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ABSTRACT

Surveys of 147 special education teachers and observations of 20 practicing teachers and 20 cooperating teachers were used to (1) determine which evaluation procedures are used most often by special education teachers in their evaluation of student progress, and (2) assess the adequacy of those procedures. Survey respondents indicated that they assess progress on individualized education program (IEP) objectives quarterly, that they rely on informal observation for assessing students' mastery of objectives, and that they are confident in their assessments of student performance. Observations of teachers during instruction corroborated these survey findings; teachers actually relied on and were confident in their informal observations of student performance on lesson objectives. Nevertheless, the observed teachers were highly inaccurate in their assessments of student mastery of lesson objectives and in their estimates of performance on lesson objectives. Implications for monitoring student progress are discussed. (Author/DB)

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**SPECIAL EDUCATION PRACTICE IN EVALUATING STUDENT  
PROGRESS TOWARD GOALS**

Lynn S. Fuchs, Douglas Fuchs, and Linda M. Warren



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PROGRESS TOWARD GOALS

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July, 1982

## Abstract

Surveys of 147 special education teachers and observations of 20 practicing teachers and 20 cooperating teachers were used to (a) determine which evaluation procedures are used most often by special education teachers in their evaluation of student progress, and (b) assess the adequacy of those procedures. Survey respondents indicated that typically they assess progress on IEP objectives quarterly, they rely on informal observation for assessing students' mastery of objectives, and they are confident in their assessments of student performance. Observations of teachers during instruction corroborated these survey findings; teachers actually relied on and were confident in their informal observations of student performance on lesson objectives. Nevertheless, the observed teachers were highly inaccurate in their assessments of student mastery of lesson objectives and in their estimates of performance on lesson objectives. Implications for monitoring student progress are discussed.

## Special Education Practice in Evaluating Student Progress Towards Goals

PL 94-142 requires special education teachers to formulate short-term objectives and annual goals to ensure appropriate education and to facilitate handicapped pupils' movement toward less restrictive educational settings. Federal law also directs special education teachers to assess student progress toward specified objectives and goals. Despite this apparent concern for and emphasis on student evaluation, PL 94-142 does not specify how student progress should be assessed; educators are free to choose whatever assessment procedures they wish.

A reasonable assumption is that special educators employ a variety of approaches to evaluate pupil progress. However, a precise description of these approaches and the frequency of their use currently is unavailable. Without such information, it is impossible to determine the adequacy of special education practice in monitoring pupils' progress toward IEP goals and objectives. The purpose of this investigation was to address two questions: (1) Which evaluation procedures are used most often by special education teachers to evaluate student progress, and (2) How valid are these procedures?

### Method

#### Survey

Subjects. A survey was mailed to 400 special educators. Twenty were special education teachers who, when the study began, had trainees in their classrooms from a local teacher-training college.

The remaining 380 special educators were the non-student member population of the Massachusetts Federation of the Council for Exceptional Children (CEC). Of the total group, 147 (37%) returned their completed surveys within a specified time limit. This response rate reflects the fact that many of the CEC members to whom the survey was sent were not teachers; the cover letter requested that only teachers complete the survey form.

The responding teachers (19 male, 128 female) had taught special education an average 8.09 years ( $SD = 5.27$ ), with 49.6% currently conducting mainstream or resource programs, 27.9% teaching special education self-contained public school classrooms, and 22.4% working in other settings including special education self-contained private or residential schools, private clinics, vocational educational schools, and preschool special education centers. The highest educational degree earned was a bachelor's degree for 35 teachers (23.8%), a master's degree for 82 teachers (55.8%), two master's degrees for 16 teachers (10.8%), and a specialist or doctoral degree for 14 teachers (9.5%). All subjects were certified as special educators.

Materials and procedure. A survey was developed to investigate how special educators assess their students' mastery of both IEP objectives and instructional material presented in daily lessons (see Survey Form in Appendix). In addition to requesting background information, the survey contained four items that explored: (a) how often evaluations are conducted on pupils' progress toward their IEP objectives, (b) the types of measures that are used to assess this

progress, (c) how confident special educators are in their estimates of students' daily performance on instructional objectives, and (d) procedures for assessing students' level of performance on objectives addressed during daily lessons. Surveys and stamped return envelopes were mailed in May 1982. No follow-up contacts were made.

### Observation

Subjects. Subjects were (a) 20 teacher trainees in special education who were completing their final practicum, and (b) 20 special educators (cooperating teachers), each of whom had a trainee in the classroom. Of these cooperating teachers, 12 were in resource programs, 6 were in self-contained public school classrooms, and 2 were in private school settings. The highest educational degree earned was a bachelor's degree for 35% of the cooperating teachers, one master's degree for 55% of the teachers, two master's degrees for 5%, and a specialist for 5%. These teachers had taught special education for an average 7.33 years ( $SD = 4.17$ ) and were properly certified by the state of Massachusetts. All trainees and cooperating teachers were female.

Procedure. Each trainee was placed in a 231 hour practicum with a cooperating teacher. Approximately 160 hours into this practicum, the cooperating teacher and one of two observers, who had been trained in the study procedures, watched the trainee conduct a lesson with a pupil who was enrolled in the cooperating teacher's program.

Prior to this observation, the trainee provided the observer and the cooperating teacher with a lesson plan, and a behavioral objective that set a criterion of performance in terms of percentage correct



(see Observation Report Form, Part A, in Appendix). During the lesson, the observer recorded the child's actual performance on the behavioral objective (percentage correct) and described the methods employed by the trainee to assess the child's performance on the behavioral objective (see Supervisor Observation Form in Appendix). Following the lesson, the trainee and the cooperating teacher independently (a) rated the success of the lesson, (b) provided a rationale for that rating, (c) indicated whether the student had mastered the behavioral objective, and (d) if the child had not mastered the objective, estimated the actual level of performance (percentage correct) on the objective (see Observation Report Form, Part B, in Appendix). This procedure was repeated for each teacher trainee and cooperating teacher.

Inter-rater agreement for the observers' measurements of children's actual performance on behavioral objectives was assessed across 5 of the 20 observations. Reliability coefficients (proportion of agreement) ranged from .89 to 1.00, with an average coefficient of .94.

Data analysis. The accuracy of the trainees' and cooperating teachers' estimates of child performance on the behavioral objective were compared using t tests. Accuracy was defined as the absolute value of the difference between the actual observed percentage and the estimated percentage (see Observation Report Form, Part B). Low scores indicated greater accuracy than high scores. Teachers were awarded a score of 0 when they correctly determined that an objective had been mastered. A correlated t test was conducted to determine

whether the inaccuracy of teachers' estimates was dependent on the level of teacher experience (trainee vs. cooperating teacher). Chi square analyses also were run to determine whether teacher accuracy (high, vs. low) was related either to the behavioral objective actually being met or to the teachers' judgments that the objective had been met. Additionally, criteria used to determine the success of lessons and the trainees' measurement procedures were summarized.

### Results

#### Survey

Question 1 on the survey asked how frequently teachers determine whether students' IEP objectives have been achieved. Four teachers (2.7%) responded annually, 14 (9.5%) weekly, 15 (10.2%) at periodic review, 97 (65.9%) quarterly, 6 (4.1%) semi-annually, and 11 (7.5%) responded in other ways, including 5 (3.4%) daily, 3 (2.0%) monthly, and 3 (2.0%) no response.

The second question required respondents to check all of the procedures they use to determine whether students have met IEP objectives, and then to circle the one procedure they rely on the most heavily to determine whether IEP objectives have been mastered. Informal observation was marked by 96 of the respondents (65.3%), 29 (19.7%) indicated criterion-referenced instruments; 9 (6.1%) marked norm-referenced standardized tests; and 13 (8.8%) wrote teacher tests or teacher-made assignments. Of the 96 respondents who reported that they primarily employ informal observation, 30 indicated that they rely completely on informal observation for determining whether IEP objectives have been met.

The survey's third question asked teachers how certain they are, in general, about the student's level of performance at the end of an academic lesson. Fifty-nine (40.1%) checked very sure, 79 (53.7%) marked sure, 4 (2.7%) indicated somewhat unsure, and 2 (1.4%) checked not sure (three teachers did not respond to this question).

Question 4 asked how, in the majority of cases, teachers determine a student's level of performance on the material covered in a lesson. Approximately 80% of the respondents checked "observing informally during a lesson," 5.4% stated that they administered a test, and 15.0% indicated that they employed a teacher-made exercise.

When responses of the 20 cooperating teachers who participated in the observation phase of this study were analyzed separately, 15% indicated that they assess mastery of IEP objectives at periodic review, 70% quarterly, 5% daily, and 10% semi-annually. With respect to question 2, 65% reported that they rely predominantly on informal observation, 10% on criterion-referenced measurement, 10% on norm-referenced standardized tests, and 15% on teacher-created exercises. For material covered in daily lessons, 45% were very sure of the accuracy with which they assess students' level of performance; 55% were sure. To assess level of performance on material covered in daily lessons, 85% of the cooperating teachers reported that they rely on informal observation, 5% indicated tests, and 10% marked that they employ their own exercises.

#### Observation

Measurement procedures employed. Of the 20 trainees, 3 measured children's performance on the lesson objectives with written products,

either a worksheet or a more formal test. Sixteen trainees used games or flashcards to measure the students' performance, but none of these trainees recorded pupils' correct and incorrect responses. One trainee did not attempt to measure in any fashion the child's performance on the behavioral objective. (The observer independently tested the child following that lesson to determine actual level of performance.)

Accuracy of estimates of students' performance. A  $t$  test revealed that the trainees' estimates of student performance and students' actual performance on behavioral objectives was significantly different from zero,  $t(19) = 5.17, p < .001$  (mean = 15.45%). Cooperating teachers' estimates also were significantly different from zero,  $t(19) = 4.61, p < .001$  (mean = 15.65%). Thus, both trainees and cooperating teachers were inaccurate in their estimates of the children's performance. A correlated  $t$  test conducted on the difference between the trainees' and cooperating teachers' estimates indicated that there was no relation between teaching experience and degree of accuracy in estimating levels of performance.

Both trainees and cooperating teachers more frequently judged that objectives had been met rather than failed (see Table 1). However, a chi square analysis revealed no relation between teachers' accuracy (high  $< |10|$ ; low  $> |10|$ ) and their tendency to judge whether objectives had been met.

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Insert Table 1 about here  
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Nevertheless, there was a relation between trainees' and teachers' accuracy and children's actual mastery and non-mastery of objectives,  $\chi^2(1) = 5.03$ ,  $p < .025$  for trainees, and  $\chi^2(1) = 5.28$ ,  $p < .025$  for teachers. When pupils achieved the instructional objectives, trainees' and cooperating teachers' judgments always were accurate; when objectives were not met, evaluations tended to be inaccurate (see Table 2).

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Insert Table 2 about here  
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Judgments of success. Trainees and cooperating teachers judged lessons as either very successful or successful. Among the trainees, four rated their lessons as very successful, and 16 as successful. Eight of the cooperating teachers judged the lessons as very successful and 12 as successful. Teaching experience was not significantly related to the teachers' judgments of the lessons' success.

Seven of the trainees were very sure about their judgments of success, 12 were sure, and one was somewhat unsure. Of the cooperating teachers, 13 were very sure of their judgments, and seven were sure. The teachers' experience was related to the certainty with which they rated the success of lessons,  $\chi^2(1) = 5.14$ ,  $p < .025$ .

Trainees most frequently cited some aspect of the child's

performance, as evidence supporting their judgments of lessons' success. Lesson completion, rapport with or control of the child, and the child's enjoyment of the lesson also were mentioned as reasons to explain ratings of the lessons' success. In contrast, the cooperating teachers most frequently referred to some aspect of the instructional content of the lesson to explain their ratings of success. Cooperating teachers also named flexibility, organization, and the child's performance.

### Discussion

The purposes of the study were to determine what procedures special education teachers employ in their assessment of student performance on goals and objectives, and to investigate the adequacy of those procedures. A total of 147 special education teachers responded to a survey designed to gather information on procedures employed by special educators to assess performance on IEP and daily objectives.

Findings indicate that most special education teachers (65.9%) evaluate progress on IEP objectives approximately four times yearly, and that a majority (65.3%) rely on informal observations compiled over each quarter to formulate their decisions concerning whether IEP objectives have been met.

Similarly, for assessing a student's level of performance on material covered in daily lessons, teachers reported overwhelmingly that they employ informal observation (80.0%) and indicated they are quite confident about the accuracy of assessments formulated on informal observations.

The survey data were corroborated by observational data. Observations of practicing teachers, who were implementing lessons for which they had written behavioral objectives, indicated that 17 of 20 (85.0%) actually relied on informal observation to assess the students' level of performance. Ninety-five percent of the observed practicing teachers and 100% of their cooperating teachers were very sure of the accuracy of their judgments of the lessons' success. Thus, it appears that special education teachers tend to employ informal observation to formulate their decisions about students' performance on objectives and do so with confidence about the accuracy of those assessments.

However, additional data suggest that the confidence teachers place in the accuracy of their informal observations may not be well founded. Among 20 practicing teachers and 20 cooperating teachers, who were representative of the survey sample in terms of experience, training, and special program type, the accuracy of assessments of children's performance on objectives was highly inaccurate. Although teachers recognized when objectives actually had been achieved, they failed to judge accurately when objectives were not met. For children who actually had failed objectives, practicing and cooperating teachers frequently indicated that objectives had been met. When they correctly recognized that the objectives had not been achieved, the practicing and cooperating teachers were highly inaccurate in their estimates of the students' actual level of performance. In spite of this inaccuracy, trainees and cooperating teachers said that they were very sure or sure of their assessments. Additionally, teaching

experience affected neither the accuracy nor the confidence of these assessments.

It appears, then, that special educators' reliance on and confidence in informal observation as an assessment tool is unjustified. The purpose of writing instructional objectives in IEP and daily lessons is twofold: to help teachers structure a child's education and to assist educators in evaluating whether the student has changed in the intended ways (Bloom, Hastings, & Madaus, 1971). Criterion-referenced assessment is the process of evaluating whether those objectives have been met. To the extent to which the study sample is representative, this investigation indicates that special education teachers perform criterion-referenced assessments; that is, they formulate decisions concerning whether objectives have been achieved. However, the study also demonstrates that teachers typically do not use systematic procedures to measure children's behavior. Rather, special education teachers tend to rely on informal observation, a practice that often leads to erroneous judgments of levels of academic performance and inaccurate conclusions about whether objectives have been met.

These findings suggest that special education teachers should reevaluate the role of informal observation in their assessment of students' performance on objectives. More systematic measurement procedures would: (a) produce data characterized by greater objectivity and accuracy; (b) lead more often to correct decisions about students' realization of objectives; (c) lead ultimately to better instructional decisions and student achievement (Mirkin, Deno,



Tindal, & Kuehnle, 1980); and (d) address more adequately the IEP component of PL 94-142 (Deno & Mirkin, 1977).

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## Footnote

Douglas Fuchs also is associated with the Institute for Research on Learning Disabilities as a Post Doctoral Associate.

Table 1  
 Practicing and Cooperating Teachers with High or Low Accuracy Scores  
 Judging that Objectives Were Met or Failed

	Practicing Teachers		Cooperating Teachers	
	Judged Objective Met	Judged Objective Failed	Judged Objective Met	Judged Objective Failed
High Accuracy ( $X \leq 10$ )	6 <sup>a</sup> (0 <sup>b</sup> , 0 <sup>c</sup> )	1(1.00, 0)	6(1.63, 3.55)	0
Low Accuracy ( $X > 10$ )	10(25.00, 9.36)	3(19.33, 3.06)	9(28.63, 12.73)	4(17.75, 8.58)

<sup>a</sup> Number of teachers.

<sup>b</sup> Mean accuracy score in terms of percentage.

<sup>c</sup> Standard deviation of accuracy scores.

Table 2

Practicing and Cooperating Teachers with High or Low Accuracy Scores  
When Children Actually Met or Failed Objectives

	Practicing Teachers		Cooperating Teachers	
	Child Actually Met Objective	Child Actually Failed Objective	Child Actually Met Objective	Child Actually Failed Objective
High Accuracy ( $X \leq 10$ )	6 <sup>a</sup> (0 <sup>b</sup> , 0 <sup>c</sup> )	1(1.00, 0)	6(0, 0)	2(6.50, 4.95)
Low Accuracy ( $X > 10$ )	0	13(14.00, 8.71)	0	12(13.00, 12.34)

<sup>a</sup>Number of teachers.

<sup>b</sup>Mean accuracy score in terms of percentage.

<sup>c</sup>Standard deviation of accuracy scores.

APPENDIX

SURVEY FORM

1. How frequently do you determine whether students' IEP objectives have been achieved?

Annually                       At periodic review                       Quarterly  
 Weekly                               Other \_\_\_\_\_  
(specify)

2. First, check (✓) the procedure(s) you use to determine whether your students have met IEP objectives. Second, circle the one procedure you rely on the most to determine whether IEP objectives have been met.

Norm-referenced standardized tests                       Informal observations  
 Criterion-referenced tests                       Other \_\_\_\_\_  
(specify)

3. (a) Generally speaking, at the end of an academic lesson, how sure are you about the student's level of performance on material in that lesson?

Very Sure                       Sure                       Somewhat Unsure                       Not Sure

(b) In the majority of cases, how do you determine the student's level of performance on the material in the lesson?

observing informally during a lesson  
 administering a test  
 other \_\_\_\_\_  
(specify)

4. Please provide the following information.

Sex:  M                       F                      Years teaching special education \_\_\_\_\_

Program type (i.e., LD resource program, MR self-contained, etc.)  
 \_\_\_\_\_  
 \_\_\_\_\_

Degree(s) and Certification(s) Earned \_\_\_\_\_

THANK YOU!

7

OBSERVATION REPORT FORM (PART A)

Student Teacher's Name: \_\_\_\_\_

Pupil's Name: \_\_\_\_\_

Date: \_\_\_\_\_

Observation Number: \_\_\_\_\_

Behavioral Objective: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Please attach your lesson plan.



SUPERVISOR OBSERVATION FORM

Child performance level on the behavioral objective:

Describe briefly how the practicing teacher assessed the child's performance level on the objective.

OBSERVATION REPORT FORM (PART B)

Rate the success of the lesson:

Very Successful      Somewhat Unsuccessful      Not Successful  
Successful

How sure are you?

Very Sure      Somewhat Unsure      Not Sure  
Sure

Briefly explain why you selected the above category of success.

Did the child master the behavioral objective?

       Yes             No

If "no," estimate the percentage correct at which the child did perform.

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