

Upon examining his monthly charts at the end of seventh grade, the staff noted that he made minimal progress on the phonetic curriculum while showing steady and significant gains in pace on the functional words curriculum. The latter is displayed in Chart 1. The staff felt that Tom's progress on these functional words was partly due to the teaching of the definitions of those words prior to his learning to read them. Consequently, these words were in his vocabulary and were relevant to his life as opposed to the phonetic curriculum which he referred to as "full of baby words."

The first monthly probe in eighth grade showed Tom maintaining his pace on the functional words, but not on the SIMS phonetic curriculum. Therefore, the SIMS staff decided to place more emphasis on these functional words by teaching and monitoring them in reading class as well as periodically in his written language class. Note the steady progress from October, 1984 - January, 1985. At that time, the staff decided that Tom should read only the functional words and do multiple practices in his reading class. Note the jump in pace in February, 1985. It is also interesting to note that the teacher who conducted the monthly probes was not the reading tutor who practiced with him.

In viewing Tom's two-year chart, three conclusions are evident:

1. Tom made gains in reading pace when the reading curriculum was relevant (functional) to his daily living environment.
2. Tom's learning picture shows a perfect "jaws", with corrects steadily increasing and skips steadily decreasing.
3. The staff decision to emphasize functional reading vocabulary was appropriate.

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## CELERATION AND RITALIN

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The use of Methylphenidate (Ritalin) has been a popular method for combating hyperactivity with elementary school children. Estimates have placed the incidence rate at 1.19 percent of the elementary school population (Lambert, Sandoval and Sassone, 1978). Because of this high incidence rate, there has been an increasing interest in alternative methods for controlling hyperactive children (O'Leary, 1980).

Recent research indicates that direct contingency management tactics have equalled or surpassed the effects of drug therapy (Rapport, Murphy and Bailey, 1982). Also, response cost systems along with psychostimulant medication have also been reported to be an effective intervention for increasing on task behavior and academic performance for hyperactive children (Rapport, et al, 1982).

Although, studies have reported increased academic performance and improved social behavior, no study has related the rate of learning when students are on or off Ritalin. The data presented here displays the celerations of two students who were on Ritalin and their subsequent celerations when Ritalin was no longer dispensed to them. The data were collected within a natural classroom setting. No attempt was made to isolate variables other than Ritalin and academic tasks, which were varied simultaneously. The constants were schedules of reinforcement, teachers, and time and place that timings were administered.

The two subjects were part of the University of Florida's Multidisciplinary Diagnostic and Training Program (MDTP). This program is a joint project between the Departments of Special Education and Pediatrics. One service that this project provides is a diagnostic classroom for children (K - 6) who are exhibiting some maladaptive behaviors within their classroom setting. Children who attend the Diagnostic Classroom,

located in the College of Education, are usually enrolled for six weeks. They attend Monday through Friday for their total school day. During this time special educators, a language clinician, and a school psychologist perform academic assessments, implement various interventions, and provide educational alternatives to the students' home schools.

Behavioral and academic growth is carefully monitored in the MDTP classroom. Direct Instruction and Precision Teaching are used daily. The two students whose data are displayed are R.G. and K.A. Both were referred to the MDTP classroom, because they experienced behavioral and academic difficulties. Student R.G. was in fifth grade; while student K.A. was in kindergarten. Prior to attending the Diagnostic Classroom both students were medically diagnosed as hyperactive and they were treated with Ritalin.

While attending the MDTP classroom R.G. and K.A. earned points on a point card. These were given to student R.G. intermittently for appropriate behaviors (e.g., hand raising, staying on work, working quietly). Student K.A. earned a smiley face every 10 minutes for working quietly in his seat. Additionally, he earned points intermittently for raising his hand, and staying on his job. The points earned by both students were traded for small prizes, activities or computer time.

The student's celerations on targeted academic tasks were determined while they were taking Ritalin. After three weeks in attendance at the Diagnostic Classroom, the project's neurologist discontinued the Ritalin for both students. Celerations were continually monitored each week.

## RESULTS

The data presented in Charts 1 through 4 depict two week celerations for corrects and errors on several skills. The initial data on Charts 1 and 2 indicate student celerations on a series of tasks for two weeks while taking Ritalin. Charts 3 and 4 indicate student celerations on a new series of tasks during a subsequent

two week period while no Ritalin was taken by either student.

Chart 1 displays student K.A.'s celerations for corrects and errors for several academic tasks while taking Ritalin. Student K.A. received daily practice for two weeks on think/write vertical lines, see vowels/circle "a", and see numbers/circle ones. Student K.A.'s median celeration for correct responses was /1.2. Her median celeration for error responses was xl. When Ritalin was discontinued (see Chart 3), K.A. received daily practice on think/say letters A - D, see random numbers 1-3/say number, and see dot/make circle around dot. Student K.A.'s median celeration for correct responses on these skills was xl.4. Her median celeration for errors was /6.

Student R.G. received daily practice for two weeks on see/say words in text, see/say meaning of contractions, see/write plurals, and see/say meaning of abbreviations, while taking Ritalin. Student R.G.'s median celeration for corrects was xl.4, while her median celeration for errors was /1.1 (see Chart 2). When Ritalin was discontinued, student R.G. practiced daily for two weeks on see/say isolated blends, see/say words, hear/write spelling words, and see/say digraphs. The median celeration for corrects was xl.6, while the median celeration for errors was /1.8 (see Chart 4).

## DISCUSSION

The data described here begin to suggest that Ritalin may have its most pronounced effect on inhibiting deceleration of errors. The data also suggest that a controlled research study be undertaken to isolate the effect of Ritalin on student academic performance.

## REFERENCES

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- O'Leary, K. D. (1980). Pills or skills for hyperactive children.

CALENDAR WEEKS

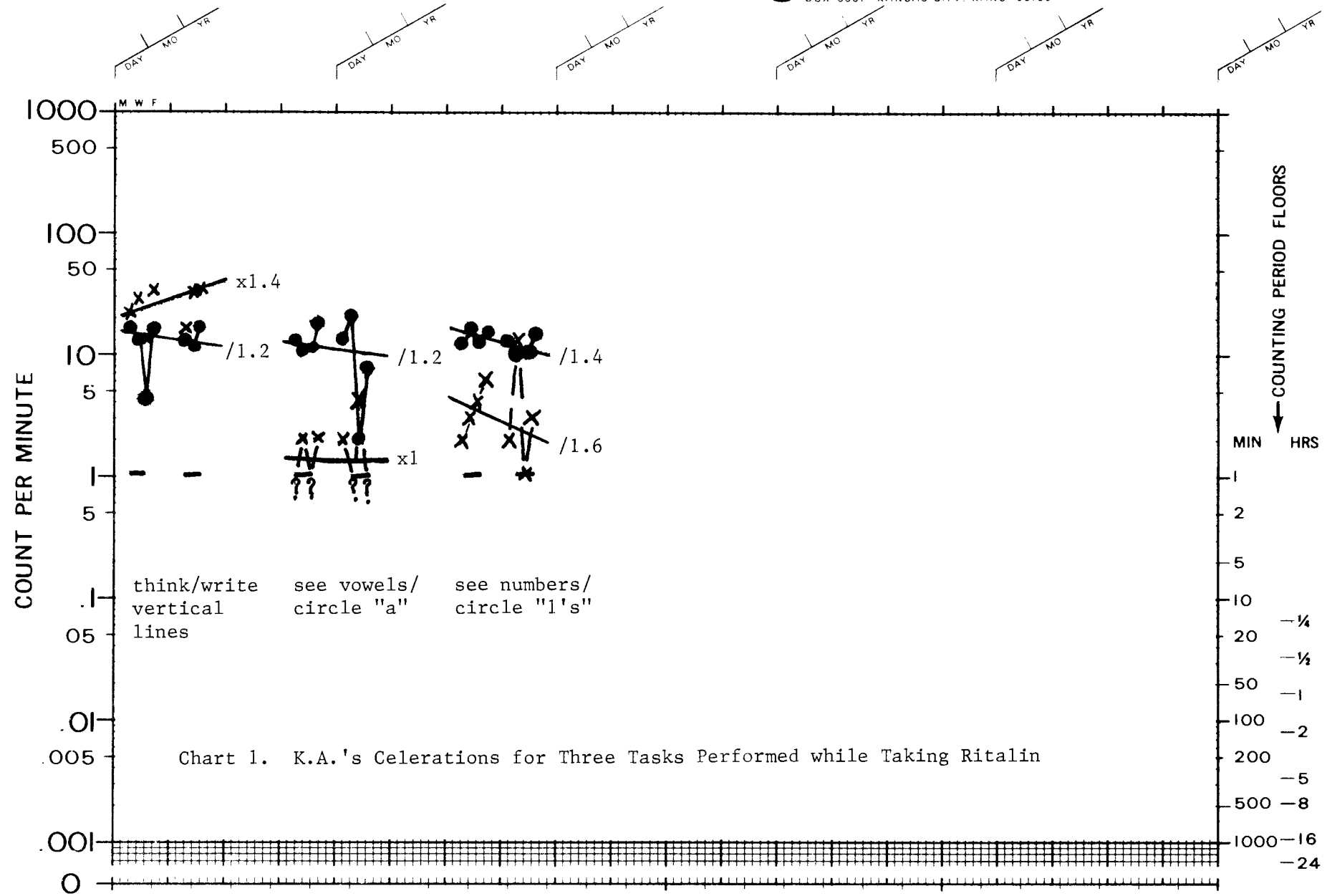


Chart 1. K.A.'s Celerations for Three Tasks Performed while Taking Ritalin

SUPERVISOR			CALENDAR DAYS		K.A.		performs three tasks described on the chart	
Tenenbaum		Peterson			BEHAVIOR	AGE	COUNTED	
ADVISER		MANAGER						
University of Florida Gainesville, Florida								
AGENCY			TIMER	COUNTER	CHARTER			

CALENDAR WEEKS



DAILY BEHAVIOR CHART (DCM-9EN)  
 6 CYCLE - 140 DAYS (20 WKS)  
 BEHAVIOR RESEARCH CO  
 BOX 3351 - KANSAS CITY KANS 66103

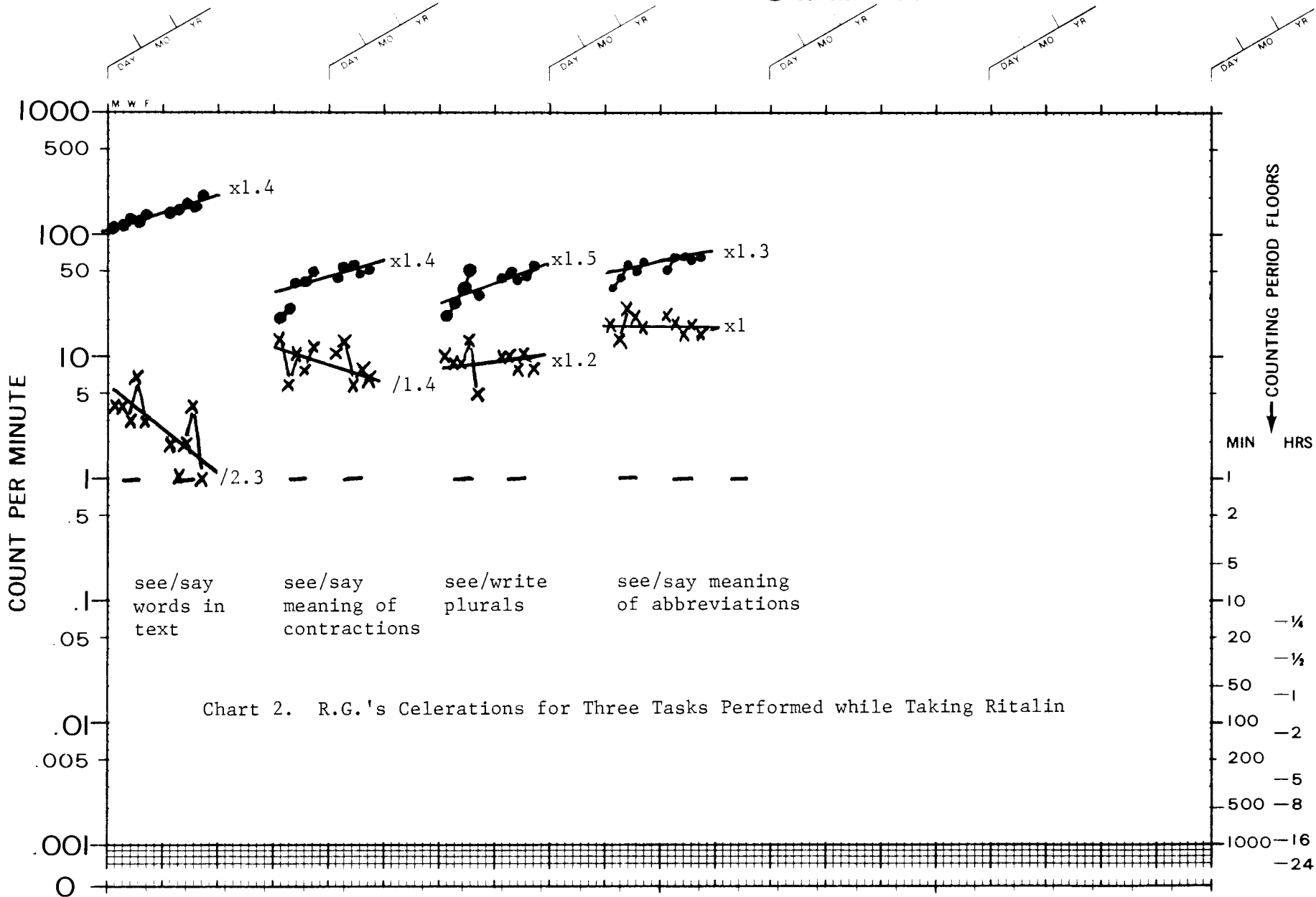


Chart 2. R.G.'s Celerations for Three Tasks Performed while Taking Ritalin

Tenenbaum			Peterson			CALENDAR DAYS		R.G.	performs four tasks described on the chart	
SUPERVISOR	ADVISER	MANAGER					BEHAVIOR	AGE	COUNTED	
University of Florida Gainesville, Florida							CHARTER			
AGENCY			TIMER			COUNTER				



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CALENDAR WEEKS

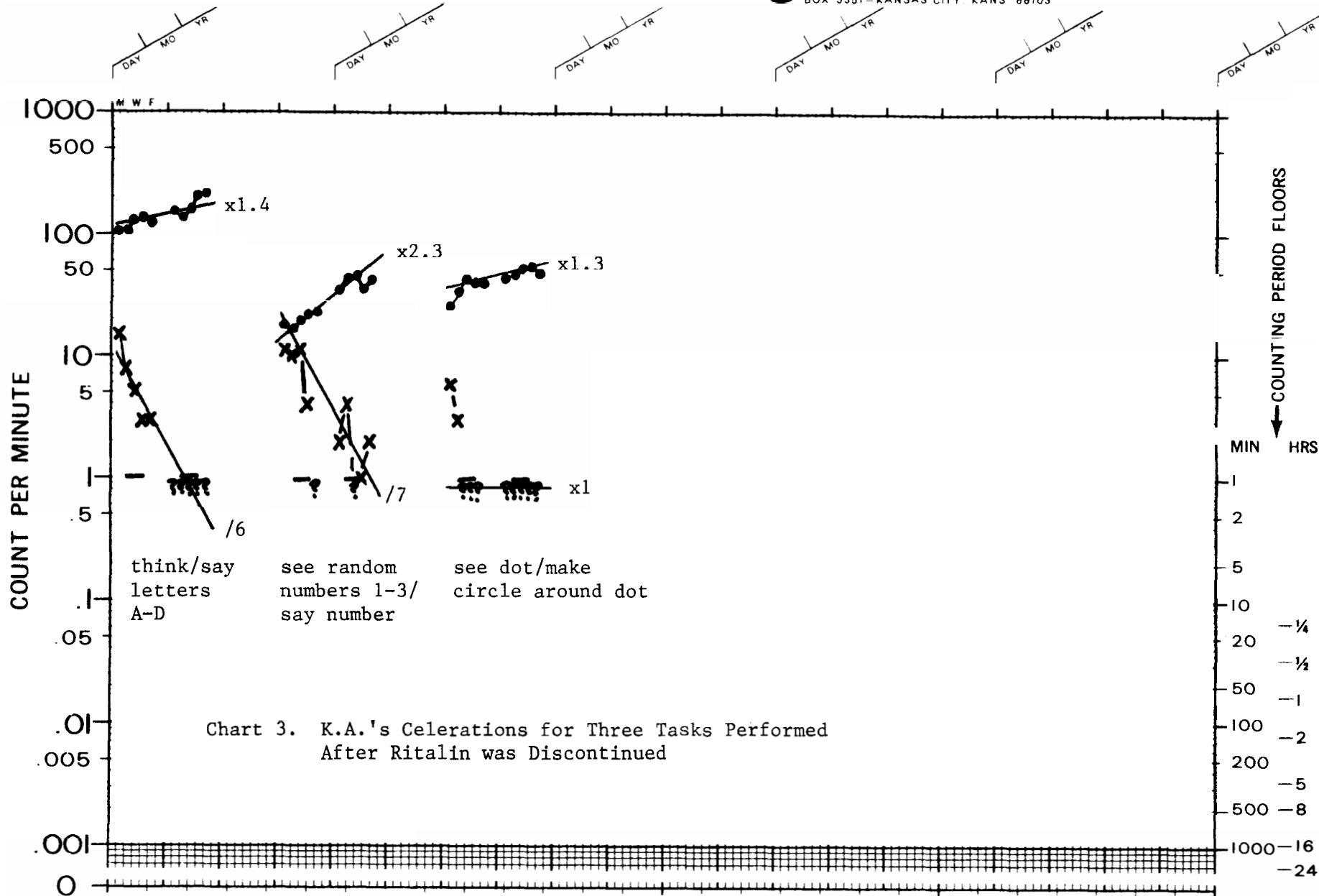


Chart 3. K.A.'s Celerations for Three Tasks Performed After Ritalin was Discontinued

SUPERVISOR		Tenenbaum		Peterson		K.A.		performs three tasks described on the chart	
ADVISER		MANAGER		BEHAVIOR		AGE		LABEL	
DEPOSITOR		AGENCY		TIMER		COUNTER		CHARTER	
University of Florida Gainesville, Florida									

CALENDAR WEEKS



DAILY BEHAVIOR CHART (DCM-9EN)  
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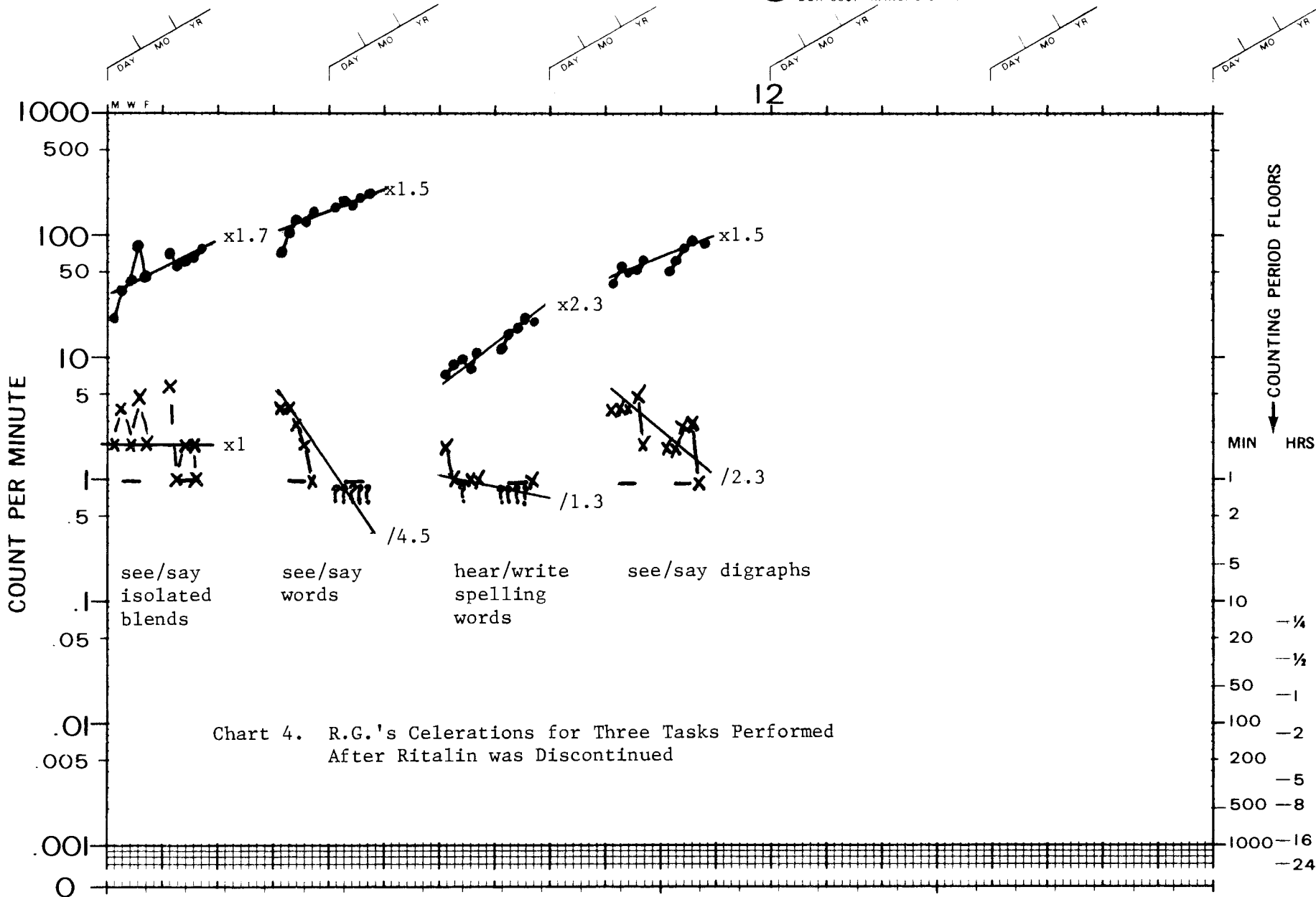


Chart 4. R.G.'s Celerations for Three Tasks Performed After Ritalin was Discontinued

Tenenbaum		Peterson	CALENDAR DAYS		R.G.	performs four tasks described on the chart	
SUPERVISOR	ADVISER	MANAGER			BEHAVIOR	AGE	COUNTED
University of Florida Gainesville, Florida			TIMER	COUNTER	CHARTER		
AGENCY							

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### **HIGH SEE-SAY FREQUENCIES IN A SPECIAL EDUCATION CLASSROOM**

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This article briefly describes a precision reading program in Alan Ellis' classroom for trainable mentally handicapped (TMH) students in Orlando, Florida. One hundred-word passages are designated in individual stories in a remedial reading series as content for a one-minute timing. Within this passage ten high-frequency vocabulary words are repeated throughout. Prior to the timings, students are given opportunities for drill and practice on the high frequency words. The students are timed for one minute daily. When students reach their aim for two consecutive days they move ahead to the next story where ten new vocabulary words are introduced. Chart 1 shows the progress of James -- a 15 year old TMH student. The teacher has found that Precision Teaching has not only increased fluency in reading, but has proven that TMH students can achieve high see-say frequencies.

We can and need to expect the best from our mentally handicapped students. If teachers have pinpointed appropriately, in most cases, these students can reach frequencies close to those of "regular" students.

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