# Assessing Learners with Special Needs
## An Applied Approach
## Terry Overton
### Seventh Edition

**PEARSON**

# Pearson New International Edition

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student's mastery or acquisition. This type of measurement is used to determine the student's position along the continuum of acquisition or mastery.

Hart and Scuitto (1996) concluded that using criterion-referenced assessment is practical, has social validity, and may assist with educational accountability. This type of assessment can be adapted to other areas, such as a child's speech and language development (McCauley, 1996). Criterion-referenced assessment has been shown to be useful in screening entering kindergarten and first-grade students for school readiness (Campbell, Schellinger, & Beer, 1991) and has also been used to determine appropriate adaptations for vocational assessments to assist in planning realistic job accommodations (Lusting & Saura, 1996). In a review of criterion-referenced assessment during the past 30 years, Millman (1994) concluded that to represent a true understanding of the student's ability, this type of assessment requires "item density." He suggested that to accurately assess whether a student has mastered a domain or area, the assessments need to have many items per domain. Teachers who construct their own criterion-referenced assessments should be certain that enough items are required of the student that they can determine accurately the level of mastery of the domain.

One difficulty that teachers may have in constructing criterion-referenced tests is establishing the exact criterion for whether the student has achieved the objective. Shapiro (1989) suggested that one quantitative method of determining mastery would be to use a normative comparison of the performance, such as using a specific task that 80% of the peers in the class or grade have mastered. The teacher may wish to use a criterion that is associated with a standard set by the school grading policy. For example, answering 75% of items correctly might indicate that the student needs improvement; 85% correct might be an average performance; and 95% correct might represent mastery. Or, the teacher might decide to use a criterion that the student can easily understand and chart. For example, getting five out of seven items correct indicates the student could continue with the same objective or skill; getting seven out of seven items correct indicates the student is ready to move up to the next skill level. Often, the teacher sets the criterion using logical reasoning rather than a quantitative measurement (Shapiro, 1989).

Evans and Evans (1986) suggested other considerations for establishing criteria for mastery:

> Does passing the test mean that the student is proficient and will maintain the skills?
>
> Is the student ready to progress to the next level in the curriculum?
>
> Will the student be able to generalize and apply the skills outside the classroom?
>
> Would the student pass the mastery test if it were given at a later date? (p. 10)
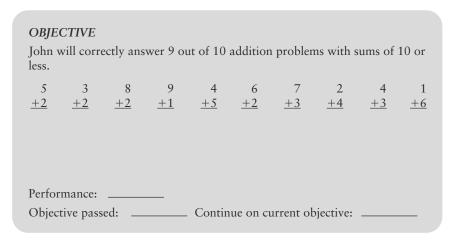
The teacher may wish to use the following measures for criterion-referenced tests:

More than 95% = mastery of objective

90 to 95% = instructional level

76 to 89% = difficult level

Less than 76% = failure level

Similar standards may be set by the individual teacher, who may wish to adjust objectives when the student performs with 76 to 89% accuracy and when the student performs with more than 95% accuracy. It is important to remember that students with learning difficulties should experience a high ratio of success during instruction to increase the possibility of positive reinforcement during the learning

process. Therefore, it may be better to design objectives that promote higher success rates. Figure 6.8 illustrates a criterion-referenced test written by a teacher for addition facts with sums of 10 or less. The objective, or criterion, is included at the top of the test.

**FIGURE 6.8** Teacher-Made Criterion-Referenced Test

*OBJECTIVE*

John will correctly answer 9 out of 10 addition problems with sums of 10 or less.

| 5 | 3 | 8 | 9 | 4 | 6 | 7 | 2 | 4 | 1 |
|---|---|---|---|---|---|---|---|---|---|
| +2 | +2 | +2 | +1 | +5 | +2 | +3 | +4 | +3 | +6 |

Performance: _____

Objective passed: _____   Continue on current objective: _____

**Check Your Understanding**

**subskill** A component of a more complex skill; used in task analysis.

In Activity 6.6, you will determine whether the student responses illustrated indicate mastery of the **subskill** assessed by the *Basic Skills* test. Complete Activity 6.6.

*Activity 6.6*

1. Look at the student responses on the following teacher-made criterion-referenced test. Determine if the student met the criterion stated as the objective.

   **Objective**

   John will correctly answer 9 out of 10 addition problems with sums of 10 or less.

   | 5 | 3 | 8 | 9 | 4 | 6 | 7 | 2 | 4 | 1 |
   |---|---|---|---|---|---|---|---|---|---|
   | +2 | +2 | +2 | +1 | +5 | +2 | +3 | +4 | +3 | +6 |
   | 7 | 5 | 10 | 10 | 8 | 4 | 10 | 6 | 7 | 7 |

2. Describe the types of errors John made.

   _____

*Apply Your Knowledge*

Using the suggested mastery level, instructional level, difficulty level, and failure level provided in your text, where does this student fall in this particular skill according to this criterion-referenced test?

_____
_____
_____

Using criterion-referenced assessment may provide better information about student achievement levels and mastery of academic objectives; however, the criterion-referenced test may not always adequately represent growth within a given curriculum. To more effectively measure student progress within a curriculum, teachers should rely on measures that use that curriculum, such as curriculum-based assessment and direct measurement.

☑

**Check Your Understanding**

The skills focused on in Activity 6.7 are similar to those that would be included at the beginning level of a reading series. In this activity, you will select the information from one skill to write an objective and construct a short criterion-referenced test. The test should measure the student's mastery of the objective. Complete Activity 6.7.

### Activity 6.7

Read the following list of skills necessary to complete level P1 of the *Best in the Country Reading Series,* adopted by all school systems in the United States. Then answer the questions that follow the list.

### P1 Skills

- Associates pictures with story content.
- Follows sequence of story by turning pages at appropriate times.
- Associates the following letters with their sounds: *b, d, c, g, h, j, k, l, m, n, p, q, r, s, t.*
- Matches letters (from above) to pictures of objects that begin with the same sounds.
- Correctly sequences the following stories:

  "A School Day": Mary gets on the bus, goes to school. George brings a rabbit to class; the rabbit gets out of the cage. Mary helps George catch the rabbit.

  "The Field Trip": Robert invites the class to visit his farm. Derek, Madison, Leigh, and Tyler go on the trip. The animals are (a) a chicken, (b) a goat, (c) a cow, and (d) a horse. The goat follows the class; the goat tries to eat Robert's shirt.

- Names all characters in the preceding stories.
- Summarizes stories and answers short comprehension questions.

1. Select one P1 skill and write a behaviorally stated objective that includes the criterion acceptable for passing the objective. _____
2. Design a short criterion-referenced test to measure the first skill objective listed in the P1-level. _____

### Apply Your Knowledge

Write a behaviorally stated objective for students reading this chapter. _____
_____
_____
_____

**✓ Check Your Understanding**

Check your ability to complete a task analysis in Activity 6.8.

### Activity 6.8

Answer the following questions.

1. Examine the following task analysis. Identify smaller steps, or subskills, that you believe need to be mastered as part of learning the more complex skill. Write the additional steps in the spaces provided.

   Skill: Adding numbers greater than 10

   Adds numbers 0–10 with sums greater than 10.
   Adds number facts 1–9 with sums greater than 10.
   Adds number facts 1–9 with sums less than 10.
   Adds number facts 1–8 with sums less than 10.
   Identifies numbers 1–10.
   Can count objects 1–10.
   Additional subskills _____

2. Write a task analysis for the following skill.

   Skill: Recognizes initial consonant sounds and their association with the consonant letters of the alphabet.

   Necessary subskills _____

### Apply Your Knowledge

Develop a strategy for teaching one of the subskills you listed above.
_____
_____
_____
_____

# Task Analysis and Error Analysis

**task analysis** Breaking a task down into parts to determine which part is causing difficulty for the student.

**subtask** Small units of a task used to complete a task analysis.

**error analysis** Analyzing a student's learning problems by determining error patterns.

Teachers often use task and error analyses without realizing that an analysis of student progress has been completed. **Task analysis** involves breaking down a task into the smallest steps necessary to complete the task. The steps actually reflect subskills, or **subtasks,** which the student must complete before finishing a task. In academic work, many of these subskills and tasks form a hierarchy of skills that build throughout the school years. As students master skills and tasks, they face new, more advanced curricular tasks that depend on the earlier skills. In mathematics, for example, understanding of numerals and one-to-one correspondence must precede understanding of basic addition facts. A student must conquer addition and subtraction before tackling multiplication and division. Therefore, a thorough task analysis of skill deficits, followed by an informal assessment, may provide the teacher with information about what the student has or has not mastered.

**Error analysis** is an assessment method that a teacher can use with formal, informal, and direct measures, such as classwork. This is a method of discovering

patterns of errors. A teacher may notice that a student who understands difficult multiplication facts, such as those of 11s, 12s, and 13s, continues to miss computation problems involving those facts. With careful error analysis of responses on a teacher-made test, the teacher determines that the student has incorrectly lined up the multiplicands. The student understands the math fact but has made a mistake in the mechanics of the operation.

One way that teachers can perform error analyses is to become familiar with the scope and sequence of classroom curriculum materials. The teacher guides and manuals that accompany classroom materials are a good starting place to develop a thorough understanding of the materials and how to perform an error analysis of student responses. For example, a basal reading series might provide a sequence chart of the sounds presented in a given book at a specific level. Using this sequence chart, the teacher can first determine which errors the student has made and then analyze the possible reason for the errors. Perhaps all of the student's errors involve words with vowel combinations (such as *ea, ie, ee, oa*). The teacher can next perform a task analysis of the prerequisite skills the child needs to master those sounds and be able to decode words with those sounds.

Task analysis is a breaking down of the actual task or response expected to determine which prerequisite skills are lacking or have not been mastered. Error analysis often precedes task analysis because the teacher may need to look for a pattern of errors to determine exactly which task needs additional analysis.

**Check Your Understanding**

Practice analyzing errors by completing Activity 6.9.

### Activity 6.9

Look carefully at the student's responses in the following work sample from a language class. Analyze the errors the student made. Write your analysis in the space provided.

*Items missed*—On a spelling test, the following words were missed by the student: *break* (spelled *brak*), *dream* (spelled *dreem*), and *waist* (spelled *wast*).

1. What is the deficit skill? _____
2. What words might be included in a probe written by the teacher to address this deficit skill? _____

    *Probe*—Decoding words orally to teacher

    *Criterion*—Decode 10/10 words for mastery; decode 9/10 words for instructional level; 8/10 words or fewer decoded indicates failure level

### Apply Your Knowledge

Design a criterion-referenced probe for this skill and select the criterion necessary for mastery of the skill.

_____
_____
_____

**Check Your Understanding**

Check your ability to recall the terms introduced thus far in this chapter by completing Activity 6.10.

### Activity 6.10

Use the terms discussed in this chapter to complete the following sentences.

1. Using material from the curriculum content in test items is called _____.
2. Using informal assessment composed of actual classwork curriculum materials is called _____.
3. A teacher who adds behavioral objectives following the analysis of test items on a standardized norm-referenced test has adapted the instrument to reflect _____ testing.
4. When a student has not mastered a specific skill, the teacher may wish to test the student more thoroughly on the one skill with a self-developed _____.
5. When a teacher assesses daily from curriculum content, the assessment is called _____.
6. Breaking a complex task down into subskills, or substeps, is referred to as _____.
7. Analyzing the types of errors made on a test or on student work samples is called _____.
8. Teacher-made quizzes, curriculum-based assessment, criterion-referenced assessment, class assignments, and tests are all types of _____ assessment.

### Apply Your Knowledge

Why might teachers prefer informal tests for measuring their students' progress rather than commercially published tests?
_____
_____
_____

## Teacher-Made Tests

Many of the types of informal assessment described in this chapter are measures that can be designed by teachers. A study by Marso and Pigge (1991) found that teachers made several types of errors in test construction and tended to test items only at the knowledge level. This study also found that the number of years of teaching experience did not make a significant difference in the number and type of errors made in test construction. The types of items developed by teachers in this study included short response, matching, completion, true-false, and multiple choice, with essay items used infrequently. In constructing tests, these teachers made the most errors in matching items, followed by completion, essay, and true-false. Teachers may write test items using different levels of learning, although many teachers use items at the knowledge level because they are easier to write. Such items require the student merely to recall, recognize, or match the material. Higher-order thinking skills are needed to assess a student's ability to sequence, apply information, analyze, synthesize, infer, or deduct. These items may be more difficult and time-consuming to construct.