readings

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ADVISER
University of South Dakota
& Gonzaga University

MANAGER

B. Bolich

Sweeney/Adira/Bolich

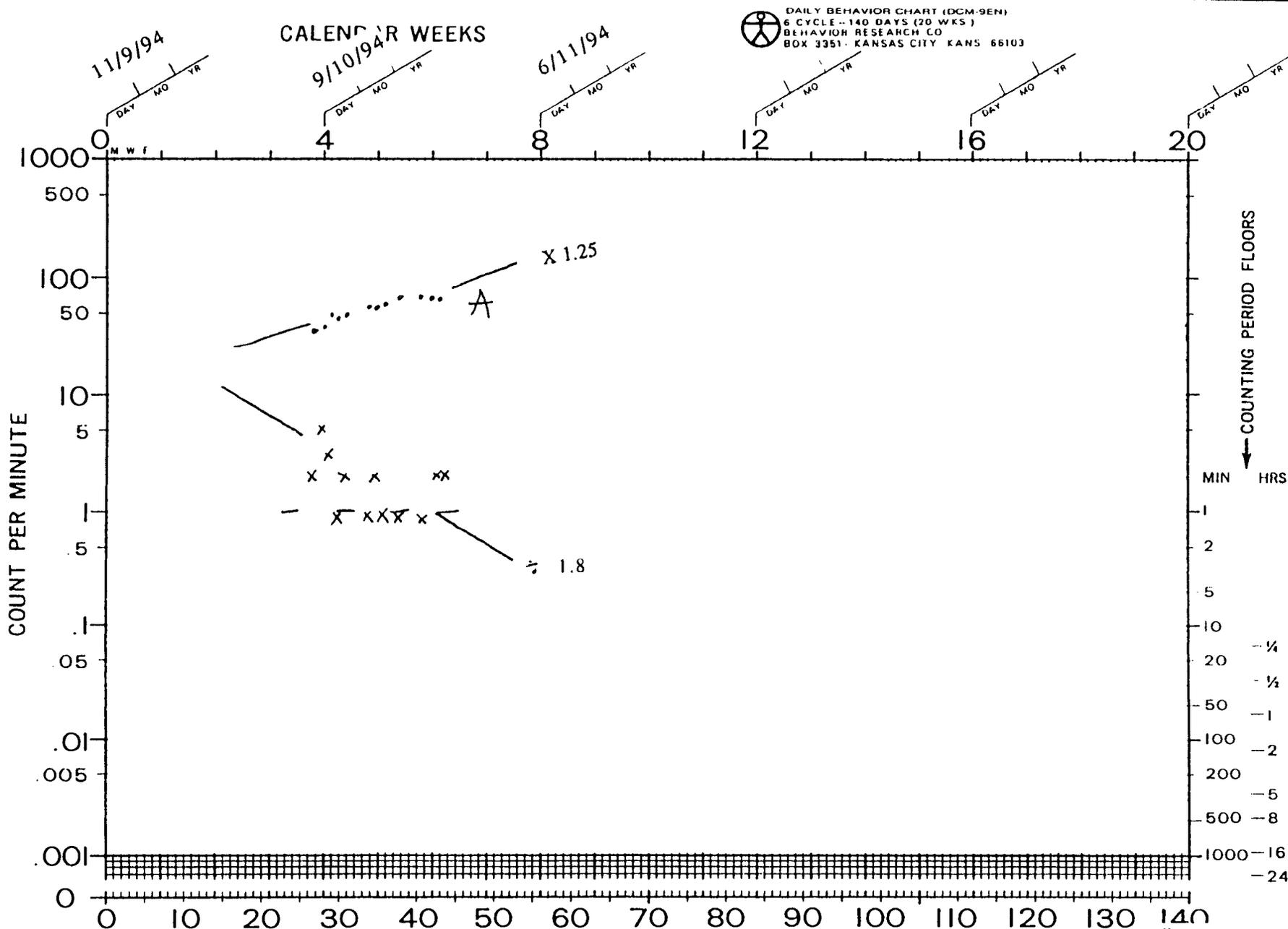
BEHAVIOR
Adira/Bolich

AGE

LABEL

Readings
COUNTED

53



W. J. Sweeney
SUPERVISOR

W. J. Sweeney
ADVISER

B. Bolich
MANAGER

SUCCESSIVE CALENDAR DAYS

Adira
BEHAVIOR

AGE

LABEL

See/Say- SAI/ME/DS
Hebrew letter- word
Pronunciation
COUNTED

W. J. Sweeney

University of South Dakota
& Gonzaga University

B. Bolich

Sweeney/Adira/Bolich

Adira/Bolich

Discussion

Results of this study showed that the combination of see/write-think/write alphabet recognition exercises, SAFMEDS for letter-sound pronunciation, and repeated readings for oral reading fluency with Precision Teaching measurement procedures made important improvements in Adira's ability to read Hebrew. The first two procedures improved her basic decoding skills. The see/write-think/write procedure effectively taught her to write and recognize the alphabet, and she became fluent in producing the sounds associated with consonants and vowel markings with SAFMEDS practice.

Involving Adira's older sister as one of the tutors, meant that three individual schedules were adjusted to ensure that practice occurred at least four days per week. Tutoring sessions varied in length, usually becoming shorter as Adira's fluency increased. Adira enjoyed timing and charting her behavior. She assumed responsibility for counting and charting, and would let neither her older sister nor the first author know what she had scored until all one-minute timings had been completed during a given session.

Adira reported that she is doing better than she ever had before in Hebrew school (e.g., she has quit complaining about having to go to class). The first author and her older sister continued to work with Adira on other readings, using the same procedures. Adira asked to work with a selection that she is learning in Hebrew school. Shortly after the first repeated reading procedure ended, Adira's teacher introduced *Ahavat Olam*, and she was able to master it immediately. She enjoyed her success in Hebrew instruction through the use of the different components of the intervention, and did not complain about continuing the procedures even when she knew the study was officially completed.

The results of the current study have important implications related to foreign language instruction and the acquisition of second languages. The results from this study, with its inclusion of Precision Teaching measurement, demonstrate the importance of measurably effective instruction for the acquisition and fluency development of foreign languages (Held, 1992). Further,

these outcomes augment existing support of SAFMEDS and repeated readings for classroom instruction. Finally, ease of implementation, data collection, and charting show the efficiency, effectiveness, efficacy, and viability of these procedures with a variety of curriculum materials, classroom environments, and students.

One of the major limitations of this study is the fact that it focused on the acquisition and fluency of pronunciation of Hebrew, rather than addressing the comprehension components of understanding the second language. The focus of this study was for the student to learn to read Hebrew scripture to be able to recite it back at her bat mitzvah, thus being recognized as possessing adult responsibilities in the Jewish faith. Unfortunately, recitation for the sake of tradition without a specific understanding of the Hebrew text through direct translation may inadvertently detract from the magnitude of the occasion and richness of the language and heritage.

Slocum et al. (1995) pointed out that one of the major drawbacks in research related to rate measures of oral reading fluency is that rarely do they directly assess the comprehension levels of students relative to the passages they are reading. Secondly, the research on oral reading fluency (i.e., "word calling") and repeated readings tends to report correlational or subjective judgments of improvements in reading comprehension rather than direct measures of students' understanding of the text (Sweeney, 1992). Exclusion of comprehension as a significant measure of reading achievement greatly limits conclusions related to oral reading fluency. Therefore, it is advisable that future research in the area of foreign language acquisition also directly address variables related to comprehension, for example, through the use of retelling procedures.

The intervention package (i.e., see/write-think/write strategy, SAFMEDS drills, and repeated readings) combined with Precision Teaching measurement procedures was an effective way to teach learners to decode and read a foreign language, and build reading fluency in that language. Future research should examine the effectiveness and efficacy of these procedures across a variety of different foreign languages (e.g., Spanish, French, Japanese, German, Russian, Chinese) frequently taught at the secondary and university levels.

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