DOCUMENT RESUME

ED 218 846 EC 143 108

AUTHOR Tindal, Gerald; And Others
TITLE The Relationship Between Student Achievement and Teacher Assessment of Short- or Long-Term Goals.
INSTITUTION Minnesota Univ., Minneapolis. Inst. for Research on Learning Disabilities.
SPONS AGENCY Office of Special Education and Rehabilitative Services (ED), Washington, DC.
REPORT NO IRLD-RR-61
PUB DATE Nov 81
CONTRACT 300-80-0622
NOTE 31p.; Print of figures may be marginal.

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Academic Achievement; *Disabilities; *Educational Objectives; *Measurement Techniques

ABSTRACT

The effects on student achievement of goal size and data utilization rule and measurement frequency were evaluated with 20 special education teachers, each of whom selected 4 to 6 students (mean age 10.3 years) for participation. Teachers were assigned randomly to either a short term goal measurement or a long term goal measurement treatment. Teachers then randomly assigned each student to daily, weekly, or pre-post measurement, so that each teacher had one or two students in each measurement frequency cell. Students' oral reading rate was measured at weeks 1, 7, and 12 on random samples of isolated words comprised of kindergarten through third grade reading vocabulary. At week 12, students' oral reading rate was measured on third grade passages from basal texts. Analyses of variance revealed no treatment effect on any dependent measure. The findings contradicted previous research, and may be partly explained by poor implementation of the treatments. (Author)

University of Minnesota

Research Report No. 61

THE RELATIONSHIP BETWEEN STUDENT ACHIEVEMENT AND TEACHER ASSESSMENT OF SHORT- OR LONG-TERM GOALS

Gerald Tindal, Lynn Fuchs, Sandra Christenson,
Phyllis Mirkin, and Stanley Deno

IRLD

Institute for Research on Learning Disabilities

IRLD

Director: James E. Ysseldyke

Associate Director: Phyllis K. Mirkin

The Institute for Research on Learning Disabilities is supported by a contract (300-80-0622) with the Office of Special Education, Department of Education, through Title VI-G of Public Law 91-230. Institute investigators are conducting research on the assessment/decision-making/intervention process as it relates to learning disabled students.

During 1980-1983, Institute research focuses on four major areas:

- Referral
- Identification/Classification
- Intervention Planning and Progress Evaluation
- Outcome Evaluation

Additional information on the Institute's research objectives and activities may be obtained by writing to the Editor at the Institute (see Publications list for address).

The research reported herein was conducted under government sponsorship. Contractors are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent the official position of the Office of Special Education.

Research Report No. 61

THE RELATIONSHIP BETWEEN STUDENT ACHIEVEMENT AND TEACHER ASSESSMENT OF SHORT- OR LONG-TERM GOALS

Gerald Tindal, Lynn Fuchs, Sandra Christenson,

Phyllis Mirkin, and Stanley Deno

Institute for Research on Learning Disabilities

University of Minnesota

November, 1981

Abstract

The study examined the effects on student achievement of (a) goal size and data-utilization rule and (b) measurement frequency. Subjects were 20 special education resource teachers, each of whom selected four to six students to participate in the study. Teachers were assigned randomly to either a Short-Term Goal Measurement or a Long-Term Goal Measurement treatment; teachers then randomly assigned each student to daily, weekly, or pre-post measurement, so that each teacher had one or two students in each measurement frequency cell. Students' oral reading rate was measured at Weeks 1, 7, and 12 on random samples of isolated words comprised of kindergarten through third grade reading vocabulary (Harris & Jacobson, 1972). At Week 12, students' oral reading rate was measured on third grade passages from basal texts. Analyses of variance revealed no treatment effect on any dependent measure. This finding contradicts previous research and is explained, at least in part, by the poor implementation of the treatments. "Daily" measurement was implemented on a three-day per week basis, and teachers adhered inconsistently to prescribed data-utilization rules. Implications for training teachers are discussed.

The Relationship between Student Achievement and Teacher Assessment of Short- or Long-Term Goals

Federal law (Public Law 94-142) mandates that schools develop individualized educational plans for handicapped students that specify instructional goals and procedures for measuring progress toward those goals. To demonstrate substantive as well as procedural compliance with this law, measurement must be incorporated into the instructional process, because ongoing measurement creates the data base with which student programs can be monitored and improved continuously (Deno & Mirkin, 1980; Jenkins, Deno, & Mirkin, 1979).

In response to this need for ongoing measurement of student progress, models of repeated curriculum-based assessment have been developed (Deno & Mirkin, 1977; Lovitt, 1977; White & Haring, 1980). In repeated curriculum-based assessment, students are measured frequently in their curricula, student performance data are graphed, and these data are interpreted by teachers to determine when and what program changes are required to improve student progress toward goals.

Each curriculum-based assessment system incorporates the specification of three elements: a measurement behavior, a measurement methodology, and specific data interpretation procedures. Although research has demonstrated that repeated curriculum-based assessment positively affects student progress (Haring & Krug, 1975; Haring, Maddux, & Krug, 1972; Jenkins, Mayhall, Peschka, & Townsend, 1974; Mirkin, Deno, Tindal, & Kuehnle, 1980, at the present time it remains unclear which elements of the system are related to improved student progress. The purpose of the current investigation was to explore the relationship between some of the dimensions of

repeated curriculum-based measurement and student achievement.

The primary question posed in this study was: Does measurement on, and teacher assessment of, short-term or long-term student goals result in improved student achievement? Concerned both with measurement methodology and data interpretation, this question asks whether teachers are more successful in designing effective educational programs (a) when they measure students and interpret data on short-term objectives wherein the measurement domain changes frequently, or (b) when they measure students and interpret data on long-term goals covering a larger measurement domain that remains constant over time. Measurement on short-term objectives is similar to the measurement systems practiced by precision teachers (White & Haring, 1980); measurement on long-term objectives is analogous to the performance measurement systems described by Deno and Mirkin (1977).

Additionally, two secondary questions were posed in this study. The first attempted to corroborate prior research demonstrating that frequency of measurement is related to student achievement (Mirkin et al., 1980; Omelich & Covington, 1981). It asked: Is student progress greater when students are measured daily or weekly? The other secondary question indirectly addressed the logistical feasibility of repeated curriculum-based assessment by documenting whether teachers adhere to designated measurement schedules and whether they follow designated data utilization rules.

Method

Subjects

Twenty special education resource teachers from a midwestern metro-

politan area volunteered to serve as subjects in the study. These teachers (2 males and 18 females) had taught school for an average of 9.6 years (SD = 6.9 years). Each teacher selected four to six students from his/her caseload, resulting in a student sample of 88 boys and 20 girls. The students' mean age was 10.3 years; their mean grade level was 3.9.

Materials

Training manuals. Teacher training manuals for two experimental conditions were written expressly for the study. Each manual consisted of six chapters on the assumptions of systematic instruction and procedures for placing students, setting long-term goals, measuring students, recording and graphing data, and changing student programs. The materials were self-instructional and each chapter concluded with a mastery test. Two chapters, "Measuring Students" and "Recording and Graphing Data," differed for the two groups; these chapters reflected the experimental treatments described below.

Word cards. Word cards organized in instructional units from each student's existing reading materials were prepared for the teachers to employ as flashcards in the measurement procedure.

Dependent Measures

Dependent measures were: (a) nine lists of words, randomly sampled from the Harris-Jacobson (1972) kindergarten through third grade reading vocabulary (K-3 Lists); and (b) three third grade level reading passages.

Procedure

Experimental conditions. Teachers were assigned randomly to one of two experimental treatment groups for the purpose of measuring student

progress: Long-Term Goal Measurement (LTGM) or Short-Term Goal Measurement (STGM). In the LTGM condition, teachers tested students' reading performance by administering a 30-second word recognition test comprised of 25 words that were randomly selected from a large set of vocabulary words to be introduced within the 12-week period. At each measurement session teachers graphed the student's performance; on the sixth through ninth days, they were required to review the graphed data. If these data indicated that progress was inadequate, then the teachers were to introduce an adjustment to improve the effectiveness of the instructional program. After 10 days, teachers were required to make an adjustment if one had not been made previously. This routine was repeated several times in the 12-week experimental period. (See Figure 1 for example of a graph.)

Insert Figure 1 about here

In the STGM group, teachers tested a student's reading performance by administering a 30-second word recognition test comprised of 25 words that included all vocabulary words introduced in the current instructional period plus words sampled from preceding stories. Teachers graphed the student's performance and compared that performance against a short-term aim line that the teachers drew on a graph each time a new short-term goal was established. Teachers were asked to review the data frequently and to determine when to progress to the next story and/or when to make a program adjustment. This routine continued throughout the 12-week period. (See Figure 2 for example of a graph.)

Insert Figure 2 about here

Irrespective of their assignment to either the long- or short-term goal measurement condition, the teachers randomly assigned their students to one of three frequency-of-measurement conditions: daily measurement, weekly measurement, or pre-post measurement. This resulted in a one-between factor (frequency-of-measurement condition) experimental design with five cells: Daily Measurement of Long-Term Goals, Weekly Measurement of Long-Term Goals, Daily Measurement of Short-Term Goals, Weekly Measurement of Short-Term Goals, and Pre-post Measurement.

Training. At the first of two, 1 1/2 hour sessions, teachers were trained in procedures for placing students in curricula. These procedures required students to read, in the currently employed basal reading series, three one-minute samples on each of the three highest levels at which the student could read approximately 30-49 words per minute (wpm) with fewer than eight errors for poor readers, and 50-99 wpm with fewer than eight errors for better readers. After three days of data collection, teachers were to compute median wpm and median errors per minute for each level, and place the student at the highest level at which the instructional criterion was met.

Having been trained in this placement procedure, teachers implemented it when they returned to their schools. Although teachers had been advised to place a student in the highest level at which the student met the performance standard, they often used other criteria such as previous placement, intuition, and logistical feasibility of placements. Between the training sessions, the teachers also completed reading and answering questions in the training manuals.

At the second training session, training manual mastery tests were scored. Additionally, as instructed in the manual, teachers set long-term (12 week) goals for progress, and submitted a list of all vocabulary words contained in those 12-week goals. These words were made into word card packs.

Teacher visits. One week after the second training session, a graduate research assistant (RA) delivered the word packs to each teacher, and helped the teachers set up student graphs. Teachers then began to implement the treatments.

An RA was assigned to each teacher. During the 12-week treatment period, RAs made weekly 10- to 20-minute visits to their assigned teachers to monitor teacher activities and provide additional training as required.

Administration of dependent measures. During Weeks 1, 7, and 12 of the study, teachers administered three K-3 Lists to the students, each list on a different day of the week. On the Week 1 and 7 tests, students read individually for 30 seconds; on the Week 12 test, students read individually for 60 seconds. Additionally, during Week 12, three 60-second oral reading passage tests were administered individually to the students, each on a different day. On all tests, students were directed to read as quickly and accurately as they could and to skip unknown words. Only completely accurate responses were scored as correct.

Results

Student Achievement

Tables 1-3 present the means and standard deviations for students' performance on the dependent measures. For every analysis, the dependent data were each subject's correct and incorrect scores; these were computed

by averaging across the three administrations of measures each week.

Insert Tables 1-3 about here

One-between factor (LTGM vs. STGM) and one-within factor (daily vs. weekly vs. pre-post measurement) analyses of variance were run on the following student achievement data: (a) Week 1 means on K-3 Lists, (b) Week 7 means on K-3 lists, (c) Week 12 means on K-3 Lists, (d) Week 12 means on reading passage. Additionally, on the word recognition tests, one-between factor (LTGM vs. STGM) and two-within factor (daily vs. weekly vs. pre-post; Week 7 vs. Week 12) analyses of variance were run, once with the 30-second K-3 List pretest included as a covariate and once without the covariate.

Analyses revealed statistically significant gains ($p = .001$) on the average correct scores for the entire group from Week 7 to Week 12, both with and without the word recognition pretest included as a covariate. No other statistically significant differences were found.

Treatment Implementation

For each student, investigators counted (a) the number of calendar days over which the study spanned, and (b) the number of days on which measurement occurred. These were averaged and compared (t tests) for the frequency of measurement conditions (daily vs. weekly) and for the measurement format conditions (STGM & LTGM). No statistically significant differences were revealed for the number of calendar days. However, for the number of measurement days, there was a statistically significant difference ($p = .000$) between the daily and weekly measurement groups, with approximately three times more measurement days in the daily group

(see Table 4).

Insert Table 4 about here

Additional analyses addressed the precision with which teachers had implemented the data utilization rules. For STGM, a decision to move to a new word list was optional each day. If a student's performance had met the mastery criterion, then a correct decision was to progress to a new word list; if the performance level was lower than the established criterion, then a correct decision was not to move ahead. The percentage of measurement days on which the teachers correctly determined whether to progress to the next word list was calculated. In the daily STGM condition, teachers moved appropriately to new lists an average of 66% of measurement days. Approximately one-third of all errors made by these teachers were incurred when teachers moved to new word lists even though students had not met mastery criteria. Approximately two-thirds of errors were characterized by teachers failing to introduce a new word list despite the fact that students had reached performance standards. For the weekly STGM condition, 6 of 12 graphs were difficult to read, and statistics for this group are not reported here due to the threat of unreliable, nonrepresentative results.

For LTGM, a decision to introduce a new intervention was optional on the sixth through the ninth measurement days following the introduction of a program change. If the student's performance accelerated from one day to the next, the appropriate decision was to maintain the current program. If the student's performance was flat or decelerating, then the correct decision was to introduce a program change. The percentage of

days on which LTGM teachers correctly utilized this decision rule was calculated. Fifty-six percent of the daily LTGM decisions were correct; 78% of weekly LTGM decisions were correct.

Discussion

In this investigation, students made achievement gains within a 12-week intervention period; however, the size of those gains was unrelated to the measurement strategies employed. Students who received only pre-post measurement showed progress similar to that of students who were measured repeatedly either on short-term or long-term goals. Additionally, students who were measured daily progressed at a rate similar to that of students who were measured weekly. With respect to questions posed in the present study, it appears that (a) measurement on and teacher assessment of short-term and long-term goals does not result in differential student gains, and (b) student progress is not affected by the frequency of the measurement.

These findings contradict those of earlier studies, which have demonstrated a relationship between student achievement and data utilization strategies (Martin, 1980; Mirkin & Deno, 1979; Mirkin et al., 1980) and a relationship between student achievement and frequency of measurement (Mirkin et al., 1980; Omelich & Covington, 1981). Moreover, this study contradicts previous research establishing that repeated curriculum-based assessment positively affects student progress (Haring & Krug, 1975; Haring et al., 1972; Jenkins et al., 1974).

The contradictions from the present study may be explained by the questionable treatment implementation documented in this study. Results revealed that the distinction between daily and weekly measurement was less

dramatic than had been intended: teachers implemented "daily" measurement on a three day per week basis. This lack of adherence to the designated measurement schedule may explain the noted lack of relationship between measurement frequency and student achievement. Because the teachers collected weekly data but failed to collect daily data, this study suggests that such frequent measurement may be logistically difficult for teachers. In fact, in follow-up interviews, teachers indicated that daily measurement was time consuming and difficult. Such findings document the need for developing procedures that might improve the feasibility of collecting frequent student data.

Teachers in this study also implemented the designated decision rules imprecisely, with teachers in the daily STGM condition appropriately moving to new lists on only two-thirds of measurement days. Teachers in the daily and weekly LTGM conditions correctly employed their decision rules on 56% and 78% of occasions, respectively. The relatively high percentage of correct judgments for the weekly LTGM group may be related to the few data points in weekly measurement and the mandated program change every 10 school days which left relatively few opportunities for incorrect judgments.

Therefore, although teachers collected student data in this investigation, it appears that they incorrectly implemented the data-utilization rules. Conceivably, they employed the collected student data minimally, if at all, to formulate decisions about student programming. If so, it is not surprising that the achievement gains of their students in the STGM and LTGM conditions failed to surpass those of students in the pre-post measurement group.

Previous studies have documented that teachers who collect student performance data do not necessarily use those data to make instructional decisions (Baldwin, 1976; White, 1974). The current investigation indicates that data utilization procedures may be an essential dimension of a measurement system that is effective in improving student achievement. It further suggests that effectively training teachers to interpret correctly and use consistently student data may be critical.

References

Baldwin, V. Curriculum concerns. In M. A. Thomas (Ed.), Hey, don't forget about me. Reston, VA: Council for Exceptional Children, 1976.

Deno, S. L., & Mirkin, P. K. Data-based program modification: A manual. Reston, VA: Council for Exceptional Children, 1977.

Deno, S. L., & Mirkin, P. K. Data-based IEP development: An approach to substantive compliance. Teaching Exceptional Children, 1980, 12(3), 4-9.

Haring, N., & Krug, D. A. Placement in regular programs: Procedures and results. Exceptional Children, 1975, 41(6), 413-417.

Haring, N., Maddux, L., & Krug, D. A. Investigation of systematic instructional procedures to facilitate academic achievement in mentally retarded disadvantaged children. Seattle: University of Washington, Experimental Education Unit, Final Report, 1972.

Harris, A. P., & Jacobson, M. D. Basic elementary reading vocabularies. New York: MacMillan, 1972.

Jenkins, J. R., Deno, S. L., & Mirkin, P. K. Measuring pupil progress toward the least restrictive alternative. Learning Disability Quarterly, 1979, 2, 81-91.

Jenkins, J. R., Mayhall, W., Peschka, C., & Townsend, V. Using direct and daily measures to increase learning. Journal of Learning Disabilities, 1974, 10, 604-608.

Lovitt, T. In spite of my resistance, I've learned from children. Columbus, OH: Charles E. Merrill, 1977.

Martin, M. D. A comparison of variations in data utilization procedures on the reading performance of mildly handicapped students. Unpublished doctoral dissertation, University of Washington, 1980.

Mirkin, P. K., & Deno, S. L. Formative evaluation in the classroom: An approach to improving instruction (Research Report No. 10). Minneapolis: University of Minnesota, Institute for Research on Learning Disabilities, 1979.

Mirkin, P. K., Deno, S. L., Tindal, G., & Kuehnle, K. Formative evaluation: Continued development of data utilization systems (Research Report No. 23). Minneapolis: University of Minnesota, Institute for Research on Learning Disabilities, 1980.

Omelich, C. L., & Covington, M. V. Why behavioral instruction works? A components analysis of performance and motivational outcomes. Paper presented at the meeting of the American Educational Research Association, New York, April, 1981.

White, O. R. Evaluating the educational process. Working paper. Seattle: University of Washington, Child Development and Mental Retardation Center, Experimental Education Unit, 1974.

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

Table 1

Means and Standard Deviations of Number Correct on 30-Second K-3 Lists at Weeks 1, 7, and 12[a]

	STGM			LTGM		
	Wk 1	Wk 7	Wk 12	Wk 1	Wk 7	Wk 12
Daily	14.1 (9.6)	17.6 (9.9)	43.2 (23.2)	12.3 (5.6)	15.9 (7.1)	34.5 (9.8)
Weekly	16.7 (9.0)	18.0 (10.2)	43.1 (23.3)	19.2 (7.2)	21.0 (7.9)	42.6 (17.4)
Pre-Post	14.5 (13.3)	14.5 (14.3)	48.2 (36.5)	18.3 (7.5)	19.1 (8.1)	42.5 (16.6)

[a]Entries in table are means and standard deviations (in parentheses) of the average number correct across the three administrations of the test given during the week.

Table 2

Means and Standard Deviations of Number Incorrect on 30-Second K-3 Lists at Weeks 1, 7, and 12[a]

	STGM			LTGM		
	Wk 1	Wk 7	Wk 12	Wk 1	Wk 7	Wk 12
Daily	8.3 (4.0)	7.5 (4.9)	18.8 (12.7)	6.6 (2.8)	6.9 (3.1)	12.9 (7.9)
Weekly	6.7 (3.8)	5.6 (4.2)	11.4 (9.6)	5.6 (3.1)	5.0 (3.1)	10.3 (7.3)
Pre-Post	6.6 (5.8)	6.5 (4.9)	9.9 (11.3)	6.3 (3.7)	5.8 (3.7)	12.2 (8.1)

[a]Entries in table are means and standard deviations (in parentheses) of the average number incorrect across the three administrations of the test given during the week.

Table 3

Means and Standard Deviations of Number Correct and Number Incorrect on 60-Second Oral Reading Test at Week 12

	Number Correct		Number Incorrect	
	STGM	LTGM	STGM	LTGM
Daily	80.1 (24.6)	69.1 (20.0)	6.1 (3.7)	5.2 (2.6)
Weekly	74.0 (26.6)	79.4 (18.1)	5.5 (3.4)	4.6 (2.8)
Pre-Post	83.2 (50.9)	79.2 (21.3)	5.6 (4.7)	5.1 (2.7)

[a]Entries in table are means and standard deviations (in parentheses) of the average number correct or incorrect across the three administrations of the test during Week 12.

Table 4

Means and Standard Deviations of Numbers of Calendar and Measurement Days[a]

	Condition			
	STGM	LTGM	Daily	Weekly
Calendar Days	104.0 (8.1)	104.0 (5.1)	103.9 (6.8)	104.0 (6.7)
Measurement Days	30.1 (19.1)	31.0 (18.6)	47.6 (9.7)	44.3 (7.2)

[a]Entries are means and standard deviations (in parentheses) of the numbers of days.

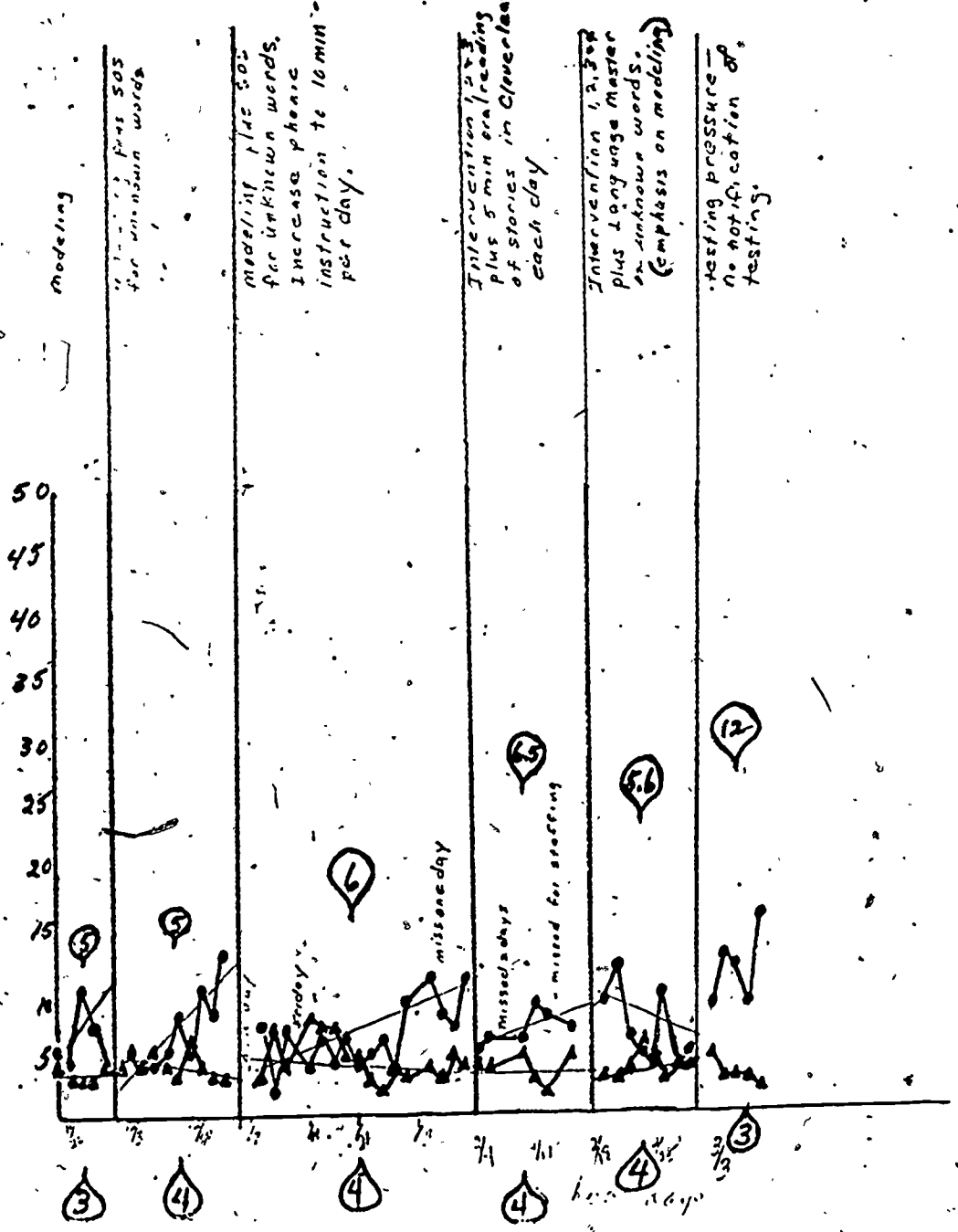
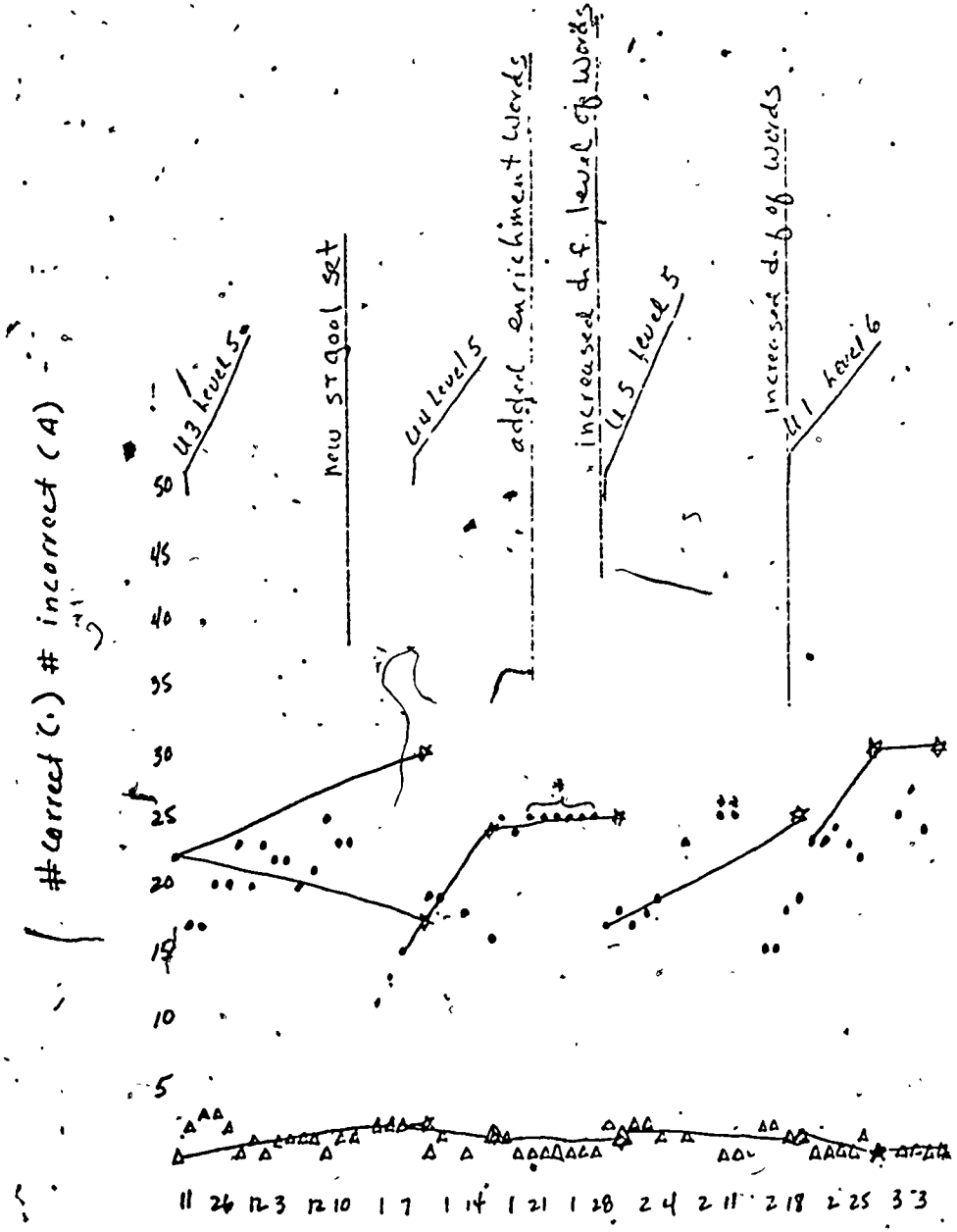


Figure 1. Example of graph for Long-Term Goal Measurement Condition.



correct and # incorrect per 30 second

Figure 2. Example of graph for Short-Term Goal Measurement condition.

PUBLICATIONS

Institute for Research on Learning Disabilities
University of Minnesota

The Institute is not funded for the distribution of its publications. Publications may be obtained for $3.00 per document, a fee designed to cover printing and postage costs. Only checks and money orders payable to the University of Minnesota can be accepted. All orders must be prepaid.

Requests should be directed to: Editor, IRLD, 350 Elliott Hall; 75 East River Road, University of Minnesota, Minneapolis, MN 55455.

Ysseldyke, J. E. Assessing the learning disabled youngster: The state of the art (Research Report No. 1). November, 1977.

Ysseldyke, J. E., & Regan, R. R. Nondiscriminatory assessment and decision making (Monograph No. 7). February, 1979.

Foster, G., Algozzine, B., & Ysseldyke, J. Susceptibility to stereotypic bias (Research Report No. 3). March, 1979.

Algozzine, B. An analysis of the disturbingness and acceptability of behaviors as a function of diagnostic label (Research Report No. 4). March, 1979.

Algozzine, B., & McGraw, K. Diagnostic testing in mathematics: An extension of the PIAT? (Research Report No. 5). March, 1979.

Deno, S. L. A direct observation approach to measuring classroom behavior: Procedures and application (Research Report No. 6). April, 1979.

Ysseldyke, J. E., & Mirkin, P. K. Proceedings of the Minnesota round-table conference on assessment of learning disabled children (Monograph No. 8). April, 1979.

Somwaru, J. P. A new approach to the assessment of learning disabilities (Monograph No. 9). April, 1979.

Algozzine, B., Forgnone, C., Mercer, C. D., & Trifiletti, J. J. Toward defining discrepancies for specific learning disabilities: An analysis and alternatives (Research Report No. 7). June, 1979.

Algozzine, B. The disturbing child: A validation report (Research Report No. 8). June, 1979.

Note: Monographs No. 1 - 6 and Research Report No. 2 are not available for distribution. These documents were part of the Institute's 1979-1980 continuation proposal, and/or are out of print.

Ysseldyke, J. E., Algozzine, B., Regan, R., & Potter, M. Technical adequacy of tests used by professionals in simulated decision making (Research Report No. 9). July, 1979.

Jenkins, J. R., Deno, S. L., & Mirkin, P. K. Measuring pupil progress toward the least restrictive environment (Monograph No. 10). August, 1979.

Mirkin, P. K., & Deno, S. L. Formative evaluation in the classroom: An approach to improving instruction (Research Report No. 10). August, 1979.

Thurlow, M. L., & Ysseldyke, J. E. Current assessment and decision-making practices in model programs for the learning disabled (Research Report No. 11). August, 1979.

Deno, S. L., Chiang, B., Tindal, G., & Blackburn, M. Experimental analysis of program components: An approach to research in CSDC's (Research Report No. 12). August, 1979.

Ysseldyke, J. E., Algozzine, B., Shinn, M., & McGue, M. Similarities and differences between underachievers and students labeled learning disabled: Identical twins with different mothers (Research Report No. 13). September, 1979.

Ysseldyke, J., & Algozzine, R. Perspectives on assessment of learning disabled students (Monograph No. 11). October, 1979.

Poland, S. F., Ysseldyke, J. E., Thurlow, M. L., & Mirkin, P. K. Current assessment and decision-making practices in school settings as reported by directors of special education (Research Report No. 14). November, 1979.

McGue, M., Shinn, M., & Ysseldyke, J. Validity of the Woodcock-Johnson psycho-educational battery with learning disabled students (Research Report No. 15). November, 1979.

Deno, S., Mirkin, P., & Shinn, M. Behavioral perspectives on the assessment of learning disabled children (Monograph No. 12). November, 1979.

Sutherland, J. H., Algozzine, B., Ysseldyke, J. E., & Young, S. What can I say after I say LD? (Research Report No. 16). December, 1979.

Deno, S. L., & Mirkin, P. K. Data-based IEP development: An approach to substantive compliance (Monograph No. 13). December, 1979.

Ysseldyke, J., Algozzine, B., Regan, R., & McGue, M. The influence of test scores and naturally-occurring pupil characteristics on psycho-educational decision making with children (Research Report No. 17). December, 1979.

Algozzine, B., & Ysseldyke, J. E. Decision makers' prediction of students' academic difficulties as a function of referral information (Research Report No. 18). December, 1979.

Ysseldyke, J. E., & Algozzine, B. Diagnostic classification decisions as a function of referral information (Research Report No. 19). January, 1980.

Deno, S. L., Mirkin, P. K., Chiang, B., & Lowry, L. Relationships among simple measures of reading and performance on standardized achievement tests (Research Report No. 20). January, 1980.

Deno, S. L., Mirkin, P. K., Lowry, L., & Kuehnle, K. Relationships among simple measures of spelling and performance on standardized achievement tests (Research Report No. 21). January, 1980.

Deno, S. L., Mirkin, P. K., & Marston, D. Relationships among simple measures of written expression and performance on standardized achievement tests (Research Report No. 22). January, 1980.

Mirkin, P. K., Deno, S. L., Tindal, G., & Kuehnle, K. Formative evaluation: Continued development of data utilization systems (Research Report No. 23). January, 1980.

Deno, S. L., Mirkin, P. K., Robinson, S., & Evans, P. Relationships among classroom observations of social adjustment and sociometric rating scales (Research Report No. 24). January, 1980.

Thurlow, M. L., & Ysseldyke, J. E. Factors influential on the psychoeducational decisions reached by teams of educators (Research Report No. 25). February, 1980.

Ysseldyke, J. E., & Algozzine, B. Diagnostic decision making in individuals susceptible to biasing information presented in the referral case folder (Research Report No. 26). March, 1980.

Thurlow, M. L., & Greener, J. W. Preliminary evidence on information considered useful in instructional planning (Research Report No. 27). March, 1980.

Ysseldyke, J. E., Regan, R. R., & Schwartz, S. Z. The use of technically adequate tests in psychoeducational decision making (Research Report No. 28). April, 1980.

Richey, L., Potter, M., & Ysseldyke, J. Teachers' expectations for the siblings of learning disabled and non-learning disabled students: A pilot study (Research Report No. 29). May, 1980.

Thurlow, M. L., & Ysseldyke, J. E. Instructional planning: Information collected by school psychologists vs. information considered useful by teachers (Research Report No. 30). June, 1980.

Algozzine, B., Webber, J., Campbell, M., Moore, S., & Gilliam, J. Classroom decision making as a function of diagnostic labels and perceived competence (Research Report No. 31). June, 1980.

Ysseldyke, J. E., Algozzine, B., Regan, R. R., Potter, M., Richey, L., & Thurlow, M. L. Psychoeducational assessment and decision making: A computer-simulated investigation (Research Report No. 32). July, 1980.

Ysseldyke, J. E., Algozzine, B., Regan, R. R., Potter, M., & Richey, L. Psychoeducational assessment and decision making: Individual case studies (Research Report No. 33). July, 1980.

Ysseldyke, J. E., Algozzine, B., Regan, R., Potter, M., & Richey, L. Technical supplement for computer-simulated investigations of the psychoeducational assessment and decision-making process (Research Report No. 34). July, 1980.

Algozzine, B., Stevens, L., Costello, C., Beattie, J., & Schmid, R. Classroom perspectives of LD and other special education teachers (Research Report No. 35). July, 1980.

Algozzine, B., Siders, J., Siders, J., & Beattie, J. Using assessment information to plan reading instructional programs: Error analysis and word attack skills (Monograph No. 14). July, 1980.

Ysseldyke, J., Shinn, M., & Epps, S. A comparison of the WISC-R and the Woodcock-Johnson Tests of Cognitive Ability (Research Report No. 36). July, 1980.

Algozzine, B., & Ysseldyke, J. E. An analysis of difference score reliabilities on three measures with a sample of low achieving youngsters (Research Report No. 37). August, 1980.

Shinn, M., Algozzine, B., Marston, D., & Ysseldyke, J. A theoretical analysis of the performance of learning disabled students on the Woodcock-Johnson Psycho-Educational Battery (Research Report No. 38). August, 1980.

Richey, L. S., Ysseldyke, J., Potter, M., Regan, R. R., & Greener, J. Teachers' attitudes and expectations for siblings of learning disabled children (Research Report No. 39). August, 1980.

Ysseldyke, J. E., Algozzine, B., & Thurlow, M. L. (Eds.). A naturalistic investigation of special education team meetings (Research Report No. 40). August, 1980.

Meyers, B., Meyers, J., & Deno, S. Formative evaluation and teacher decision making: A follow-up investigation (Research Report No. 41). September, 1980.

Fuchs, D., Garwick, D. R., Featherstone, N., & Fuchs, L. S. On the determinants and prediction of handicapped children's differential test performance with familiar and unfamiliar examiners (Research Report No. 42). September, 1980.

Algozzine, B., & Stoller, L. Effects of labels and competence on teachers' attributions for a student (Research Report No. 43). September, 1980.

Ysseldyke, J. E., & Thurlow, M. L. (Eds.). The special education assessment and decision-making process: Seven case studies (Research Report No. 44). September, 1980.

Ysseldyke, J. E., Algozzine, B., Potter, M., & Regan, A. A descriptive study of students enrolled in a program for the severely learning disabled (Research Report No. 45). September, 1980.

Marston, D. Analysis of subtest scatter on the tests of cognitive ability from the Woodcock-Johnson Psycho-Educational Battery (Research Report No. 46). October, 1980.

Algozzine, B., Ysseldyke, J. E., & Shinn, M. Identifying children with learning disabilities: When is a discrepancy severe? (Research Report No. 47). November, 1980.

Fuchs, L., Tindal, J., & Deno, S. Effects of varying item domain and sample duration on technical characteristics of daily measures in reading (Research Report No. 48). January, 1981.

Marston, D., Lowry, L., Deno, S., & Mirkin, P. An analysis of learning trends in simple measures of reading, spelling, and written expression: A longitudinal study (Research Report No. 49). January, 1981.

Marston, D., & Deno, S. The reliability of simple, direct measures of written expression (Research Report No. 50). January, 1981.

Epps, S., McGue, M., & Ysseldyke, J. E. Inter-judge agreement in classifying students as learning disabled (Research Report No. 51). February, 1981.

Epps, S., Ysseldyke, J. E., & McGue, M. Differentiating LD and non-LD students: "I know one when I see one" (Research Report No. 52). March, 1981.

Evans, P. R., & Peham, M. A. S. Testing and measurement in occupational therapy: A review of current practice with special emphasis on the Southern California Sensory Integration Tests (Monograph No. 15). April, 1981.

Fuchs, L., Wesson, C., Tindal, G., & Mirkin, P. Teacher efficiency in continuous evaluation of IEP goals (Research Report No. 53). June, 1981.

Fuchs, D., Featherstone, N., Garwick, D. R., & Fuchs, L. S. The importance of situational factors and task demands to handicapped children's test performance (Research Report No. 54). June, 1981.

Tindal, G., & Deno, S. L. Daily measurement of reading: Effects of varying the size of the item pool (Research Report No. 55). July, 1981.

Fuchs, L. S., & Deno, S. L. A comparison of teacher judgment, standardized tests, and curriculum-based approaches to reading placement (Research Report No. 56). August, 1981.

Fuchs, L., & Deno, S. The relationship between curriculum-based mastery measures and standardized achievement tests in reading (Research Report No. 57). August, 1981.

Christenson, S., Graden, J., Potter, M., & Ysseldyke, J. Current research on psychoeducational assessment and decision making: Implications for training and practice (Monograph No. 16). September, 1981.

Christenson, S., Ysseldyke, J., & Algozzine, B. Institutional constraints and external pressures influencing referral decisions (Research Report No. 58). October, 1981.

Fuchs, L., Fuchs, D., & Deno, S. Reliability and validity of curriculum-based informal reading inventories (Research Report No. 59). October, 1981.

Algozzine, B., Christenson, S., & Ysseldyke, J. Probabilities associated with the referral-to-placement process (Research Report No. 60). November, 1981.

Tindal, G., Fuchs, L. Christenson, S., Mirkin, P., & Deno, S. The relationship between student achievement and teacher assessment of short- or long-term goals (Research Report No. 61). November, 1981.