

quisite" to one another in sequence is rarely justified. Look around, behind and ahead.

In the next episode, Uncle Owen's diary draws to a close as he attempts to summarize his thoughts and describe the "Uneasy Truce" which appears to have been established between the Learner Rebels and the Evil Normie Empire.

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SELF-CHARTING: GIVING KIDS A CHANCE

Robert Bower
Wayne State College

Most things we can record. But still some thing you can't record. Something we can record by tape recorder camera charts or pictures. When we ues a tape recorder we can here the sounds of anamills or people. When we uos a camera we can see howses bridges and parcks. If you yous a ckart you can see how mach you'v grou. But almost all things you can record one of these was.

(William Northey in Lovitt[1982, p. 282.]

RATIONALE AND HISTORICAL PERSPECTIVE

A function of education is to shape children's sense of responsibility and independence in both social and academic settings. Self-recording and self-assessment procedures have been used for such purposes. Self-recording alone has been found to be effective in producing change in classroom and non-classroom settings with children of varying ages (Rosenbaum and Drabman, 1979; Broden, Hall and Mitts, 1971; Jones, Fox and Billingsley, 1972). Positive effects of self-recording have been demonstrated for both accelerating and decelerating targeted behaviors (O'Leary and Dubey, 1979). According to Lovitt(1984), self-counting and self-recording ought to be part of any teacher's operating tactical repertoire.

Self-recording procedures can be extended to include self-assessment or self-monitoring. An evaluative element is added where the student assumes a more active role as co-teacher or co-therapist(Hallahan, Marshall, and Lloyd, 1981). Self-

assessment procedures have functioned as change agents in a variety of settings and with a variety of behaviors and subjects (Rosenbaum and Drabman, 1979). Visual records of behavior changes are provided when self-charting is employed. Self-charting allows children to see their present behavior and assess changes in their behavior over time (Eaton and Hansen, 1979). Lindsley (1971) suggested that self-recording and self-charting are answers to teachers' economic and time problems.

The integrity of the records or reliability of self-recorded data may be an issue with some practitioners. Researchers have reported high reliability coefficients of self-reported data (Alberto and Troutman, 1982; Sokolove, 1973). Rosenbaum and Drabman (1979) reported that even when low correlations between self-recording and observer records occurred, behavior changed in the desired direction.

The idea of self-recording is not new. Skinner's invention of the cumulative recorder permitted the laboratory animal to record its own behavior. In **The Behavior of Organisms**, Skinner (1938, p. 60) stated that "all the curves given in the book... are photographic reproductions of records made directly by the rats themselves." Pictures of human psychotic behavior were collected and displayed during the 1950's and 1960's in a similar manner by Lindsley at Metropolitan State Hospital, Waltham, Massachusetts (Lindsley, 1964; Skinner, 1972).

It is no wonder that individuals who practice the conventions of Precision Teaching encourage and support a self-reporting and self-assessment environment for their students. Lindsley (1984) insisted that the integrity of the child's chart should be maintained by teachers, administrators, and publishers. He suggested that the **Journal of Precision Teaching** is unique in that respect, because the charts in this journal are simply traced reproductions of the charts produced by the behaviors.

Many educators tend to assume that children, especially young children, are unable to self-graph and self-

assess. This assumption is often without foundation, since these procedures are infrequently made available to children. Recording and assessment chores are typically assumed by the teacher. While evidence exists that young children can self-monitor social and academic behavior (Duncan, 1971; Shryock, Eaton and Bogert, 1981; Maloney, 1982; Holden, 1982), more documented evidence is needed.

A teacher's concern for precision and neatness of data collection and data display may prevent the child from assuming an active role in recording and management activities. However, a worthwhile goal in the humanization of management programs is to permit the child's active participation in the total process. Children should be permitted to personalize the charts displaying their own behavior. This is a right which should not be violated by educators at the expense of "cleaning up" a chart. It is gratifying and refreshing to see children claim ownership of behavior by individualizing and personalizing their own charts.

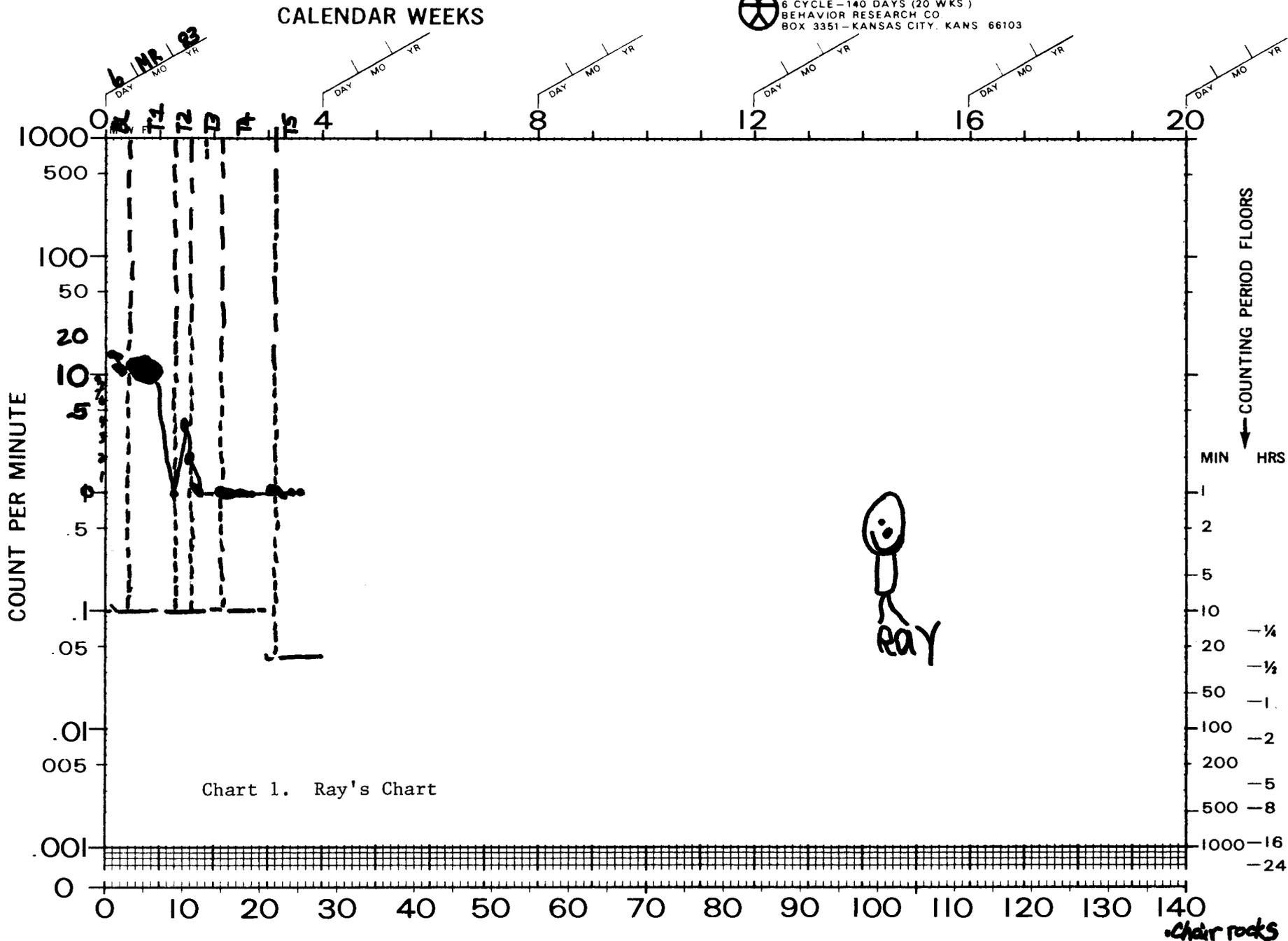
THE CHILDREN'S CHARTS

The following charts are children's charts and are a result of projects completed as partial requirement for an undergraduate educational psychology class. The students conducting the projects were elementary education majors. The data were collected during their student teaching experiences. Self-monitoring and self-recording were employed. Although the use of standard charting conventions is not consistent, the children's charts are presented in an unaltered state. The children's charting does not inhibit the function or interpretation of the data.

Chart 1 is Ray's chart. Ray is a five-year old kindergarten student. The pinpoint of chair rocking was selected because Ray frequently spilled his milk on the table, chair and floor during the milk break. A chair rock was defined as each time the front legs of Ray's chair left the floor. Ray volunteered to help with the project. Treatment 1 consisted of the teacher encouraging Ray to sit anywhere but at the head of the table.



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



D. Bower
SUPERVISOR

Trayner-Harris College
AGENCY

ADVISER

MANAGER

SUCCESSIVE CALENDAR DAYS

J. Spear
TIMER

Ray; J. Spear
COUNTER

Ray B.
BEHAVIOR

5
AGE

Kdgnr
LABEL

COUNTED

Ray B.
CHARTER

Prior observation suggested that Ray was most disruptive when at the head of the table. This treatment was ineffective. During treatment 2, Ray was involved in counting chair tips and rewarded with stickers for five or less tips during the 10 minute period. The schedule of reinforcement was leaned during the next two treatment phases to a criterion of zero tips in treatment 4. The counting period was extended to thirty minutes in phase 5 to include break and reading periods. The criterion was zero chair tips.

With the help of his teacher, Ray placed the dots on Chart 1. Some individuals may be concerned that the dots are not drawn precisely. Some are in fact quite large. The counting period is appropriately indicated by horizontal lines. In order to facilitate Ray's charting behavior, the behavior scale represents total counts - not count per minute. The frequencies are certainly retrievable. Ray has claimed his chart by placing a pictorial and semantic signature on the right.

Chart 2 provides a recharted display of Ray's behavior according to Standard Celeration Chart conventions. The most dramatic change is reflected in the counts below the counting period floor. However, the downward trend in Chart 1 is clearly visible. A teacher who is interested in behavior change can readily see change on the chart drawn by Ray. The effects of the interventions are not included in Ray's version of the chart. The benefits of allowing Ray to keep his own chart at the expense of ignoring some charting conventions may be worthwhile.

Theresa's chart is Chart 3. Theresa is a six-year-old first grader who was working on a 35 sight word curriculum. The teacher worked with Theresa before the beginning of every school day. One see/say timing was taken at the end of this session. The word card deck contained 70 cards or two samples of each sight word. Theresa was given the flashcards to practice during free time and at home for the first intervention. Phase 2 consisted of 5 minutes of a "go fish" game. The game was played with a peer partner. The sight words were written on fish shaped cards. The child was required

to pronounce the pair of words correctly after finding them. The game was followed by a one minute timing. Intervention 3 included a 10 minute "bingo" learning activity, where the child would locate one of the pronounced sight words on a bingo card.

The integrity of the data is not compromised by Theresa's charting ability. The data clearly show Theresa's performance and learning during each intervention over the four week period. Theresa's goal of 35 words per minute was surpassed. It is apparent, however, that Intervention 2 was producing learning and should have been continued. Intervention 3 decreased her learning and thus her final performance.

Theresa's label clearly shows pride and ownership in her chart. Anecdotal data collected by the student teacher indicated that Theresa improved in her reading, volunteered in reading group, and read more independently towards the end of the project. Tape recorded reading samples were periodically taken and later played back so Theresa could hear her improvement.

ACKNOWLEDGEMENT

The author extends his thanks and acknowledges the contributions of Jennifer Spear Long and Amy Pelster, the student teachers, as well as, Ray and Theresa. The children's charts give testimony to a genuine respect for the right of children to participate fully in the learning process.

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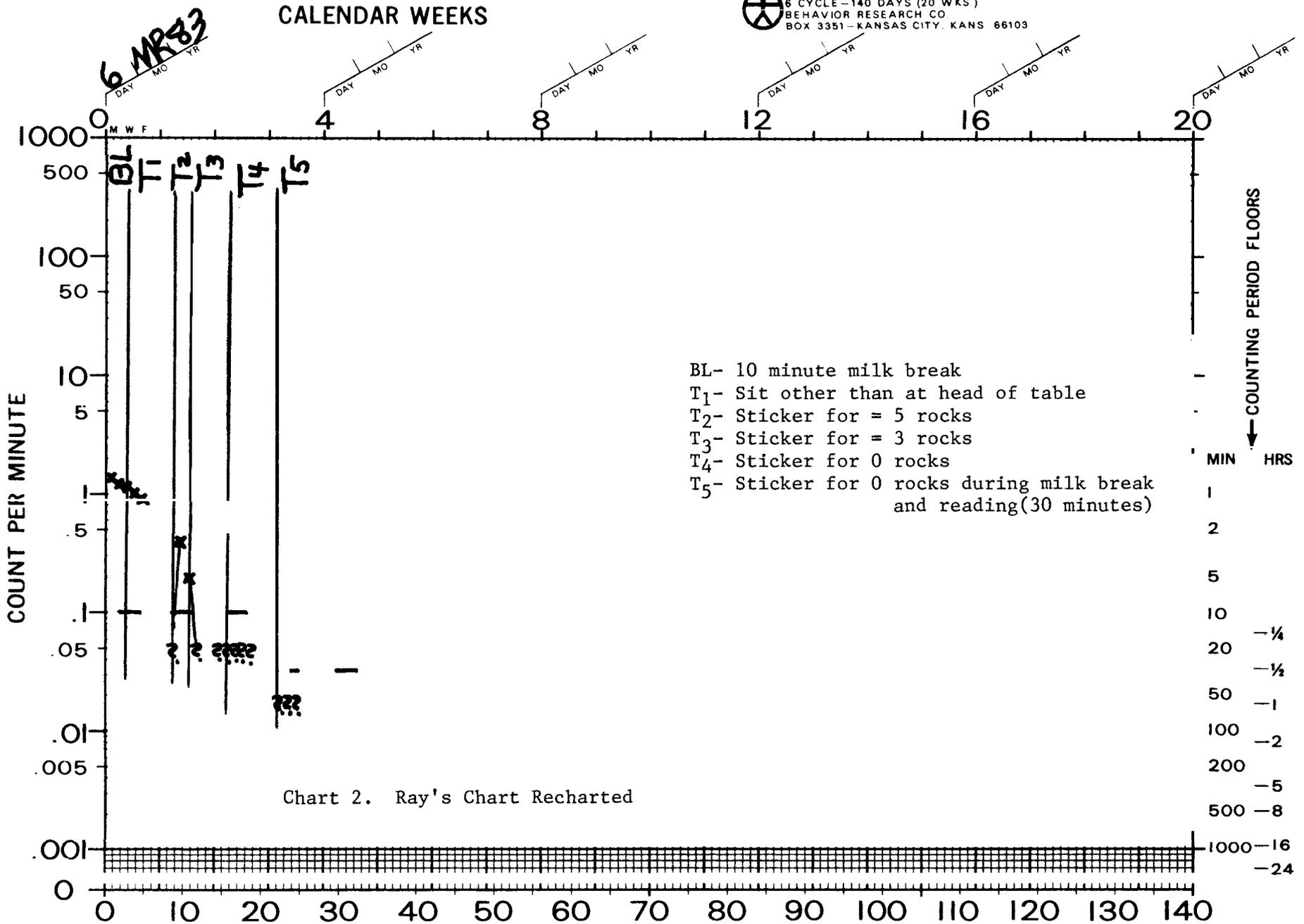
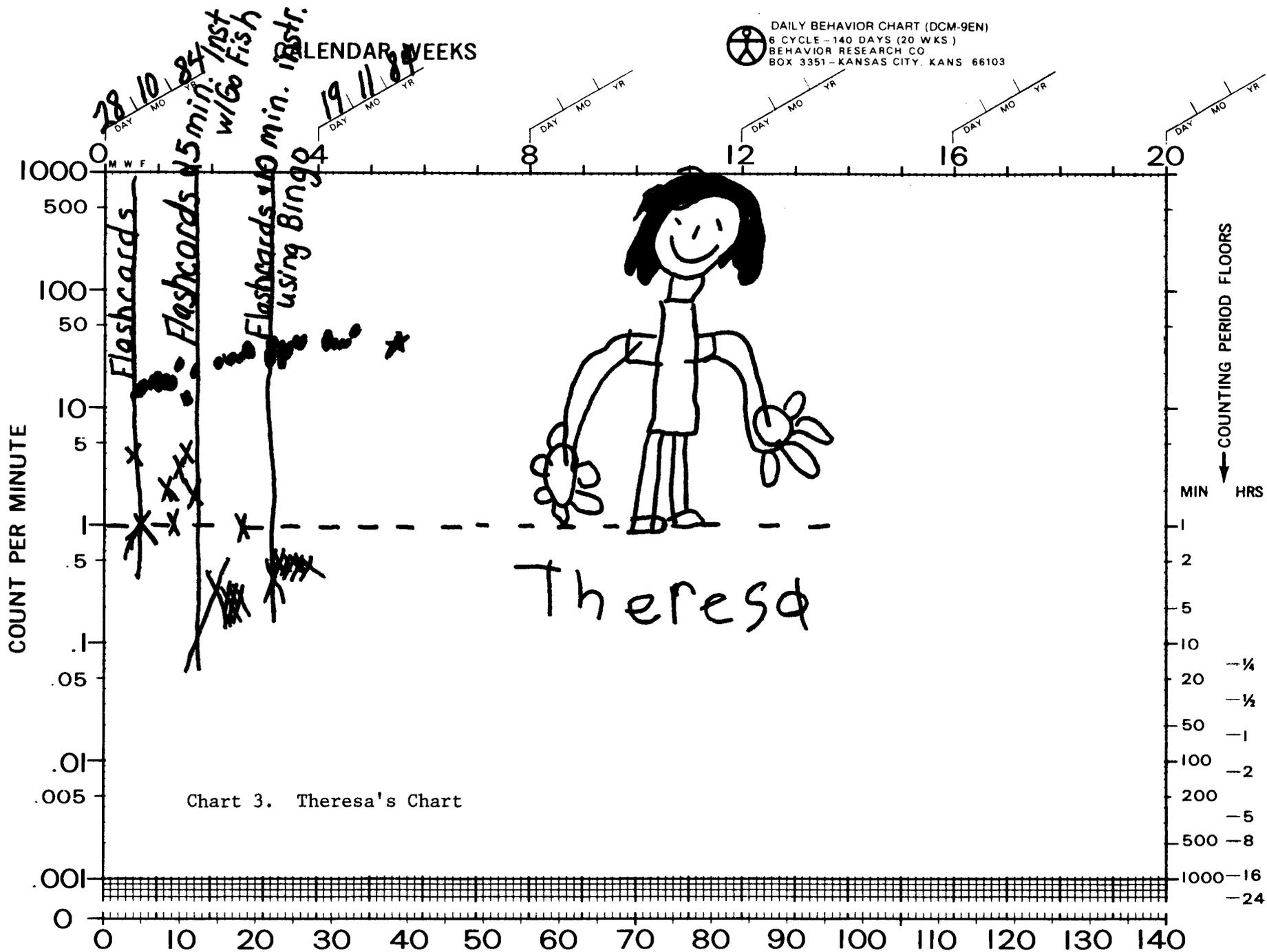


Chart 2. Ray's Chart Recharted

SUPERVISOR			ADVISER			MANAGER			Ray B.	5	rocks chair
Wayne State College and West Point Elementary			Wayne, Nebraska			Wayne, Nebraska			BEHAVIOR	AGE	COUNTED
AGENCY			AGENCY			AGENCY			CHARTER		



DAILY BEHAVIOR CHART (DCM-9EN)
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Bob Bower
SUPERVISOR

Amy Pelster
ADVISER
MANAGER

SUCCESSIVE CALENDAR DAYS

Theresa
BEHAVIOR

6
AGE

Label
LABEL

sight words
COUNTED
correct - o
incorrect x

WSC
AGENCY

Amy Pelster
TIMER

Amy Pelster
COUNTER

CHARTER

Eaton, M. & Hansen, C. (1979). When classroom control is slipping away, ask yourself...(behavioural control through naturalistic solutions). *B. C. Journal of Special Education*, 3, 335-356.

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[Editor's Note: Thank you, Theresa and Ray for sharing your "original" charts with us and allowing us to trace them for printing in JPT. Our tracing does not "do justice" to them. By the time you read this, you should have received your returned originals.]

Chart-sharing

NUMBER REVERSALS: AN EFFECTIVE INTERVENTION

Susan K. Peterson
University of Florida

The Multidisciplinary Diagnostic and Training Program (MDTP) housed in the College of Education at the University of Florida, was established in October, 1981 to assist kindergarten through sixth grade students who exhibit complex learning, behavioral, and/or medical problems. The program has contractual agreements with 13 northern Florida school districts. One service the program provides is placement in a diagnostic classroom. Children who are staffed into this component of the program attend the MDTP class for one to six weeks. During this time intervention strategies are developed for the home school personnel and the parents of the child.

The student in this investigation was a seven year old first grader who was referred to the MDTP due to academic and behavioral difficulties. The home school teachers expressed a specific concern regarding the frequency of this student's verbal and written reversals. The following discussion addresses an effective intervention