A Minute a Day to Enhanced Reading Skills

by

Claudia E. McDade, David B. Cunningham, John M. Brown, Barbara B. Boyd, and Charles P. Olander

Students in a study skills course at Jacksonville State University read novel passages for one minute daily, counted the number of words read per minute and plotted their results on the daily Standard Celeration Chart. Two separate studies indicated that when compared with control students, the Precision readers demonstrated greater gains in reading rate, vocabulary, and reading comprehension. These results support a simple, cost-effective mechanism for enhancing reading skills at any educational level.

Entering students in open admissions universities often present poorly developed reading skills which must be quickly remediated before students can successfully compete in college level courses. Many universities offer a freshman level study skills course which might be an appropriate place to assess and enhance student reading skills. Although individualized diagnoses and prescriptions supervised by a reading specialist have been developed in the Center for Individualized Instruction at Jacksonville State University (Alabama), a technique which could be applied in all freshman level study skills classes to enhance students' reading rate, comprehension, and vocabulary was deemed necessary.

The Center for Individualized Instruction relies heavily on Precision Teaching techniques in multiple disciplines (McDade & Olander, 1987), so the faculty decided to apply this powerful instructional technology to the problem of improving reading performance. Precision Teaching requires students to reach high levels of fluent, accurate performance and to record daily performance on the Standard Celeration Chart. A semi-log graph, the Standard Celeration Chart accommodates rate data and can be used to monitor daily performance and predict future performance. Before students can read proficiently, they must learn to decode material at high rates (Maloney, 1987; McGreevy, 1983). Thus, a simple precision learning intervention was implemented in several sections of a freshman level study skills course in an effort to improve student reading rate performance.

Method

All experimental students in the two studies were enrolled in Learning Skills 101: Academic Survival Skills, a one credit hour freshman level course in study techniques at Jacksonville State University. Although vocabulary improvement was taught in the course, reading enhancement was not part of the curriculum. The reading levels of the students were assessed at the beginning of the term with the Nelson-Denny Reading Pre-Evaluation, Form E. Students read novel reading passages daily for one minute and plotted their rates on Standard Celeration Charts. The readability of these passages became progressively more difficult, beginning at 9th grade equivalent and ending with 13th grade equivalent passages (Miller, 1977). Students read silently for one minute each day, counted the number of words read per minute, and plotted their rates on a daily Standard Celeration Chart. The class met two days weekly; however, students performed the same activity on non-class days. Instructors evaluated individual student progress weekly on the Standard Celeration Chart. At the conclusion of the intervention all students' reading levels were assessed on the Nelson-Denny Post-Reading Evaluation, Form F.

Study 1.

Twenty-seven students enrolled in LS 101 served as the experimental group, while 27 students enrolled in English 100: Basic English Skills who had never taken a Learning Skills course served as the control group. All students were randomly selected. Equivalence of the experimental and control groups was assessed on variables of grade point average, age, and sex.

Students in both groups were given the Nelson-Denny, Form E at the beginning of the semester. Those in the experimental group performed the daily reading intervention described above for eight weeks. No reading intervention was prescribed for students in the control group. Both groups were given the Nelson-Denny, Form F at the end of the semester. Comparisons were made between pretest and posttest scores in reading rate, vocabulary, and comprehension.

Study 2.

Seventy-six students enrolled in LS 101 formed an

experimental group performing the reading intervention described above for six weeks. A control group of 146 students enrolled in LS 101 did not receive any prescribed reading practice or instruction whatever. All students in the experimental group were taught by the same instructor, while students in the control group were taught by four different instructors. Again, all students were given the Nelson-Denny, Form E as a pretest and Form F as a posttest. In addition to the comparisons made in Study 1, a regression analysis was performed to determine if change in Nelson-Denny pretest/posttest score could be predicted from celeration in reading rate.

Results

Study 1.

The equivalence of experimental and control groups was confirmed on the variables of grade point average (Exp Gp Mean = 1.21, Con Gp Mean = 0.93 [3 pt. scale], F= 2.76 with 53 df, pr = .103), age (Exp Gp Mean = 20.56, Con Gp Mean = 21.74, F = 1.14 with 53 df, pr = .29), and sex (Chi-Square = .075, p = 0.78).

Two-factor repeated measures ANOVAs were used to compare pretest/posttest reading improvement scores on rate, vocabulary, and comprehension across the experimental and control groups. Table 1 summarizes these comparisons.

Table 1

Study 1: Summary of Two-Factor Repeated Measures ANOVAs

	Control (n=27)		Exp (n=27)		Gp	Repeated Meas
	Pre	Post	Pre	Post	F	F
Rate	203	209	244	381	24.82**	36.61**
Vocabulary	30	34	54	57	35.82**	8.00**
Comprehension	34	34	46	54	47.79**	11.32**

** p< .01

Although students in both groups improved their reading, those who participated in the reading intervention had significantly higher improvements in reading rates, vocabulary, and comprehension. Celerations for reading rates of students in the experimental group are summarized in Chart 1. Chart 2 indicates the comparison of changes in rate, vocabulary, and comprehension for the control and experimental groups.

Study 2.

A summary of the same two-factor repeated measures ANOVAs for Study 2 is presented in Table 2. Again, the experimental group had significantly higher improvements in reading rates, vocabulary, and comprehension even though improvements were also seen in the control group.

Fifty-four students had Standard Celeration Charts with all possible daily performances plotted for six weeks. Celerations of reading rates for the experimental group are seen in Chart 3, while the comparison of changes in rate, vocabulary, and comprehension for the control and experimental groups is shown in Chart 4. A simple regression analysis (F = 9.10, df = 53, pr = .004) resulted in the equation, Y = .65x + 33 where Y = predicted Nelson-Denny score and x = celeration over six weeks. Thus, the reading evaluation score could be predicted from change in the Standard Celeration Chart.

Table 2

Study 2: Summary of Two-Factor Repeated Measures ANOVAs

	Control (n=146)		Exp(n=76)		Gp	Repeated Meas
	Pre	Post	Pre	Post	F	F
Rate	245	269	197	339	1.01	112.65**
Vocabulary	46	49	39	42	8.93**	41.39**
Comprehension	43	47	37	43	12.77**	49.19**

** p< .01

Discussion

Demands of the freshman experience result in enhanced reading performance in first year college students. Daily timed readings charted by college freshmen result in even greater improvement in reading skills. This very simple and economical intervention, requiring no more than two minutes per day, can assist students in developing stronger reading skills, so they can more thoroughly comprehend college level textbooks.

There is no question that practice--simply reading--enhances students' reading performances. The effectiveness of this intervention is due to two components--daily practice and recording rate data on the Standard Celeration Chart. The Chart provides

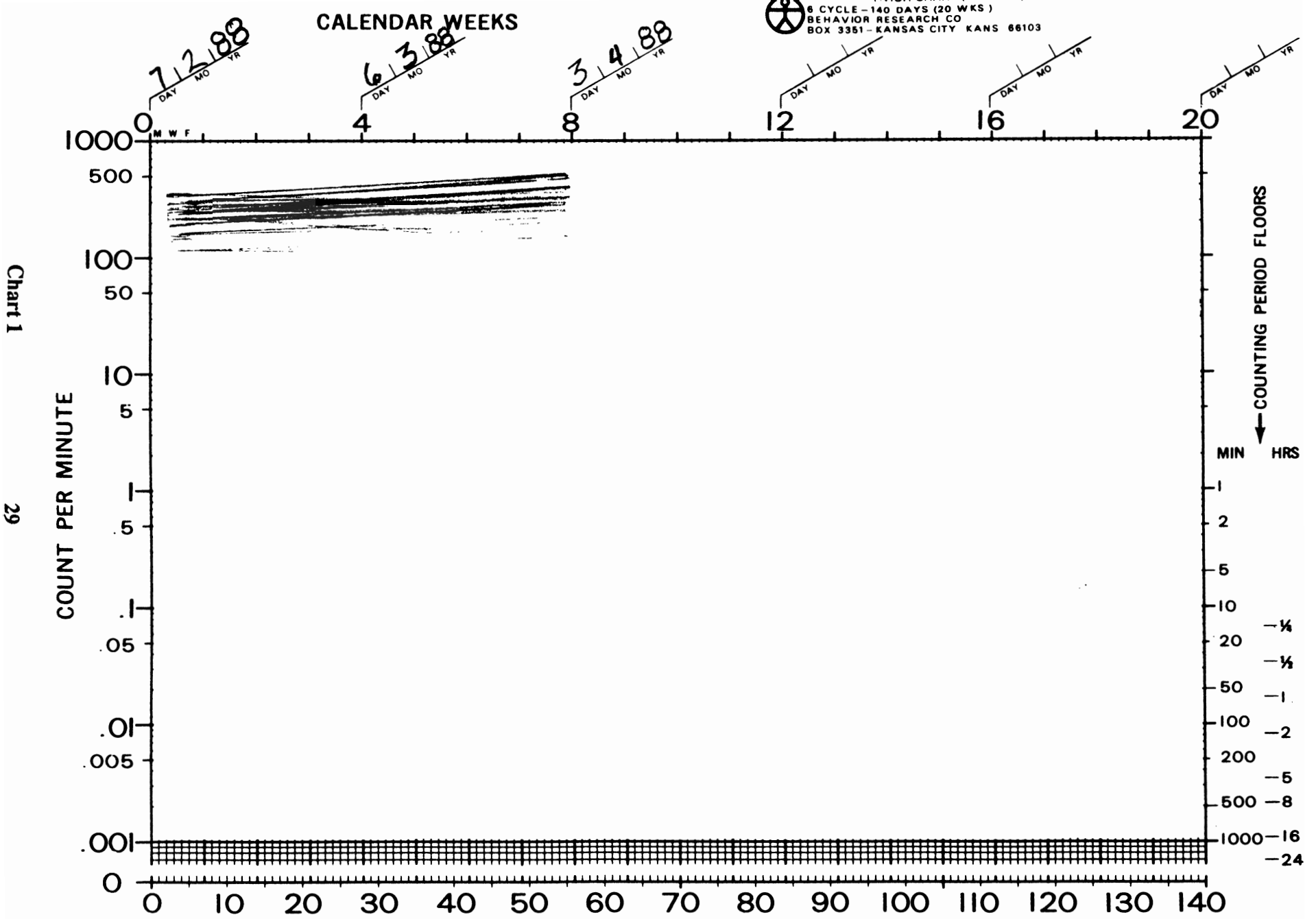


Chart 1

29

McDade	Olander	Cunningham	27 Learning Skills	101 Students Study1	Mcnas Read
SUPERVISOR	ADVISER	MANAGER	BEHAVER	AGE	LABEL COUNTED

CII	Jacksonville St. U.	Cunningham	Students	McDade
DEPOSITOR	AGENCY	TIMER	COUNTER	CHARTER

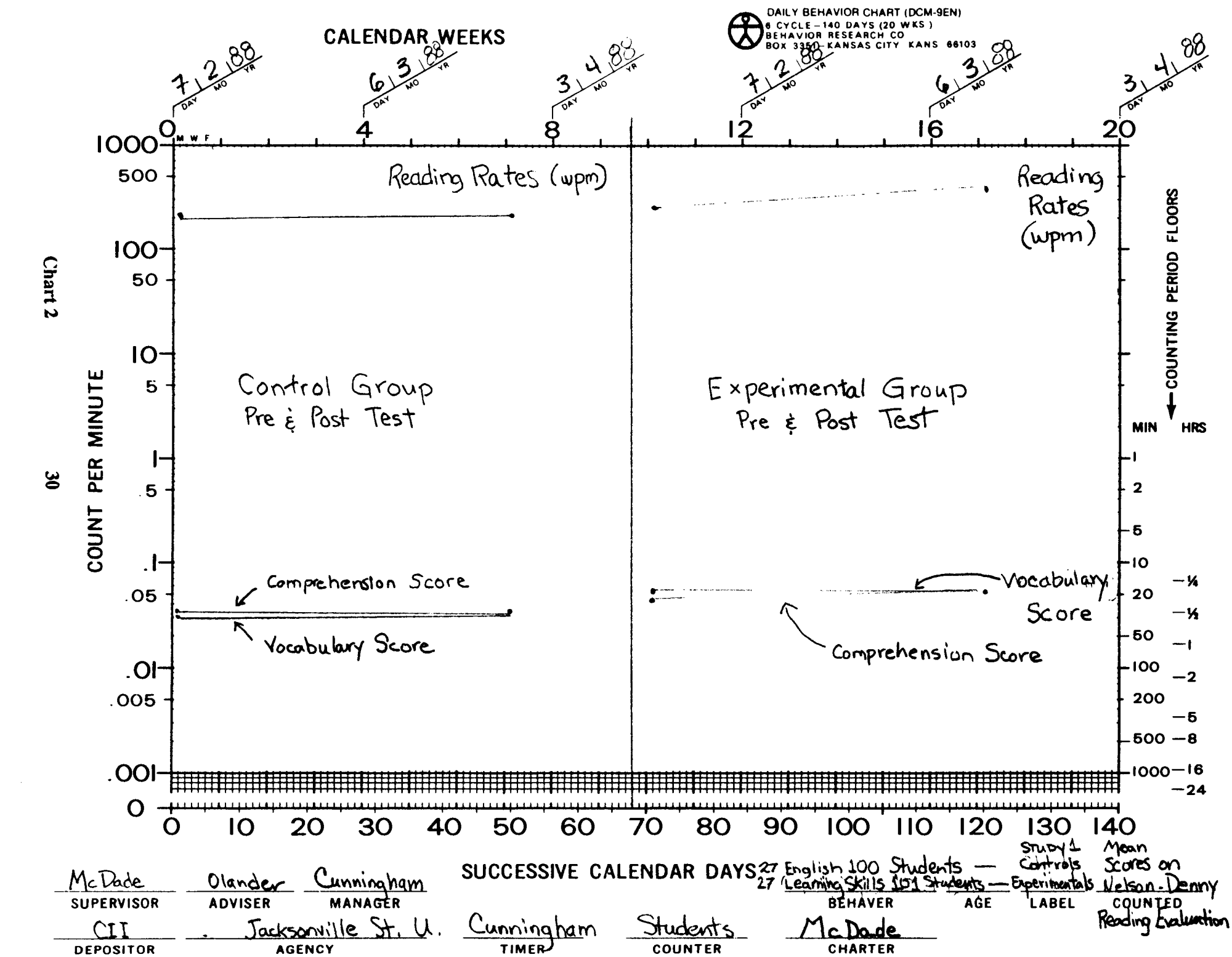
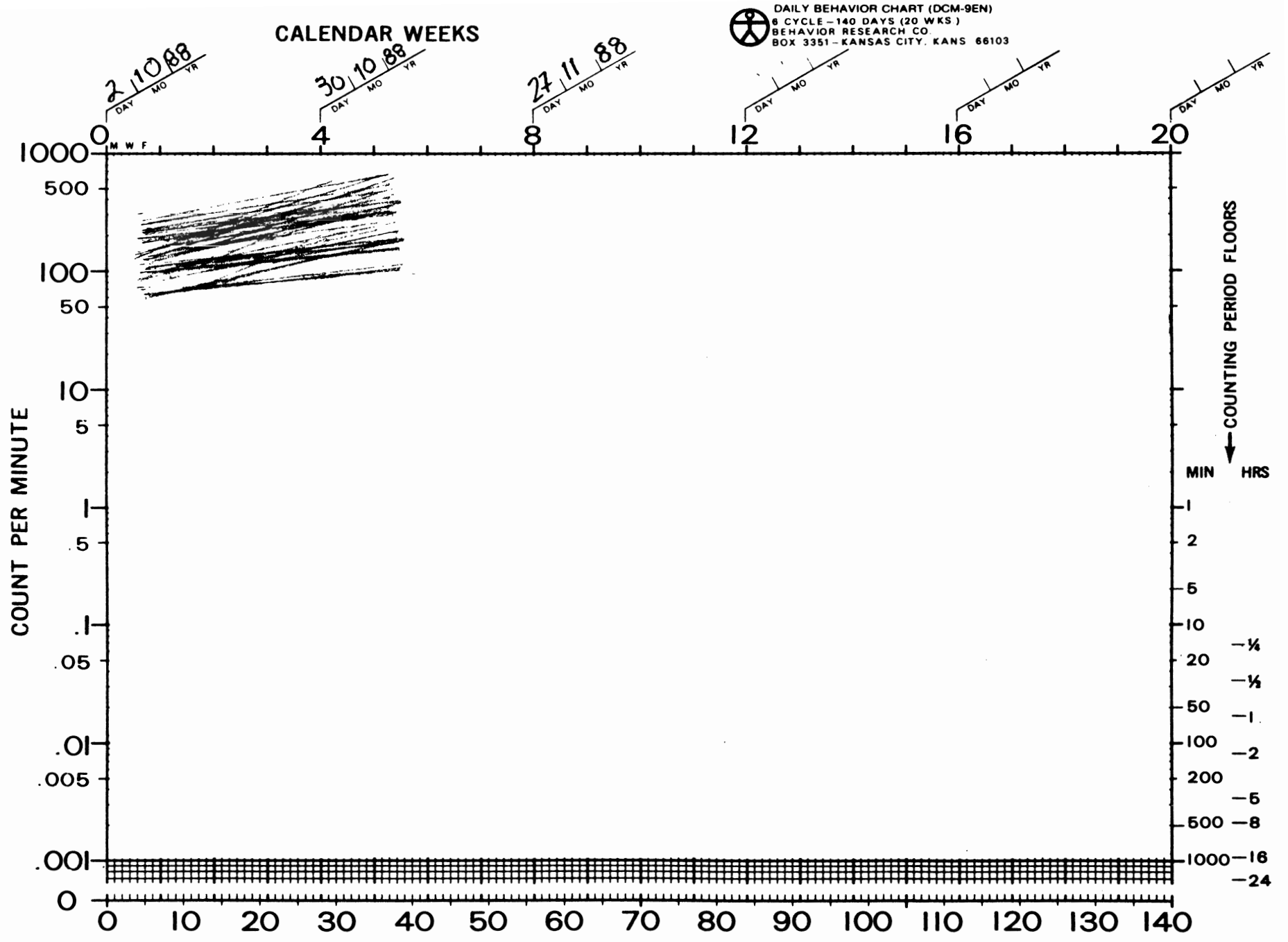

DAILY BEHAVIOR CHART (DCM-9EN)
6 CYCLE – 140 DAYS (20 WKS)
BEHAVIOR RESEARCH CO
BOX 3350 – KANSAS CITY KANS 66103
CALENDAR WEEKS
7 | 2 | 88 DAY MO YR
6 | 3 | 88 DAY MO YR
3 | 4 | 88 DAY MO YR
7 | 2 | 88 DAY MO YR
6 | 3 | 88 DAY MO YR
3 | 4 | 88 DAY MO YR
0 M W F 4 8 12 16 20
Reading Rates (wpm)
Reading Rates (wpm)
Control Group
Pre & Post Test
Experimental Group
Pre & Post Test
Comprehension Score
Vocabulary Score
Vocabulary Score
Comprehension Score
COUNT PER MINUTE
1000 500 100 50 10 5 1 .5 .1 .05 .01 .005 .001 0
COUNTING PERIOD FLOORS
MIN HRS
1 2 5 10 20 50 100 200 500 1000
—¼ —½ —1 —2 —5 —8 —16 —24
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140
SUCCESSIVE CALENDAR DAYS
27 English 100 Students — Study 1
27 Learning Skills 101 Students — Controls / Experimentals
Mean Scores on Nelson-Denny Reading Evaluation
McDade SUPERVISOR
Olander ADVISER
Cunningham MANAGER
BEHAVER
AGE
LABEL
COUNTED
CII DEPOSITOR
Jacksonville St. U. AGENCY
Cunningham TIMER
Students COUNTER
McDade CHARTER

Chart 2

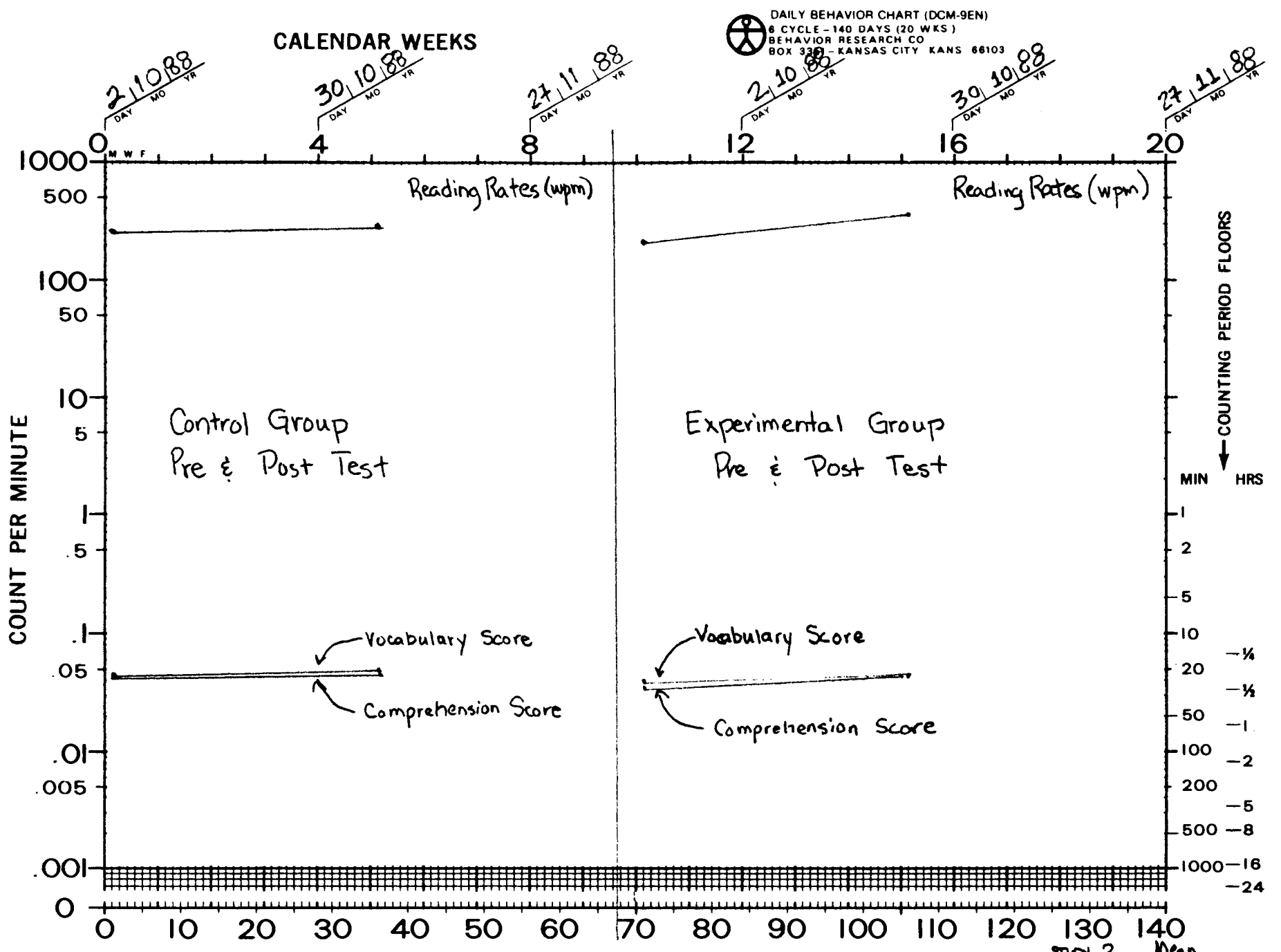
30



McDade | Olander | Boyd
SUPERVISOR | ADVISER | MANAGER

76 Learning Skills | 101 Students | Study 2 Words Read
BEHAVER | AGE | LABEL | COUNTED

CII | Jacksonville St. U. | Boyd | Students | McDade
DEPOSITOR | AGENCY | TIMER | COUNTER | CHARTER



McDade	Olander	Boyd			146 LS 101 Students ——		STUDY 2	Mean Scores on
SUPERVISOR	ADVISER	MANAGER			76 LS 101 Students ——		Controls	Nelson-Denny
					BEHAVER	AGE	Experimentals LABEL	COUNTED
CII	Jacksonville St. U.							Reading Evaluation
DEPOSITOR	AGENCY	TIMER	COUNTER	CHARTER				Form E, Form F

feedback to the individual student who can observe his/her celeration, as well as projection of future performance (White & Haring, 1980).

Due to the effectiveness of this simple reading enhancement technique, all students scheduling both study skills and developmental writing courses within the Center for Individualized Instruction are now required to perform daily timed readings which they plot on Standard Celeration Charts. Further interventions designed to enhance comprehension have been implemented and evaluated; these will be reported in a future article. Center staff strongly recommend that this technique be applied wherever applicable.

References

Maloney, M. (1987). Personal communication.

McDade, C.E., & Olander, C.P. (1987). Precision management of instructional technology: A program update. *Educational Technology, 27* (3), 44-46.

McGreevy, P. (1983). *Teaching and learning in plain English.* Sarasota, FL: Precision Teaching Materials.

Miller, L.L. (Ed.) (1977). *Increasing reading efficiency* (4th ed.). New York: Holt, Rinehart & Winston.

White, O.R., & Haring, N.W. (1980). *Exceptional teaching* (2nd ed.). Columbus, Ohio: Charles E. Merrill.

This research formed the basis of the dissertation of Dr. Barbara Boyd, who is currently employed as Reading Director at Gadsden State Community College in Gadsden, Alabama. Initial piloting of Precision reading interventions was performed by David Cunningham when he taught LS 101 at Jacksonville State University. Currently, Mr. Cunningham is employed by the University of Alabama in Birmingham and is working on his dissertation at Auburn University. Dr. Claudia McDade is Director of the Center for Individualized Instruction and Professor of Psychology at Jacksonville State University, while Dr. Charles Olander is Professor of Biology at Jacksonville State University. Mr. John Brown is an instructor of developmental writing in the Department of Learning Skills at Jacksonville State University.