Classroom Assessment Practices for Instruction

Stephanie L. Carpenter and Margaret E. King-Sears

Chapter Outline

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- Determine Students’ Mastery of Competencies
- Monitor Students’ Maintenance and Generalization of Competencies

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In this chapter, we will
- discuss the importance of classroom assessment
- identify the purposes of classroom assessment and suggest activities that address student performance and instructional design in relation to each purpose
- present guiding/overarching principles of assessment that should characterize all classroom assessments
- describe approaches to classroom assessment and examine ways that different approaches may be used concurrently to provide different views of student performance
- outline a step-by-step framework (APPLY) for developing classroom assessments that both fulfill the purposes of classroom assessment and adhere to the guiding principles
- examine the relationship between assessments and grade assignment for student performance
CASE STUDY

Ms. Moore is a beginning special educator with responsibilities for teaching students with mild to moderate disabilities in a variety of content areas (e.g., science, mathematics, English) across two grades (sixth and seventh grades). Service delivery models include coteaching with general educators four periods per day, for which she travels around the school, and resource room instruction, for which the students with disabilities travel to her classroom for more intensive and specialized instruction.

It is the beginning of the school year. Ms. Moore is overwhelmed with the idea that she needs to assess who is where in which curriculum, in addition to determining how each student's Individualized Education Program (IEP) content will be taught both in content area classes (coteaching) and in the resource room setting. She realizes that she must use her organizational skills to develop and use assessments that will tell her who needs what instruction. She also realizes that she cannot do this alone; it is too much! She begins questioning other teachers about how they assess students.

One of the first teachers she talks with is Mr. Thomas, the sixth-grade social studies teacher, because he has about six IEP students in the class they will be coteaching. Mr. Thomas already has pretests developed for each grading period.

The next person she talks with is Ms. Bing, who has been teaching special education in middle schools for years. Ms. Bing shares her curriculum-based assessment (CBA) probes and graphs, scoring rubrics, and inventories specific to IEPs from previous students and related to middle school curriculum content.

Ms. Moore quickly begins working with Mr. Thomas to use his pretest results for the first grading period to determine what the students with IEPs already know and what areas she could focus on (such as vocabulary development) rather immediately with those students. Interestingly, Mr. Thomas finds that students without IEPs could also benefit from some of the social studies vocabulary instruction methods that Ms. Moore is designing.

Ms. Bing has CBAs for social studies vocabulary focusing on two skills. One CBA is a one-minute probe for pronouncing the vocabulary terms. This will help for word identification, which is a skill identified on students’ IEPs anyway. Another CBA focuses on defining the vocabulary terms. Ms. Moore thinks this could be helpful for increasing students’ comprehension skills as well because students need to understand what the terms mean in order to understand the social studies reading passages. Her concern, however, is that the text’s reading level is so high and reading at grade level is something students had difficulty with. She discusses this with Mr. Thomas, who explains that he presents new content using varied methods, such as illustrations, graphic organizers, and small-group discussions, that he has found work well for many students in his classes.

Moreover, Mr. Thomas uses a variety of assessment techniques that provide students choices when showing what they know from the social studies content. For each unit, Mr. Thomas uses the same scoring rubric (he is firm—he always needs to include a scoring rubric no matter what type of project a student chooses to do), but students choose different ways to show mastery. These choices might include writing a research paper, designing a video with role-plays, audiotaping descriptions of cause-and-effect situations, developing a timeline with important events, and creating an individually designed project, enabling students to use their imaginations and strengths to show what they know.

Ms. Moore has a lot of work to do this school year just to develop and use classroom-based assessments for the students with disabilities she’s teaching. But she is glad to know she has some colleagues like Mr. Thomas and Ms. Bing to work with. She can tell already that she will get some good ideas from them. More important, she really likes how their assessment techniques overlap so well with students’ IEP content. There’s more work to do, but at least she is not alone.
Accountability for instructional programs and services for students with and without disabilities is a focus at all levels of education. Globally, students in the United States are being compared with students in other countries. Nationally, statewide assessment practices yield results that allow comparison with students in other states as well as comparison of students within different counties or districts in that state. No Child Left Behind (NCLB) contains many requirements for each state to improve accountability, ensure academic proficiency, and decrease achievement gaps for all students. Locally, administrators are concerned about how well students in their schools are doing compared with students in other schools. In the classroom, educators are focused on how each student is progressing within the local school curriculum.

For students with mild to moderate disabilities, progress is monitored on goals and objectives specified on their IEPs. Moreover, the Individuals with Disabilities Education Act (IDEA) requires students with disabilities to participate in their state- or districtwide assessment of student achievement with no modifications or with individualized modifications as noted on their IEPs. If the state/district assessment is not appropriate for a student with mild to moderate disabilities, then the IEP must note why that assessment is not appropriate and how the student will be assessed. Beginning teachers should consult their local and state guidelines to clarify how the state/district assessments are conducted and what assessment modifications are appropriate based on students’ IEPs as well as what the criteria are for excluding a student from the state/district assessment and determining what alternative assessment will be used for that student.

Regardless of the level of accountability, the focus is on assessments that accurately portray how well students are progressing in critical curriculum areas. In the midst of pressures from different levels about accountability for students’ progress, challenges facing developing teachers include using formal assessment reports and the IEP to plan instruction, deciding what to teach immediately, and linking assessment to both the IEP and the instruction (curriculum and methods). Beginning and developing teachers may find that their immediate concerns are as follows:

• What do I teach these particular students, starting tomorrow?
• How long should I spend on each area of instruction?
• How will I know whether students have mastered the required competencies?
• What should I do if students have not mastered the required competencies?
• What should I do if students seem to be making only minimal progress?
• What do I do when students seem to forget what they learned or don’t continue to use new skills consistently in a variety of situations?
• How do I know what to teach next?

Although these questions will be addressed throughout this text, the answer to each begins with classroom assessments.

Beginning and developing teachers can demonstrate accountability by responding proactively and reactively to the assessment of students with mild to moderate disabilities in special and general education classrooms. Proactively, educators plan classroom assessments that effectively monitor both their students’ response to instruction and their students’ progress toward IEP goals and objectives. Reactively, educators make sound decisions about what to teach and how to teach on the basis of assessment results. In this chapter, we examine aspects of classroom assessment that will assist developing teachers in using classroom assessments proactively and reactively, including (1) purposes for assessment as related to the IEP and instruction, (2) overarching principles that characterize meaningful classroom assessments, (3) various approaches to assessing students’ performance competencies, (4) a framework for developing classroom assessments, and (5) the relationship between classroom assessments and grading practices.
PURPOSES FOR CLASSROOM ASSESSMENT

Beginning teachers who understand the purposes of assessment are better prepared to develop and use assessments that provide functional, reliable, and valid information. The type of assessment administered is related to the purpose of assessment. Salvia and Ysseldyke (1991) note the differences between norm-referenced tests and criterion-referenced tests. Norm-referenced tests measure a student’s performance in relation to the performance of his or her peers. Eligibility teams often use norm-referenced tests to determine the presence of a disability and whether a student qualifies for special education services. Criterion-referenced tests measure a student’s performance in terms of absolute mastery of particular skills. Classroom teachers use criterion-referenced tests to help in planning instructional programs and monitoring students’ mastery of skills. These “classroom” assessments serve four primary purposes related to planning instruction and documenting students’ progress: (1) to identify students’ entry-level competencies, (2) to monitor students’ performance during instruction, (3) to determine students’ mastery of competencies at the conclusion of instruction, and (4) to monitor students’ maintenance and generalization of competencies. Developing and beginning teachers can engage in a series of activities to accomplish these purposes with their students with mild to moderate disabilities.

Identify Students’ Entry-Level Competencies

The first step in classroom assessment is to identify students’ entry-level competencies in order to plan for instruction. The domain of instruction must be known before students’ current competencies can be assessed and before purposeful instructional planning can occur. Identification of students’ entry-level skills is a step frequently overlooked in descriptions of classroom assessment and may cause confusion for beginning teachers. They may find that they are expected to teach, and that students are expected to learn, skills and content that are not specified on the IEP but that are encountered by students during the school day. The IDEA requires the IEP team to address how the student’s disability impacts involvement and progress in the general education curriculum. As a result, beginning teachers must familiarize themselves with the general education curriculum and ensure that instructional content (whether the special educator delivers that content in a self-contained classroom or resource setting or via coteaching with the general educator) and, consequently, assessment include material from the general education curriculum. The challenge for developing educators is to integrate several sources of information, including the general education curriculum, in order to determine instructional domains or units and then to assess students’ current performance so they have a basis for planning units of instruction (see Chapter 5 for detailed information on planning instruction).

The domain or content area that will be targeted for instruction is determined by considering a variety of information sources. Students with disabilities have IEPs with annual measurable goals that indicate domains for instruction and short-term objectives or benchmarks that indicate what students will do. Measurable IEP goals can be written in a variety of ways; beginning teachers should follow their school system’s format, as the style and wording can vary within and across states.

Two goal formats are described here. The first format contains five components that summarize expectations for student performance within given domains of instruction (see Table 4.1 for examples of this format for goal statements):

1. Direction of the desired gain (e.g., increase, decrease, maintain)
2. Deficit area from which the student is operating (e.g., reading, written language, social skills)
TABLE 4.1 Examples of Exemplary Goal Statements from IEPs

<table>
<thead>
<tr>
<th>Direction</th>
<th>Deficit Area</th>
<th>Starting Point</th>
<th>Ending Point</th>
<th>Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase</td>
<td>reading skills</td>
<td>from the third-grade level as measured by Woodcock Reading Mastery test</td>
<td>to the fourth-grade level as measured by Woodcock Reading Mastery test</td>
<td>using direct instruction teaching methods.</td>
</tr>
<tr>
<td>Decrease</td>
<td>inappropriate behaviors</td>
<td>from an average of five tantrums per day</td>
<td>to appropriately dealing with frustrating situations without a tantrum</td>
<td>using functional analysis and social skills training.</td>
</tr>
<tr>
<td>Increase</td>
<td>reading skills</td>
<td>from reading 7 words per minute from a fourth-grade reading list</td>
<td>to reading 90 words per minute from a fourth-grade reading list</td>
<td>using peer tutoring and direct instruction techniques.</td>
</tr>
<tr>
<td>Increase</td>
<td>task completion</td>
<td>from turning in no homework or classroom assignments per week</td>
<td>to turning in all assignments</td>
<td>using self-management techniques.</td>
</tr>
</tbody>
</table>

3. Starting point for instruction (typically similar to the student’s present level of performance)

4. Ending point for instruction (level of performance the student is expected to attain in a year)

5. Resources (instructional methods or techniques from which the student is most likely to benefit, given the student’s individual learning characteristics)

The second format for writing measurable annual goals involves using verbs that are observable, a measurement guide, a timeline, and information that clearly references the general education curriculum when appropriate: “By the end of the school year, Jeremy will be able to complete 85% of multiplication and division problems correctly on the district math test...” (p. 135).

When IEP goals are vague (e.g., increase written language) or do not contain measurable information (e.g., the student’s current performance level in written language, how written language increases will be measured, how written language can be linked to the general education curriculum), teachers should use the available IEP information to further develop more complete goal statements that contain all components for instructional information purposes. Teachers can conduct further assessments (typically, these are classroom-based assessments, such as those described in this chapter) to determine where to start in accomplishing the IEP goals. The available IEP information can help in both narrowing the possible curriculum areas and emphasizing the relevant curriculum content.

Short-term objectives on IEPs are directly related to the goal statements in that the objectives represent incremental and observable behaviors related to students’ deficit areas that will denote and promote progress and growth. In this chapter, short-term objectives are conceptualized like benchmarks in that each represents a sequential endpoint for instruction. The IDEA requires that short-term objectives or benchmarks accompany each measurable goal on an IEP; consequently, the terms are used interchangeably. Again, beginning teachers will need to find out how their school system
prefers or requires short-term objectives or benchmarks to be written, as formats may vary.

Short-term objectives or benchmarks may be written so that the time line they reference is a unit of instruction (caution: this is typically more detailed information than required for an IEP, but excellent for planning instruction), a grading period (which may be more realistic to find on an IEP and also prompts teachers to review the IEP content at the same time that they are reporting progress for students without IEPs—which is another IDEA requirement), or a semester/half-year. Typically, a minimum of two objectives are written per goal statement on the IEP. Objectives describe sequences, or benchmarks, from which progress toward accomplishing an IEP goal can be measured.

Exemplary IEP objectives contain information related to a student’s observable behaviors, the conditions under which the behaviors should occur, and the degree or criteria that indicate a mastery performance. Each objective is assumed to refer to the student, or “audience,” for whom the IEP is written. Many teachers use “ABCD” as a reminder when writing behavioral objectives:

- **Audience:** The student (other components of the objective explicitly address the student’s learning characteristics and instructional needs)
- **Behavior:** The observable action performed by the student (the performance represents proficiency with the “content,” ranging from low-order skills such as direct recall [e.g., spelling words correctly in a list] to high-order skills such as application of the skill in a unique format [e.g., spelling words correctly in a story])
- **Conditions:** The circumstances and/or materials used during assessment (the condition describes what is given to the student to perform the behavior [e.g., the content of the materials or the type of instructional cues])
- **Degree:** The criteria that indicate a mastery performance of the behavior (criteria include such descriptors as percentage, number of steps/items/trials, and duration that directly relate to the behavior and conditions portion of the objective)

Each of these parts (ABCD) is not merely required in exemplary behavioral objectives; these parts must match, or make sense when used together, for an objective to have internal congruence (see Table 4.2 for nonexamples of behavioral objectives and why they are nonexamples).

Behavioral objectives that result from careful thought and analytic preparation provide the foundation needed to prepare assessments for students with mild to moderate disabilities. See Table 4.3 for examples of behavioral objectives that contain each component (e.g., ABCD) and in which the components make sense when used together.

### TABLE 4.2 Poor Behavioral Objectives

<table>
<thead>
<tr>
<th>Poor Behavioral Objective</th>
<th>Why</th>
</tr>
</thead>
<tbody>
<tr>
<td>Given 25 problems, the student will write the correct answer with 80% accuracy.</td>
<td>80% accuracy is not available with the number of problems in the condition, which is 25; 82% accuracy would be available. Clarify the content of the 25 problems.</td>
</tr>
<tr>
<td>The student will improve written language.</td>
<td>The objective does not contain observable behavior, conditions, or degree/criteria.</td>
</tr>
<tr>
<td>Given words to read in isolation, the student will answer comprehension questions appropriately.</td>
<td>The stated conditions do not relate to the behavior. Specify how the student will answer the questions. Writing is required in some classes, and verbal answers are required in others. The type of comprehension questions may also be important; recall, inferential, prediction?</td>
</tr>
<tr>
<td>The student will accurately define social studies terms.</td>
<td>The conditions are missing; the way in which degree/criteria is noted is ambiguous.</td>
</tr>
</tbody>
</table>
TABLE 4.3 Examples of Well-Written Short-Term IEP Objectives

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Observable Behavior</th>
<th>Criteria/Degree of Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Given 25 math computations on basic addition and subtraction facts,</td>
<td>the student will write the correct answer to 23/25 (92%) of the computations.</td>
<td></td>
</tr>
<tr>
<td>From memory when asked to define a biology science term,</td>
<td>the student will verbally identify a definition that includes the term’s function and relationship to the body system.</td>
<td></td>
</tr>
<tr>
<td>When given the opportunity to perform a seven-step task,</td>
<td>the student will perform* the task accurately with 7/7 steps.</td>
<td></td>
</tr>
<tr>
<td>From memory,</td>
<td>the student will write the definition to terms correctly.</td>
<td></td>
</tr>
<tr>
<td>When given choices of tasks to complete,</td>
<td>the student will identify sequences of task completion in priority order so that the first task, second task, and so on are sequentially ordered.</td>
<td></td>
</tr>
<tr>
<td>Provided with a job to complete and a due date,</td>
<td>the student will perform each function so that the assignment is completed by the due date.</td>
<td></td>
</tr>
<tr>
<td>When faced with situations in which criticism of performance may occur,</td>
<td>the student will perform* in a socially acceptable manner.*</td>
<td></td>
</tr>
</tbody>
</table>

*Note: These behaviors need further description (refinement) to be accurately observed. In behavioral terms, this refinement is called an operational definition of behavior (ODB). An ODB allows teachers to provide a sequence of observable behaviors that either exemplify or lead to the objective; these ODBs provide educators with a terminology (e.g., the observable behavior) for succinctly identifying a behavior in the objective and further describing the constellation of behaviors (e.g., the sequence of behaviors that ultimately leads to the observable behavior) that the objective is intended to communicate to others (e.g., the student, parents, educators, and support personnel).

Even when IEP goals and objectives are well written, they may not give sufficient information for beginning teachers to plan instruction because of the influence of other variables on day-to-day teaching. To have a comprehensive idea of the areas that should be targeted for instruction, developing teachers should also keep in mind desired life outcomes for all students (What do students need to be successful when they transition from school to adult life?); expectations for students in school settings (What basic skills do students need to be successful academically, behaviorally, and socially in school settings?); and the curricula (materials, procedures, scope and sequence) used in the school (What resources are readily available? What content do the same-age students without disabilities experience in their classes?). Identifying areas to target for assessment prior to instruction requires teachers to look at the “big picture.”

Once the domain or content area for instruction has been determined, teachers can identify students’ current performance competencies in the targeted domain prior to beginning instruction. Informal inventories survey a sampling of key knowledge or skills within the domain. Commercially prepared inventories are available for many core achievement areas, including language arts, reading, and mathematics. These criterion-referenced devices usually contain a wide range of developmentally based skill sequences that provide educators “with lists of mastered and unmastered skills from which strengths and weaknesses as well as potential instructional objectives can be inferred” (Salvia & Ysseldyke, 1991, pp. 373–374). Teachers may develop their own inventories that correspond to the targeted domain and the local curriculum. The inventories should still address a broad spectrum of skills, beginner and advanced, from each domain (see Table 4.4).

Whereas inventories provide a broad overview of students’ performance within the entire domain, pretests within specific areas will give the teacher more detailed information immediately prior to beginning a particular unit of instruction. These pretests can later be used as posttests. Similar to inventories, detailed pretests are available for some commercially prepared curriculum materials, or teachers may develop their own.
TABLE 4.4 Assessment Components Within Core Achievement Areas

<table>
<thead>
<tr>
<th>Content Domain</th>
<th>Assessed Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reading</strong></td>
<td><strong>Decoding (accuracy, then fluency)</strong></td>
</tr>
<tr>
<td></td>
<td>• letter recognition and letter sound correspondence</td>
</tr>
<tr>
<td></td>
<td>• sight vocabulary, phonics, and morphology</td>
</tr>
<tr>
<td></td>
<td><strong>Comprehension</strong></td>
</tr>
<tr>
<td></td>
<td>• paraphrasing (retelling orally or in writing) the gist of the passage</td>
</tr>
<tr>
<td></td>
<td>• recall and inference</td>
</tr>
<tr>
<td></td>
<td>• rate of oral reading</td>
</tr>
<tr>
<td><strong>Mathematics</strong></td>
<td><strong>Skill topics</strong></td>
</tr>
<tr>
<td></td>
<td>• readiness skills, vocabulary, and concepts</td>
</tr>
<tr>
<td></td>
<td>• numeration and whole number operations</td>
</tr>
<tr>
<td></td>
<td>• fractions and decimals</td>
</tr>
<tr>
<td></td>
<td>• ratios and percents</td>
</tr>
<tr>
<td></td>
<td>• measurement</td>
</tr>
<tr>
<td></td>
<td>• geometry</td>
</tr>
<tr>
<td></td>
<td><strong>Skill format</strong></td>
</tr>
<tr>
<td></td>
<td>• problem sets requiring computation</td>
</tr>
<tr>
<td></td>
<td>• word problems requiring selection and application of an algorithm</td>
</tr>
<tr>
<td></td>
<td><strong>Skill difficulty variations</strong></td>
</tr>
<tr>
<td></td>
<td>• number of steps in solution</td>
</tr>
<tr>
<td></td>
<td>• amount of extraneous information</td>
</tr>
<tr>
<td></td>
<td>• explicit versus implicit indicators of mathematical operation</td>
</tr>
<tr>
<td><strong>Written Language</strong></td>
<td><strong>Penmanship</strong></td>
</tr>
<tr>
<td></td>
<td>• letter formation and rudimentary spelling</td>
</tr>
<tr>
<td></td>
<td><strong>Content</strong></td>
</tr>
<tr>
<td></td>
<td>• number of words written</td>
</tr>
<tr>
<td></td>
<td>• quality, sequencing, or coherence of ideas</td>
</tr>
<tr>
<td></td>
<td>• consideration of the audience</td>
</tr>
<tr>
<td></td>
<td><strong>Style</strong></td>
</tr>
<tr>
<td></td>
<td>• grammar (e.g., subject-verb agreement)</td>
</tr>
<tr>
<td></td>
<td>• mechanics (e.g., punctuation or sentence structure)</td>
</tr>
<tr>
<td></td>
<td>• word choice</td>
</tr>
<tr>
<td><strong>Language Arts</strong></td>
<td><strong>Skill topics</strong></td>
</tr>
<tr>
<td></td>
<td>• alphabetization and spelling</td>
</tr>
<tr>
<td></td>
<td>• reference skills (e.g., dictionary, phone book, newspaper)</td>
</tr>
<tr>
<td></td>
<td>• correspondence skills and filling out forms</td>
</tr>
</tbody>
</table>


The important feature of pretests is that they correspond to the material that will be taught. Once teachers have assessed students’ entry-level competencies, they can plan instruction that addresses the levels at which students perform independently, require instruction, and are frustrated.

**Monitor Students’ Performance During Instruction**

The second step in classroom assessment is to monitor students’ performance during instruction in order to guide instructional content and methods; to accomplish this, teachers must decide how to measure performance and design the assessment device, administer the assessment, and respond to assessment results during future instruction. Before beginning instruction, teachers should develop their assessment devices and determine the assessment schedule they will use during instruction to assess students’ performance on both short-term and long-term goals and objectives.
Pause and Reflect About the Profession 4.1

Hypothetically, the goals and objectives on students’ IEPs should serve as guides to providing instruction for students with disabilities. Beginning teachers may find, however, that the IEP document does not give them enough information to begin daily instruction for a number of reasons. First, during the time lapse between the writing of the IEP and the start of instruction, students may either lose previously acquired prerequisite skills or make unexpected performance gains. Second, the goals and objectives may not address all areas in which students are required to participate in school. Third, goal statements and objectives may not be written in a way that clearly communicates expectations for students’ performance in specific, observable, and measurable terms. Any of these inconsistencies between the IEP and expectations for students’ performance in the educational setting will require teachers to gather additional information about their students’ entry-level competencies in relation to units or domains of instruction.

Examine your students’ actual performance levels, the daily expectations for them in school settings, and the IEP goals and objectives. Have your students’ skills changed since the IEPs were written? Are any expectations for what they must do in school not addressed in the IEPs? Do the IEP goals and objectives clearly communicate what students should do? Your answers will influence your choice of the instructional domains or units that you will teach first and for which you will assess students’ entry-level competencies.

Short-term assessments measure progress during a particular unit of instruction; they typically encompass all the individual competencies taught within the lessons that comprise the unit. Long-term assessments measure progress toward annual goals; they typically encompass the major competencies taught within the units that comprise the annual goals. The assessment device used for the pretest may be reused or adapted (by being shortened or presenting different stimuli for the same skill) for performance monitoring. Between the onset and conclusion of instruction for unit and annual goals, teachers should administer assessments several times. Teachers who assess their students’ performance consistently and frequently receive timely indicators of whether students are making the desired achievement gains and whether changes in instruction are warranted. (Chapter 5 covers the diagnostic teaching model, which details possible explanations for students’ lack of progress and strategies for adjusting instruction.)

Teachers can use a variety of methods to monitor students’ progress during instruction. Beginning special educators should ensure they use the assessment techniques that provide the most information about students’ responses to instruction. Some of these techniques may not be used as often as they should. For example, Arthaud, Vasa, and Steckelberg (2000) surveyed over 800 special educators about their reading assessment and instructional practices. They found that although teachers rated some reading assessment measures highly for their usefulness (e.g., oral reading fluency, miscue analysis, portfolios, and journal writing), they did not use these techniques regularly. Teachers reported that they most frequently reviewed the IEP (83 percent) and least frequently used oral reading fluency assessments (23 percent) and informal reading inventories (27 percent). Given that the latter two provide more specific diagnostic information that guides instruction, beginning special educators should ensure that they build more frequent use of such specific assessment techniques into their instructional plans.

Determine Students’ Mastery of Competencies

The third step in classroom assessment is to measure students’ mastery of competencies at the conclusion of instruction in order to confirm the effectiveness of instruction and students’ readiness to proceed to the next unit of instruction (for details, see the discussion of the diagnostic teaching model in Chapter 5). Again, posttests may be available.
with curriculum materials, may be developed by teachers, and may be a readministration or adapted version of the pretest; however, the posttest should correspond to what was taught.

As is noted in this chapter’s introductory case study, variety in how students can “show what they know” is desirable. For example, students can show what they know by writing a paper, designing a project, creating a video, or audiotaping responses. Providing students with choices for assessment methods can strengthen their self-determination skills as well as eliciting a more accurate gauge of what they do know and are able to do.

**Monitor Students’ Maintenance and Generalization of Competencies**

The final step in classroom assessment is to monitor students’ maintenance and generalization of competencies in order to determine whether additional teaching is needed. Maintenance refers to whether students remember what they have learned after instruction for that content has stopped. For example, do students who demonstrate mastery of addition and subtraction facts during the first month of school remember them in the second, third, or seventh month of school? Beginning teachers may find, to their dismay, that students who performed at a mastery level on the posttest seem to have forgotten how to add and subtract when they begin a unit on measurement.

Generalization refers to whether students use what they have learned in one setting or situation in other settings and situations that are different from the original instructional context. For example, do students who spell words correctly on a spelling test also spell those words correctly when they write paragraphs? Developing teachers are often disappointed to find that students who perform skills in one context will not transfer use of the skill or information to other appropriate situations. Thus, even after instruction has ended for a particular unit, teachers should conduct follow-up assessments of students’ maintenance and generalization of previously mastered competencies.

**PRINCIPLES OF ASSESSMENT**

Educators can select from a variety of formats (paper-and-pencil tasks, spontaneous reactions, impromptu performances, writing samples) and systems (authentic, performance, portfolio, curriculum-based) in developing and using assessments. Assessments can cover a range of skills (word identification, concept formation, problem solving, self-help, vocational), and the skills can represent content from different curricula (reading, math, writing, social studies, science, social skills, work-related). Assessments can also occur in a number of settings (special education classroom, general education classroom, work site, community setting).

Regardless of what type of assessment format and system is used, what skills are assessed, what curriculum is being taught, or where assessment occurs, three principles guide assessment for students with mild to moderate disabilities:

1. Critical skills are selected for assessment.
2. Data are collected in a systematic manner.
3. Data on student performance are collected frequently.

**Principle 1: Critical Skills Are Selected for Assessment**

Given the wide variety of skills (or outcomes or standards) taught in educational settings, it is impossible to monitor each skill. Multiple student behaviors contribute to students’ progress in reading, varied work behaviors are needed for employees to receive a satisfactory job performance rating, and several skills are executed when students solve
math problems. Teachers feel responsible for teaching and assessing a wide range of skills, yet the logistics of conducting extensive assessments on each skill are prohibitive. Teachers make more efficient use of instructional time when they identify critical skills, or key final skills, to serve as guides or benchmarks. Consequently, the first principle of assessment is that the critical skills or skill areas (benchmarks) are selected for assessment and serve as indicators of progress for a student within an instructional unit. Critical skills are the ending skills or concepts the teacher is teaching during the unit of instruction, not each skill or concept the teacher is teaching. In math, benchmarks might be proficiency and fluency in solving particular types of computations and solving multistep word problems. In reading, critical skills might be fluent identification of words with certain types of patterns and proficiency in answering recall and inferential questions about reading passages containing those words. A social studies curriculum unit might have such critical skills as identifying and defining the vocabulary, recalling important sequences of events, and discussing causes and effects of situations.

Principle 2: Data Are Collected in a Systematic Manner

Systematic data collection consists of using a predetermined plan for assessing students’ progress that produces reliable and valid indicators of students’ mastery of instructional objectives. Predetermination of instructional objectives is critical to systematic collection of data. When behavioral objectives are specified in advance, teachers are able to plan relevant instruction and assessment. Although a variety of activities may be used to accomplish any objective, the focal point during assessment remains systematic collection of information on the objective, and not extraneous or irrelevant information.

When teachers informally monitor students’ involvement in educational activities during instruction and students successfully complete those activities, some educators claim that this observational information is sufficient to determine that the students are acquiring the targeted skills. Fuchs and Fuchs (1984), however, found that teachers’ informal observations of students during activities do not necessarily provide reliable and valid information related to the lesson’s goals and objectives; that is, some teachers noted that the student enjoyed the lesson or participated in the activity or was able to get the answer correct when cues were given. Although such information is interesting and can help the teacher make decisions about some aspects of instructional content and context, it may not be an accurate or reliable indicator of the student’s mastery of the targeted skills. Reliable and valid assessments produce results that dependably measure the skills the teacher was intending to assess.

Reliability. Reliability refers to the extent to which assessment results are generalizable. In other words, reliable assessments provide similar information about students’ performance competencies whether or not students are assessed with a different version of the assessment (alternate form or internal-consistency reliability), by a different person (interrater or interscorer reliability), or at a different time (stability or test-retest reliability). Although there are quantitative methods for determining the reliability of assessments, beginning teachers may find it helpful to ask themselves three questions related to the reliability of the classroom assessments they develop. Assuming no additional teaching or practice,

1. Will students perform similarly (with similar levels of mastery) on a different version of the test that contains items within the target domain?

2. Will another person (an instructional assistant, another teacher, a parent volunteer) who scores the students’ performance on the assessment device obtain the same results in terms of levels of mastery?

3. Will students perform similarly (with similar levels of mastery) in the assessed area if they are assessed again at a different time?
Each version of the assessment should contain a similar sampling of the skills being taught but not necessarily identical items. For example, to assess students' mastery of addition operations that have two-digit addends requiring regrouping, teachers would provide different sets of math problems each time, but each set should require students to perform the targeted computation skill. In other words, the problem set, but not the computation skill, would vary from one test administration to the next. The extent to which the different versions of the assessment require students to use the same skills is an indicator of alternate form reliability.

The scoring guidelines for the assessment should be explicit enough that students' scores would be the same if two (or more) people were to evaluate students' performance. Interscorer reliability is easily obtained for factual items that have a clearly recognizable right or wrong response, as in spelling, decoding, mathematical computations, and direct recall of content. The more or less defined the range of acceptable responses is, the greater the variability among scorers may be and the less students may understand what signifies a mastery performance. Explicit scoring guidelines are important so that students understand the performance expectations and teachers know whether students have mastered the objectives. The extent to which two people using the same guidelines evaluate students' performance in the same way is an indicator of interrater reliability.

Assessment items or components should be presented in such a way that students must know the content or perform the skill in order to receive mastery scores. If students' performance is highly variable from one administration of the assessment to the next (in the absence of new teaching or practice), then variables other than the targeted skills may be responsible for the performance variations, and the teacher cannot be certain that students have attained mastery. The extent to which assessments require students to demonstrate a particular skill and reduce the opportunities for a "chance" performance is an indicator of test-retest reliability. Test-retest reliability—and hence overall reliability—will be enhanced when the content of assessments "is equivalent from test to test or probe to probe; [and] test directions, kinds of cues or hints, testing formats, criteria for correct responses, and type of score (for example, rates or percentage correct) [are] the same" (Salvia & Ysseldyke, 1991, p. 557).

Validity. To say an assessment is valid means that the skills it measures are indeed the skills it purports to measure. Salvia and Ysseldyke (1991) note that the validity of an assessment is inferred from a variety of information, and they identify three interrelated types of validity: content validity, criterion-related validity, and construct validity. Content validity will be the primary focus of beginning teachers for the assessments they develop. Salvia and Ysseldyke (1991) recommend evaluating three factors to determine content validity: "the appropriateness of the types of items included, the completeness of the item sample, and the way in which items assess the content" (p. 146). When assessments require students to respond to content taken directly from the materials used during instruction and to perform tasks similar to those encountered during instruction, content validity is seldom a problem. If students are taught strategies for solving word problems and if the assessment requires students to solve similar word problems for which the strategies are appropriate, then content validity should be satisfied. However, if students are taught strategies for solving addition and subtraction word problems only and if the assessment requires application of multiplication and division strategies to solve word problems, then content validity is not satisfied. Furthermore, the types of word problems selected for the assessment must be the types of word problems originally selected for the instructional objective. If the teacher intended the student to be able to solve problems involving multiple steps and varied computational skills, then the word problems used to measure that objective need to include multiple steps and varied computations.

Gersten, Keating, and Irvin (1995) expand the technical features of validity to include social and instructional validity. To ensure that assessment is valid and can thus
be used to inform instruction, they challenge researchers to “present evidence indicating that the assessment information is in fact used by teachers as intended and that it results in improved student learning” (p. 510). Teachers who develop sound assessment practices, yet do not use those results to make necessary changes in instruction, are not sufficiently fulfilling the purpose of the assessment process: to guide teaching.

Calhoon and Fuchs (2003) demonstrate how researchers are responding to social and instructional validity issues. They examined the impact of a peer-assisted learning technique and curriculum-based measurement (CBM) on the mathematics performance of secondary students with disabilities. In addition to analyzing research results based on the mathematics measures, the researchers sought feedback from the teachers and students. Students indicated positive attitudes toward the interventions, reported that they liked working with a partner, and believed that the interventions helped them improve and work harder in math. Teachers responded that they thought the interventions were beneficial for them and their students in promoting learning and enhancing decision making using CBM. Significantly, teachers also noted that the interventions enabled them to better prepare for statewide assessments and that they intended to continue using the interventions the following school year.

**Principle 3: Data on Student Performance Are Collected Frequently**

Frequent collection of data encompasses, at the very least, the use of pretests and posttests. Pretests confirm that students know prerequisite information and do not yet know the targeted content. Posttests confirm that students have learned the targeted content. Yet pretests and posttests do not inform the teacher how well students are learning while the instructional unit is in progress. Teachers who wait until the posttest to gather such critical information are missing timely opportunities to reteach content in different ways during the instructional unit. Thus, data should be collected on several occasions between the pretest and posttest dates, especially for students with special needs, who may benefit from alternative instructional strategies. Frequent data collection provides the teacher with information about how well students are acquiring the content while instruction is occurring.

It is important to note that teachers can use brief and informal ways to gather feedback from students about the content they are learning. Warm-ups at the beginning of class sessions and closures at the end of class sessions are excellent opportunities to gather information that guides instruction. For example, students’ performance on brief warm-up problems can alert the teacher to how well students are remembering content that has been previously taught. Closure activities can include brief drills about content taught that day, which can guide the teacher for what to review the next day. We have worked with a middle school special educator to develop sets of questions that students can respond to at the end of class sessions. Students choose which question they want to respond to, and their responses guide the teacher for subsequent instructional sessions. Examples of questions include the following:

- What do you feel you need more work on?
- What content do you feel you know well?
- Which activities are particularly helpful for your learning, and why?

**APPROACHES TO CLASSROOM ASSESSMENT**

Traditionally, educational services for students with mild to moderate disabilities have been delivered by special educators in resource rooms, self-contained classrooms, or special schools. Consequently, assessment practices in the past largely focused on students’ individual academic or social achievements within a relatively controlled environment,
with small groups of students present for instruction, and with specific educational materials and practices as the cornerstone for their education.

In the 1990s, however, the emphasis on inclusion of students with all types and severities of disabilities resulted in more students, including those with mild to moderate disabilities, being educated in general education classrooms (Cullen & Pratt, 1992). More recently, the emphases have been differentiation for learners with and without disabilities (Hoover & Patton, 2004) and the achievement of all students on statewide assessments (No Child Left Behind Act of 2001). In addition, emphasis has been placed on the uses of community-based environments to promote students’ opportunities to learn and practice skills in the authentic environment within which they are expected to perform. In short, educational classrooms for students with mild to moderate disabilities used to be primarily special education classrooms; now those classrooms may also be general education classrooms, work environments, community environments, and activities and locations around the school, such as recess, lunch, and homeroom.

Where the classroom is for these students may affect the assessment parameters teachers use to monitor instruction as well as the types of skills and strategies teachers are teaching. Authentic assessment is one of several terms used recently in general education. Other new terms are performance assessment and portfolio assessment. In the next section, we define and describe each of these terms and provide examples of how each system can be used for students with mild to moderate disabilities. Then we describe curriculum-based assessment. Curriculum-based assessment (CBA) is a system of assessment that has a solid research base for students with mild to moderate disabilities and can be directly linked to instructional decisions to ensure that students are achieving instructional objectives regardless of the setting where instruction occurs.

**Authentic, Performance, and Portfolio Assessment**

**Authentic Assessment.** Archbald (1991) notes that the term *authentic assessment* has been used more frequently and recently to represent varied interpretations of what meaningful, valuable, and realistic assessments can provide. Elliott (1992) describes authentic assessment as involving assessment activities like those commonly used in the world outside the classroom. Authentic assessments occur in the real environment and consequently require the student to perform behaviors that will successfully allow him or her to meet authentic setting demands.

The practice of authentic assessments is not new to education, although the application of the concept and terminology has increased in recent years. Poteet, Choate, and Stewart (1993) note that authentic assessments have traditionally been used in vocational education (consider on-the-job performance ratings), music education (e.g., participating in a recital), and sports programs (when students ultimately perform in competitions or games). Not only are students’ behaviors assessed in these arenas by professionals who are typically evaluating individuals or teams according to exemplary standards, but also there are elements of student self-evaluation in the light of the familiar standards for which they are striving. Authentic assessment occurs when student performance is measured within the demands of realistic settings and real-life contexts.

In special education, generalization of a student’s target behavior occurs when the student uses the skill or behavior in a real-life setting. In a classroom setting, a student may be learning to read words that have varied sound patterns (e.g., consonant blends, digraphs). The authentic assessment, or generalization, of the student’s reading skill occurs when the student encounters a situation in which words with similar patterns need to be identified (e.g., in a book or magazine or on a bulletin board) and the student can identify the words correctly.

Another example of an authentic assessment, or generalization, is when a student is learning to complete a series of tasks for a “job” and he or she accurately completes those tasks in a way that satisfies the “employer.” The job could be clearing and cleaning a work area (e.g., the student’s desk, the student’s bedroom, the office area at a work
Pause and Reflect About the Profession 4.2

Examples of authentic assessments for students with disabilities include the following: (1) when a student with an emotional or behavioral disorder responds appropriately to classmates who are making fun of her during recess, (2) when a student with a learning disability in reading correctly pronounces words when verbally reading paragraphs from a science text during a lesson, (3) when a student with moderate mental retardation correctly follows verbal directions while participating in a cooperative group activity, and (4) when a student with a learning disability in mathematics is able to use a calculator in a grocery store to determine when he has overspent his budget. What authentic assessments are already occurring for your students? What additional opportunities do you have to structure authentic assessments? Would identifying opportunities for authentic assessment assist you in teaching your students to generalize skills and behaviors to functionally relevant situations?

Performance Assessment. When student behaviors occur in simulated environments or in more controlled or “planned for” contexts, the assessment may be identified as performance assessment. Note that when students’ performance occurs in authentic situations, the accurate term is authentic assessment. Sometimes, however, authentic demands can be presented within simulated situations, so that the same or similar student performance is required but the situation has not occurred within the “true” environment.

Meyer (1992) describes aspects of performance assessments that are authentic in nature. She delineates multiple features of tasks that can be considered authentic, including the stimuli presented, the complexity of the tasks, and the standards developed for performance (see Table 4.5).
what they know. The Office has identified six types—and related examples—of performance assessment: (1) constructed-response items, (2) essays and writing assessments, (3) interviews and direct observations, (4) exhibitions, (5) experiments, and (6) portfolios (see Table 4.6). Examples include assessment (1) during a role-play situation in which the student practices appropriate responses to criticism from peers, (2) during an oral reading of material that is similar to grade-level material, (3) while following a specific set of directions during a contrived group activity, and (4) while solving a math problem on a worksheet. Regardless of which method is selected, educators must predetermine criteria for successful performance in order to (1) explain the criteria to the student before and during instruction, (2) have a basis for discussing performance with the student during feedback sessions, and (3) develop valid and reliable assessment formats. Sarouphim (1999) notes that performance-based assessments must clearly and logically link to specific activities in order to be credible and effective. Teachers should be sure to incorporate those features that resemble real-life, or authentic, situations into their performance assessment sequence even when the authentic situations cannot be used.

Actually, many types of performances can serve to document a student’s progress. For example, Woodward, Monroe, and Baxter (2001) analyzed how students with learning disabilities who received tutorial sessions fared in mathematics when compared to similar peers who did not receive tutoring. All students completed performance assessments developed to parallel outcomes for a statewide assessment, and they could solve problems and explain their thinking using pictures, tables, charts, and/or words. A rubric was used to score students’ performance, and students with learning disabilities in the tutorial intervention scored significantly higher on performance assessments than their peers who had not received tutoring. The researchers indicated that the flexibility in performance was desired by the students and that the tutorials provided necessary discussion and practice opportunities for students.

### TABLE 4.5 Authentic Features of Performance Tasks

<table>
<thead>
<tr>
<th>Task Feature</th>
<th>Question for Teachers</th>
<th>Example of Feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stimuli</td>
<td>Is the stimulus used identical to the stimulus encountered in real life?</td>
<td>Student can use a variety of vending machines to get a snack.</td>
</tr>
<tr>
<td>Task complexity</td>
<td>Does the task represent the difficulty level encountered in real situations?</td>
<td>Student completes a job application that has not been redeveloped for his or her reading level.</td>
</tr>
<tr>
<td>Spontaneity</td>
<td>Can the student perform the task when the situation requires it?</td>
<td>Student interacts appropriately with peers and adults throughout the day.</td>
</tr>
<tr>
<td>Conditions</td>
<td>Are the conditions present during assessment similar or identical to the conditions present in real life?</td>
<td>Student reads independently without someone there to tell him or her the words.</td>
</tr>
<tr>
<td>Criteria</td>
<td>Is the performance standard required in actual situations also required in the assessment situation?</td>
<td>Student must complete all steps in the task of making coffee, not 80% accuracy.</td>
</tr>
<tr>
<td>Locus of control</td>
<td>Is the student responsible for initiating or completing a response?</td>
<td>When the bus door opens, the student boards the bus before it departs.</td>
</tr>
<tr>
<td>Resources</td>
<td>Is the availability of materials similar to actual situations?</td>
<td>Student must locate art supplies and bring them to the work area.</td>
</tr>
<tr>
<td>Consequences</td>
<td>Are the consequences for performance similar to the consequences in real life?</td>
<td>Student gets to drink the soda after putting the correct change in the vending machine.</td>
</tr>
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</table>

### TABLE 4.6 Descriptions and Examples of Performance Assessments

<table>
<thead>
<tr>
<th>Type of Performance Assessment</th>
<th>Description</th>
<th>Examples</th>
</tr>
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</table>
| Constructed-response items    | Students produce or construct their own answers. | • Mathematics calculation  
|                               |             | • Geometry proofs  
|                               |             | • Drawing graphs  
|                               |             | • Fill-in-the-blank  
|                               |             | • Matching  
|                               |             | • Definitions  
|                               |             | • Short written answers  
|                               |             | • Essays  |
| Essays and writing assessment | Students’ writing ability, and knowledge and understanding of content, is assessed. | • Direct writing sample in response to a writing prompt or question  
| Interviews and direct observations | Students verbally respond to or actively demonstrate knowledge. | • Give spoken response on or discuss a given topic  
|                               |             | • Perform tasks that have been taught in a simulated situation and/or spontaneously in a real situation  
|                               |             | • Observe dialogue of students spontaneously engaged in an academic activity  
|                               |             | • Collect work samples  |
| Exhibitions                  | Students produce comprehensive products, presentations, or performances for the public. | • Recital  
|                               |             | • Activities, projects, or demonstrations are aggregated and displayed  
|                               |             | • Debate  
|                               |             | • Individual or group competitions  
|                               |             | • Dramatic presentation  
|                               |             | • Group project  |
| Experiments                  | Students demonstrate the process of planning, conducting, and writing up experiments. | • Hands-on manipulative skills tasks  
|                               |             | • May include teamwork and interpersonal skills  |
| Portfolios                   | Students contribute work samples to files, folders that portray their learning profile by documenting their experiences and accomplishments. | • Drafts and final products  
|                               |             | • Self-reflection  |


**Portfolio Assessment.** As students are learning and gaining proficiency in new skills and concepts, it is helpful for teachers to gather samples of their performances to review and indicate progress over time. Teachers can use a portfolio format to assist them in documenting such performances. Portfolio assessment can be conceptualized as an innovative notation of students’ performances related to instructional objectives and can conceivably be an alternative “gradebook” for a teacher. The portfolio itself can be a folder, notebook, or some other “holder” of student work products. Paulson, Paulson, and Meyer (1991) describe a portfolio as a purposeful collection of student work that exhibits the student’s efforts, progress, and achievements in one or more areas. Students must participate in selecting the contents, and the collection must include the criteria for selection, the criteria for judging merit, and evidence of student self-reflection (p. 60).
Paulson et al. (1991) emphasize the importance of deciding what type of information the portfolio is intended to communicate. A folder that merely holds a student’s work does not represent portfolio assessment; decisions about what type of work can be placed in a portfolio and how that work relates to the curriculum (or IEP) goals and objectives must be clearly identified and discussed with the student. Paulson et al. suggest that teachers clearly identify the purpose of the portfolio, the type of content that can be included in it, the goals the student is working toward, and the standards for determining the quality of the content (see Table 4.7 for examples of these and other related questions on portfolio content).

Work products in a portfolio can represent either work in progress (e.g., writing outlines, drafts of a report being written) or the final work (e.g., the report that was turned in for a grade or for teacher evaluation). Work contained in a portfolio may be chosen by the teacher independently or by the student and teacher together. Teacher and student collaboration—in deciding what goes in the portfolio, and why, and how that work represents student growth and progress related to instruction—is required so that the portfolio represents assessment content decided with the student, not for the student. Duffy, Jones, and Thomas (1999) describe how portfolios can be used to promote independent thinking with students because they are encouraged to learn and use self-evaluation skills.

In addition to work products directly related to an academic area, the portfolio may contain the student’s comments and reflections on how well he or she is learning and what he or she is learning from the academic content. More extensive content from a wide variety of sources can also be used in portfolios. For example, Viechnicki, Barbour, Shaklee, Rohrer, and Ambrose (1993) describe portfolio content that teachers developed for each student that included teacher anecdotal accounts of student learning, observations from lessons that were designed to elicit evidence of exceptional potential and

<table>
<thead>
<tr>
<th>Question</th>
<th>Recommendation</th>
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<tr>
<td>1. Is the portfolio’s purpose identified?</td>
<td>Clarify how the portfolio will be used in determining grades, guiding instruction, deciding content for instruction, and so on.</td>
</tr>
<tr>
<td>2. How closely will the portfolio content parallel the IEP/curriculum?</td>
<td>Link the content of the portfolio directly to the IEP and curriculum.</td>
</tr>
<tr>
<td>3. What type of content can be included in the portfolio?</td>
<td>Discuss with the student ways to make decisions about what goes into the portfolio. Content may also include alternative assessment formats such as projects and results from a role-play.</td>
</tr>
<tr>
<td>4. What are the standards for the content in the portfolio?</td>
<td>The teacher and student should be well aware of what an excellent product, or project, looks like. The criteria for selecting content may parallel the criteria statement of a behavioral objective.</td>
</tr>
<tr>
<td>5. How much student involvement will be elicited, and when?</td>
<td>Inform the student at the beginning of instruction what his or her choices are for including portfolio content. Guide the student initially in portfolio selection of content. Allow the student to make independent choices as he or she demonstrates more proficiency with making decisions.</td>
</tr>
<tr>
<td>6. How many purposes can the portfolio serve?</td>
<td>Use fewer purposes that coincide rather than more purposes that may fragment, isolate, or confuse the critical instructional objectives. The portfolio can inform the teacher about the student’s progress, thinking processes, and preferences for demonstrating proficiency.</td>
</tr>
<tr>
<td>7. To what extent should growth and progress be evident in the portfolio content?</td>
<td>Growth and progress should be evident to a great extent. Furthermore, the teacher may want to include (for his or her future use) what methods were used to more consistently promote growth and progress.</td>
</tr>
</tbody>
</table>
performance, information from parents and/or peers, and examples of products produced by the student.

Nolet (1992) discusses portfolio assessment as a process that can be used for either instructional or assessment purposes, and his points can help guide teachers in clarifying their purposes for portfolio assessment. He distinguishes between uses of a portfolio that make it appropriate for assessment purposes and for instructional purposes. For example, if the purpose of the portfolio is assessment, then teachers need to ensure the reliability and validity of the portfolio contents in relation to instructional goals and objectives. In other words, teachers must ensure the content selected for inclusion in the portfolio is technically adequate for assessing students’ performance competencies. For an instructional portfolio, in contrast, teachers may be less concerned with the technical features of the student work included in the portfolio; indeed, the student may select work to include that he or she believes reflects progress and performance but that the teacher knows does not represent reliable or valid measures (e.g., because the student had much assistance in completing the work instead of completing it independently).

By including the student’s reasons for selecting a particular piece of work for the portfolio, the teacher can use the portfolio assessment process as an opportunity to gain insight into what the student is thinking about his or her learning experiences. Including the student’s preferences for demonstrating knowledge (e.g., writing a report, constructing a model, developing a timeline, reflecting on his or her work) not only encourages student involvement and decision making but also is an excellent method of increasing student motivation and responsibility in the learning process.

Authentic, performance, and portfolio assessments represent relatively recent initiatives in general education. At this time, the research base on how well these assessments work for students with disabilities is relatively small, although some research is beginning to emerge (Nolet, 1992; Poteet et al., 1993; Sarouphim, 1999). Certainly, the basic premises of these assessment systems apply to the performance demands for students with mild to moderate disabilities, and flexibility for differentiated performance standards (e.g., the standard for a student with learning disabilities may be different from that of a student who is gifted) is available. Creative special educators can develop parallel and appropriate formats for students with mild to moderate disabilities that allow these students to participate in assessment formats similar to those used by general educators.

**Curriculum-Based Assessment**

An assessment system that does have a research base for teaching and assessing students with mild to moderate disabilities is curriculum-based assessment (CBA) (Deno, 1985; Deno & Fuchs, 1987; Fuchs & Fuchs, 1985; Salvia & Hughes, 1990). Elliott (1992) refers to CBA as techniques for observing a student’s behavior that link assessment results to instructional interventions. CBA can be used as a formative assessment technique during instruction. Fuchs and Fuchs (1984) found that teachers who (1) conducted formative assessments during instruction, (2) used results from those assessments to change their teaching, and (3) graphically displayed those results to assist them in decision making were able to increase their students’ academic achievement and to use instructional time more productively than teachers who did not conduct and use formative assessments. Although a variety of definitions and interpretations of CBA are used in the literature (e.g., Blankenship, 1985; Fuchs & Deno, 1991; Salvia & Hughes, 1990), the definition of CBA used for this chapter is based on the following principles of effective instruction:

* Observable behavior of critical student performances related to the curriculum being taught is used.
* Frequent and brief measurements of student behavior occur prior to, during, and after instructional units.
* Measurements are graphically displayed.
* Students and teachers use the graphic displays to make instructional decisions.
Systematically observing key student behaviors related to instructional content includes two of the principles of assessment presented earlier in this chapter: Critical skills are selected for assessment, and data are collected in a systematic manner. Methods for teachers' development and use of CBA have been described in as many as 11 and as few as 4 steps (e.g., Blankenship, 1985; Salvia & Hughes, 1990). In the next section, we describe the APPLY framework for developing and using CBA and provide case studies of students with mild to moderate disabilities in the elementary and secondary grades to illustrate varied examples of CBA in different content areas.

THE APPLY FRAMEWORK FOR DEVELOPING CLASSROOM ASSESSMENTS

Before using the APPLY framework to develop a CBA, teachers acquire critical information about the student from a variety of sources (e.g., IEPs, confidential files, parents, other teachers, standardized assessments, informal assessments, other CBAs, the student him- or herself). These sources provide indicators of the curriculum from which the student should be working and a general idea of the curriculum level at which the student can satisfactorily perform.

APPLY is a mnemonic (see Figure 4.1) that synthesizes the steps for teachers' development and use of CBA (Jorden & Haube, 1995; King-Sears, 1994; King-Sears, Burgess, & Lawson, 1999). It can be used as an initial diagnostic framework for determining a student's instructional curriculum and level. It can also be used as an ongoing diagnostic framework throughout the year when a student is progressing from unit to unit within a curriculum area.

Analyze the Curriculum

Target from the curriculum the critical objectives that will serve as benchmarks or indicators that the student is learning the content. For reading or social studies, for example, the new vocabulary throughout a unit of instruction and the types of comprehension questions used may represent benchmarking. The social studies curriculum might also include definitions of key terms or foundational concepts. The mathematics curriculum could include specific types of computations and word problems. The vocational curriculum could utilize a checklist of tasks to perform at a work site. A social-emotional curriculum might target specific verbal and nonverbal behaviors related to interpersonal skills.

Regardless of which curriculum is used, the teacher needs to predetermine the areas of that curriculum that can serve as critical markers across the instructional unit. Those markers can comprise low- and high-order thinking skills. A CBA cannot assess all information taught or anticipated for a student to learn, so key objectives need to be specified in advance. Consider that the key objectives are critical to a student's further understanding and use of the major information in the unit or domain.

FIGURE 4.1 APPLY as a Framework for Developing and Using CBA


1. A nalyze the curriculum.
2. P repare items to meet the curriculum objectives.
3. P robe frequently.
4. L oad data using a graph format.
5. Y ield to results—revisions and decisions.
Nolet (1992) notes that the validity of portfolio assessments increases when teachers clarify the goals of instruction in a particular skill or knowledge area, design tasks that representatively sample those goals, administer the tasks reliably, and aggregate those data to arrive at conclusions about student performance. Teachers clarify the goals of instruction by analyzing the curriculum, determining the important goals, and specifying the behavioral objectives that will be used to monitor student progress related to the goals.

As has already been described, behavioral objectives specify observable student behaviors, the conditions under which the behaviors occur, and the criteria that indicate mastery of the objective (refer to Table 4.3 for examples of behavioral objectives that could guide the development of CBAs). After each component of the objective is determined, the method for assessing the objective can be developed more easily and clearly.

**Prepare Items to Meet the Curriculum Objectives**

Once the key objectives are targeted, the teacher develops short assessments, or probes, that can be used throughout instruction to elicit student responses. *(Note: Probe is used as both a noun and a verb in CBA terminology. Probe is a noun when it represents the format used to elicit student responses; probe is a verb when it represents the act of eliciting student responses on a CBA.)*

The item format is constructed so that it is brief in duration. It is useful to place a limit on the time a student will be given to respond. In developing—and, ultimately, administering—the CBA probe, teachers should address several time-related issues. First, the time limit can help teachers note both students’ acquisition of and their performance fluency with content. For example, students may be able to compute math problems when given enough time to count the facts by using blocks, an indication that acquisition of the math concepts is occurring at a concrete level. Also important, however, is how quickly the student can compute math at the abstract level. A CBA that allows only a brief amount of time can provide that information. Second, a time limit is used to maximize the gathering of critical information in a minimal amount of time so that instructional decisions can be made more frequently. Allotting 20 minutes three days per week to gather CBA data may not be the best use of instructional time; 2 minutes on three occasions during the week is more realistic and manageable for teachers. Third, the time limit is not used to increase students’ anxiety about an assessment. Prior to administering the CBA, teachers should discuss with students that the CBA will not result in a test grade; rather, they are using it to get indicators of student progress. See Table 4.8 for examples of brief CBAs.

Teachers should consider, when preparing items related to key curriculum objectives, how quickly relevant information can be acquired. Moreover, they need to consider the correlation between key learning that is representational of, or foundational to, more comprehensive learning. For example, students who are able to identify words quickly and correctly are better able to understand the reading passages they read. Consequently, CBA probes on the number of words identified correctly per minute are helpful. Students who can identify the correct steps to solve a problem are better prepared to use those steps in solving problems. A CBA might probe their ability to correctly identify the steps. Another CBA probe might elicit information on the correct application of the steps to a novel problem.

When preparing items to meet the targeted curriculum objectives, teachers can consider (1) providing a prompt for writing a response, (2) developing a checklist of behaviors required for completing a task, (3) listing words to identify, (4) designating words to define, and (5) describing a set of requisite behaviors. Regardless of the item format, teachers must consider the validity and reliability of the items in relation to the curriculum and instructional objectives. For example, listing steps in a problem-solving process can be used as a CBA when the objective is to have the student correctly list those steps. That CBA will not indicate, however, whether the student can apply the steps to novel
TABLE 4.8 Examples of CBA Brief Probes with Time Limit for Noting a Student’s Acquisition and Fluency Rates

<table>
<thead>
<tr>
<th>Content Area</th>
<th>Time</th>
<th>Description of CBA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>1 minute</td>
<td>The probes are reading passages, which may be selected from any content area. The student reads aloud for 1 minute. Conduct CBA two times per week with each individual. Graph the number of words read correctly and incorrectly.</td>
</tr>
<tr>
<td>Math</td>
<td>2 minutes</td>
<td>The probe is a worksheet of math computations. The student solves as many problems as possible in 2 minutes. Conduct CBA three times per week by using group administration. Graph the number of digits computed correctly and incorrectly.</td>
</tr>
<tr>
<td>Spelling</td>
<td>2 minutes</td>
<td>The probe is an oral or audiotaped dictation of spelling words. Conduct CBA four times per week by using group administration. Graph the number of correct letter sequences or the number of words spelled correctly or incorrectly.</td>
</tr>
<tr>
<td>Written language</td>
<td>3 minutes</td>
<td>The probe is a story opener, which may be a topic or a brief story starter situation. The student elaborates on the story opener by writing for 3 minutes. Conduct CBA one time per week by using group administration. Graph the total number of words written, number of words spelled correctly, or other salient aspects.</td>
</tr>
</tbody>
</table>


situations. A CBA that provides a situation and requires the student to use the problem-solving process to arrive at a solution would be more appropriate. Although the ultimate goal of instruction may be to have the student independently apply problem-solving processes and use an appropriate solution when faced with varied situations (an excellent example of generalization or authentic assessment), the initial CBA may have a more limited focus, such as the student’s recall of the problem-solving steps, or the student’s ability to provide examples of how to use the problem-solving sequence when given a situation, or the student’s identification of appropriate solutions for solving a problem.

**Probe Frequently**

Teachers should conduct brief CBAs two or three times a week. However, they cannot maintain this frequency if the CBAs require extensive instructional time to conduct. For that reason, brief CBAs are more desirable, manageable, and practical for teachers to use with consistency. Some teachers are able to use CBA probes daily; other teachers are able to conduct CBA probes weekly. Consider the time lapse between a pretest and a posttest: CBA occurs between the pretest and the posttest and lets the teacher and students know that progress is occurring.

Teachers who assess students’ performance only at the end of instructional units are not able to make changes during instruction; by the time they know that the student or students are not “getting it,” the end-of-unit test has already occurred—it’s too late to make teaching changes. CBA functions as a frequent formative assessment that helps guide instruction for the teacher and learning for the student. Periodic assessments, or probes, during instruction ensure that teachers are gathering information that allows them to make teaching changes while instruction is occurring.

**Load Data Using a Graph Format**

After each probe is administered and evaluated, the score is plotted on a graph. The date of the assessment or the session number of the probe is identified on the horizontal axis. The assessed skill or competency, with its corresponding measure (e.g., percentage or number correct, number per minute), is identified on the vertical axis. It is important to plot the data point on the graph as soon as possible after the CBA is administered so that a timely and accurate performance line can be drawn. A delay in plotting students’ data points reduces the usefulness of the CBA for making instructional decisions.
The graphic format of recording data accomplishes multiple purposes. First, the visual depiction provides teachers with a means to analyze students’ performance and to make instructional decisions. Second, the visual depiction provides students with a concrete representation of their actual performance. Third, graphs provide parents with a visual representation of their child’s progress. Fourth, the performance graphs provide other teachers with a quick comparison of individual students’ current and previous progress and a guide for grouping students for instruction. When data are graphed, students can more efficiently note their progress (e.g., an ascending progress line), teachers can more readily know when to make changes in instruction (e.g., a stable or descending line indicates that teaching changes are needed), and others can more fully note ongoing performance (e.g., parents can see the results of their child’s performance related to IEP objectives over time). Some teachers find computer-graphing applications to be an excellent time-saver for graphing.

**Yield to Results—Revisions and Decisions**

The visual depiction of a student’s performance is used to make decisions about instruction. Wesson, Skiba, Sevcik, King, and Deno (1984) found that some teachers require extensive training or continuing support in order to use data to make ongoing changes in their instruction. Hasbrouck, Woldbeck, Ihnot, and Parker (1999) found that one teacher who was initially resistant to using curriculum-based measurement became convinced of its value after seeing the impact on student performance and receiving technical support and assistance. King-Sears, Burgess, and Lawson (1999) describe how the use of CBA in general education classrooms can more actively involve students in decision-making discussions and subsequent actions (e.g., students decide how they’d like to study information they still need to learn). In other words, for developing teachers, the issue may be how to make decisions based on the data, not how to collect and graph data. As Gersten et al. (1995) note, social and instructional validity of assessments does not occur unless the teacher uses assessment results to improve a student’s future performance. Stecker and Fuchs (2000) found that it was essential for teachers to make decisions based on an individual student’s CBA data. Students whose teachers made decisions based on their own data (versus a matched peer’s data) performed significantly better on a global achievement test than students for whom CBA data were not gathered and used. Several techniques can be used to guide instructional decision making and evaluate data: the three-day rule, aimline performance, and quarter-intersect.

The three-day, or three-session, rule refers to any set of three consecutive connected data points on the graph. If the trend (direction) of the line connecting the three most recent consecutive data points is going in the desired direction (either increasing or decreasing), then the student is making progress, current instructional procedures seem to be effective, and instruction should continue in the present manner. However, if the trend of the line connecting the most recent three data points is not going in the desired direction or if it plateaus, then “it’s time for a teaching change,” and subsequent revisions of instruction should be planned.

Aimline performance is a modification of the three-day rule in which a line is drawn on the graph to connect the student’s initial (sometimes considered the baseline) data point and the desired data point and session in which the teacher anticipates the student will have mastered the objective. Decisions are made using the aimline when data points fall below the aimline for three consecutive sessions; that is, progress may be occurring, but the progress is not at the anticipated rate. Instructional changes made when the aimline is not being met include revising teaching methods, talking with the student about how to improve performance, intensifying the amount of practice, and reteaching major concepts. In some cases, a decision may be made to set a more reasonable aimline for that student, although a decision to do this should be preceded by instructional alternatives to enhance performance toward the original aimline.
The quarter-intersect method can be used when seven or more data points are plotted and teachers use the following procedure to develop a line of progress:

1. Divide the number of data points in half by drawing a vertical line down the graph (midsession).
2. On the left half of the graph, find the midsession and draw a vertical line (middate).
3. On the left half of the graph, find the midperformance point and draw a horizontal line (midrate).
4. Repeat steps 2 and 3 on the right half of the graph.
5. Draw a line connecting the intersections (the intersection of the horizontal [midrate] and vertical [middate] lines from steps 2 and 3) of both halves of the graph. This is the quarter-intersect trend line.
6. Teachers may wish to further refine the line of progress by using the split-middle method, so that an equal number of data points fall above and below the line; start by counting the number of data points that fall above and below the line.
7. If the number of data points on and above the line is the same as the number on and below the line, then stop. The trend line is accurate.
8. If the number of data points on and above the line does not equal the number on and below the line, then move the line up or down until there is a balance of points above and below the line.

The resulting trend line may be ascending, descending, or stable. The trend line can be compared with the slope of the aimline to determine whether the aimline should be raised or lowered. The quarter-intersect trendline can be especially helpful when developing long-range goal data because the teacher can use the rate of performance on CBAs from the current year to develop realistic goals for the following year.

The case studies presented next describe how teachers have used CBA in a variety of settings and with students who have a range of mild to moderate disabilities. Throughout the case studies, note how teachers have used CBA to benefit themselves by making instructional decisions and revisions and how they have used CBA to benefit their students by (1) showing progress and performance in a more concrete manner, (2) encouraging goal setting, (3) sharing responsibility for learning, and (4) increasing motivation.

**APPLY Case Study 1: Fractions and Decimals**

**Analyze the Curriculum.** Ms. Joseph is teaching in a self-contained classroom of fourth- and fifth-grade students with emotional or behavioral disorders. She is responsible for delivering math instruction to each student (according to IEP goals and objectives), and during the math period, she is responding to varied levels of knowledge related to decimals and fractions. The school year has just begun, so she is determining what students know already about this area of mathematics. Her curriculum objective is:

*Given fractions to convert to decimals and decimals to convert to fractions, the student will correctly convert each problem.*

**Prepare Items to Meet the Curriculum Objectives.** Because Ms. Joseph is surveying her class for a variety of learning levels in math, she develops a probe sheet featuring single items pertaining to benchmark math objectives from all curricula. The CBA probe shown in Figure 4.2 was used to determine each student’s skill level related to a synthesis of decimal and fraction math objectives at varied grade levels. From that probe, she was able to graphically depict skill areas for students that led her to instructional groupings and starting points (see Figure 4.3 for the class profile).
1. 9/10 =
2. 47.5/10 =
3. 3.2/10 =
4. 7.1 =
5. 13.4 =
6. 28.8 =
7. Draw a picture to show 6/10:

8. Write a decimal to show 6/10:

BONUS: Develop your own question and answer that show your knowledge of this information.

FIGURE 4.2 CBA Probe for Fractions and Decimals

Note that Ms. Joseph’s class profile not only allows her to determine who needs instruction in specific skills but also indicates which students already know the information for this math unit. She then develops three instructional groups according to the data from this CBA: Group 1 needs instruction on converting decimals to fractions and fractions to decimals, group 2 needs instruction on converting decimals to fractions, and group 3 already knows the information probed on this CBA. Group 3 needs to be probed on a different CBA that assesses the next set of math skills; students from group 3 would be involved in repetitive instruction for concepts they already know if Ms. Joseph were to erroneously include them in this particular math unit.

In essence, this CBA has also served as a pretest for students in determining who needs instruction in these math skill areas and who does not. Although one could argue

FIGURE 4.3 Class Profile of Decimal and Fraction Conversions
that avoiding repetitive instruction is important for any group of students, some might emphasize the added importance of focusing on pertinent instruction for students who have emotional or behavioral disorders because these students may be more likely to display inappropriate behaviors when they are bored with academic content. Conversely, when Ms. Joseph targets accurate academic skill levels, she is minimizing the likelihood of academic frustration or boredom, motivating students to focus on academic material they are capable of doing, and increasing the opportunities for time-on-task with relevant instructional concepts that can lead to enhanced academic achievement. The remaining portion of this APPLY case study focuses on students in groups 1 and 2, whose initial CBA results indicate they need further instruction in converting fractions and decimals.

**Probe Frequently.** Ms. Joseph can use varied forms of the CBA (that feature similar items) to conduct brief probes at the beginning of math instruction on several days during the week. Because Ms. Joseph is interested in what concepts students have remembered (e.g., from the previous day’s instruction, from their homework assignments), she selects the beginning of the math sessions for CBA probes instead of the end. She has built into her math lesson plans for Mondays, Tuesdays, and Thursdays a two-minute period for students to complete a CBA probe. She wants to quickly gather the information at the beginning of the class session and briefly review the results to note what she may need to emphasize during the class session.

Ms. Joseph has several options for reviewing the CBA probe results: She can informally glance at the probes as she collects them at the end of two minutes, she can put them aside and review them at the end of the day; she can put them aside, have an instructional assistant or volunteer score them, and then review them at the end of the day; or she can have students correct their papers at the end of two minutes. She decides to have students correct their own papers at the end of two minutes; then she has the students themselves graph their correct responses on their progress graphs, which is the next step in the APPLY framework.

**Load Data Using a Graph Format.** Ms. Joseph has each student correct his or her own CBA probe, count the total number of correct responses, write that number at the top of the probe, and then graph the number correct on his or her progress graph. Initially, this procedure took about 15 minutes because Ms. Joseph wanted to ensure that students understood that the CBA probes were not the same as a test. Students were trying to make progress on answering the CBA probe items correctly, with their correct responses indicating progress over the instructional sessions, not to score 100 percent correct for each probe administration (note that group 3 students, who did score 100 percent correct, were not being instructed in these math concepts because they already knew the information). Figure 4.4 shows the progress for one student across 18 days of instruction.

**Yield to Results—Revisions and Decisions.** Ms. Joseph uses the “three-day/session rule” for deciding about student progress. She routinely reviews all student progress graphs on Fridays when she is writing lesson plans for the next week’s instruction. When students have not made sufficient progress on their CBAs during the week, she knows she needs to work more on those concepts. Revisions may entail (1) reteaching using more concrete examples, (2) providing more guided practice activities using a variety of examples, (3) offering more demonstration examples using real-life situations that deal with fractions and decimals, (4) adding peer tutoring as an activity, and (5) including instructional games to provide more practice opportunities. The CBA data provide Ms. Joseph with instructionally relevant information that helps her in deciding about how well students are learning and when revisions in instruction may need to occur.
Extensions or Variations.

- Use newspaper advertisements of sale products to determine the amount of money saved on a sale item.
- Use a recipe for a favorite meal item to identify how the same denominator could be used in all ingredients. Provide a variety of measuring items so that equivalent measurements can be concretely seen.
- Use metric packages from products sold in stores (e.g., soda containers) to make connections to the decimal system.
- Identify everyday items or situations in which students may use the fraction/decimal conversion skills. Students who are using portfolios to document their instructional progress may be responsible for adding items to their portfolio that illustrate how they see fraction/decimal conversion skills in their life. For example, one student may insert in his portfolio the following items to document his progress in this math area: (a) a copy of the probe sheet, (b) the progress graph that depicts his learning performance during instruction, and (c) a narrative that he has written that describes how he can use these fraction/decimal conversion skills when cooking and shopping for items.

**APPLY Case Study 2: High School Essays**

**Analyze the Curriculum.** Ms. Rodriguez is a general education teacher who teaches 10th-grade English. All the students in her fifth-period class, which includes three students with learning disabilities and one student with emotional or behavioral disorders, have an assignment to write an essay related to a contemporary topic. Ms. Rodriguez specifies the following objective for all the students: After selecting a contemporary topic and reading information related to that topic, the student will write an essay that (1) is well organized, (2) uses accurate and varied sentences,
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(3) uses correct vocabulary, (4) uses correct mechanics of writing, and (5) is presented in an appropriate format.

Prepare Items to Meet the Curriculum Objectives. Ms. Rodriguez has done some research on the criteria other professionals use to assess students’ writing proficiency. One article by Archbald (1991) displays a scoring rubric for essays that she has adapted for her use (see Figure 4.5). Ms. Rodriguez’s probe is the rubric itself, which students received at the beginning of the instructional unit and can use as a self-assessment prior to turning in their essay drafts to Ms. Rodriguez.

Probe Frequently. Ms. Rodriguez reviews students’ drafts an average of three times before the final essay is turned in for a grade. Students who have particular difficulty with written language, which includes all the students with learning disabilities and several other students in the class who have not been identified as needing special education services, will require more feedback sessions. Ms. Rodriguez meets with one student,

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Value</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td></td>
<td></td>
<td>Little or nothing is written. Essay is disorganized and poorly developed. Does not stay on topic.</td>
<td>Essay is incomplete. It lacks an introduction, well-developed body, or conclusion. Coherence and logic are attempted but inadequate.</td>
<td>The essay is well organized. It is coherent, ordered logically, and fully developed.</td>
<td>X 6</td>
<td>=</td>
</tr>
<tr>
<td>S</td>
<td></td>
<td></td>
<td>The student writes frequent run-ons or fragments.</td>
<td>Occasional errors in sentence structure. Little variety in sentence length and structure.</td>
<td>Sentences are complete and varied in length and structure.</td>
<td>X 5</td>
<td>=</td>
</tr>
<tr>
<td>U</td>
<td></td>
<td></td>
<td>Student makes frequent errors in word choice and agreement.</td>
<td>Occasional errors in word choice and agreement.</td>
<td>Usage is correct. Word choice is appropriate.</td>
<td>X 4</td>
<td>=</td>
</tr>
<tr>
<td>M</td>
<td></td>
<td></td>
<td>Student makes frequent errors in spelling, punctuation, and capitalization.</td>
<td>Occasional errors in mechanics.</td>
<td>Spelling, capitalization, and punctuation are correct.</td>
<td>X 4</td>
<td>=</td>
</tr>
<tr>
<td>F</td>
<td></td>
<td></td>
<td>Format is sloppy. There are no margins or indents. Handwriting is inconsistent.</td>
<td>Margins and indents have inconsistencies. No title or inappropriate title.</td>
<td>The format is correct. The title is appropriate. The margins and indents are consistent.</td>
<td>X 1</td>
<td>=</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

The essays are scored using a 1–5 scale. The numbers in the boxes to the right indicate the relative importance of each factor in the overall grade. Thus, organization is valued the most and counts 30% of the grade; format counts 5% of the grade.

Maria, five times to provide her feedback using the rubric’s scoring criteria. On each occasion, Ms. Rodriguez has had an opportunity to review Maria’s essay in a formative manner and to emphasize/reteach those areas where Maria needs to improve. Maria’s essay is formatted correctly from the very first draft; she receives the highest score (5), which is multiplied by the value for that criterion (format value is 1) for a total of 5 points for format. In organization, Maria initially earns a 3 for performance (multiplied by the value of 6 equals 18); sentence structure is a 3 (multiplied by the value of 5 equals 15); usage is a 3 (multiplied by the value of 4 equals 12); mechanics is 4 (multiplied by the value of 4 equals 16). For the first draft, Maria has earned 66 of a possible 100 points. In subsequent feedback sessions, Maria and Ms. Rodriguez review Maria’s draft and determine a performance score. As Maria’s writing improves, her score improves.

Load Data Using a Graph Format. Maria totals each rubric’s score to find the cumulative number of points she has earned on each draft of her essay. Maria plots the total number on a graph and also sets a goal for herself about the areas she needs to concentrate on in her next draft to improve her score (see Figure 4.6).

Yield to Results—Revisions and Decisions. Ms. Rodriguez has drawn an aimline on Maria’s graph to show how many points Maria should be accruing throughout the unit. By comparing Maria’s performance to the aimline, Ms. Rodriguez and Maria are able to determine whether Maria is progressing toward satisfactory completion of the essay assignment.
Chapter 4

The rubric also provides Ms. Rodriguez with information about written language skills that she needs to reteach or reemphasize. Sometimes this instruction occurs with small groups, sometimes it occurs individually, sometimes peers can help edit each other’s work, and sometimes there is content on which the whole class needs to work. Ms. Rodriguez is acquiring information about how well students in her fifth-period English class are progressing while they are completing the essay assignment. Using the scoring rubrics in both a formative and a summative manner makes it more likely that each student will successfully complete the assignment and that students will know what they will be scored on, what each score on the rubric means, and how the score will be assigned.

APPLY Case Study 3: Sight Word Recognition

Analyze the Curriculum. Mr. Jones is a special education teacher working with elementary students who have learning disabilities. Students are reading at different levels: Some are working on basic sight vocabulary, some are working on decoding skills, and all are working on comprehension skills. For his CBAs, Mr. Jones identifies the following objectives:

- Given a listing of 45 words from the Dolch word list, the student will read the words at a rate of 25 correct words per minute. Given a 400-word reading passage, the student will read the passage, pronouncing each word correctly at a rate of 60 correct words per minute.
- Given reading passages of factual information containing five to seven paragraphs each, the student will state the main idea and two details for each paragraph correctly.

Prepare Items to Meet the Curriculum Objectives. Mr. Jones prepares a series of probe sheets he can use with individual students when they reach certain levels of proficiency with each objective. Mr. Jones spends substantial time initially developing the probes for the reading curriculum area, but then he has a variety of probes readily available throughout the year (see Bui, Hlass, & Reda, 1995, for a compilation of probes and graphs that can be used for the Dolch words).

- Mr. Jones can use two probe formats for the Dolch words. One format is flash cards, and he has a “deck” of flash cards for each set of words from the Dolch word list (e.g., preprimer level, primer level). The second format is a listing of the words on a worksheet, with the same words used repeatedly and each line precounted so that he can score the probe quickly after a student reads from it (Figure 4.7).

Probe Frequently. Three times a week, Mr. Jones conducts one-minute probes with each student working on this unit of instruction. He conducts the probe sessions at the beginning of the reading period, and he sets aside 10 minutes each day for the probes. Although it took more time when he first began using the probes, now he and his students are well acquainted with the CBA probe routine. Students begin seatwork at the start of the period, and Mr. Jones calls each student to a “CBA Center” in the classroom. Mr. Jones provides each student with a probe sheet, sets the timer for one minute, and marks on his laminated probe sheet any errors a student makes when orally reading the words. The student counts his or her number of correct and incorrect responses and gets ready to transfer those data to a graph.

Load Data Using a Graph Format. When Mr. Jones first began using the graph, he showed students how to figure out and write their correct and incorrect rates on the graph. Now each student is able to record his or her own data (see Figure 4.8) for correct and incorrect word identifications.
Yield to Results—Revisions and Decisions. Students are able to “see” their progress when they connect the sessions’ data points across days of administration. Students can select individual goals for themselves by predicting the number of correct or incorrect words they want to get the next time they use a CBA probe. Some students are encouraged by the rising slope of their progress line, which documents that they are learning the words. Other students discuss with Mr. Jones ways to increase their progress line, such as reviewing the words more often by using the Language Master, using flash cards with a peer to study, finding the words in the school newspaper, or tracing the words on the bulletin board. Mr. Jones used to direct students in ways that they can increase their performance; now students formulate ideas to help themselves and each other.

Mr. Jones also uses the quarter-intersect and split-middle methods of assessing student performance. Once seven data points are gathered, Mr. Jones applies these methods to predict future performance rates.

Student: Steven
Content: Word Identification
Dolch Word List Level: 3

Objective: Given words from level 3 of the Dolch Word List, the student will verbally identify the words at a rate of 25 correct words per minute.

FIGURE 4.8  CBA for Dolch Words: Equal Interval Graph
Extensions and Variations. Mr. Jones could use similar CBA formats for different IEP objectives:

Given words with different phonetic patterns, the student will verbally identify the word correctly.

After silently reading a brief passage that contains words the student already knows, the student will correctly answer five comprehension questions that are recall and inference level questions.

GRADING PRACTICES

The guiding principles for developing assessments described earlier in this chapter should also guide grading practices for students with mild to moderate disabilities. Whether grades are being determined for general education classes or for special education classes does not change the fact that the nature of the grading must be individualized for students—and for the latter group, completed according to the directions and directives in each student’s IEP. Data still need to be collected in a frequent, systematic manner on critical instructional objectives. Much of the data collection described so far in this chapter may be used formatively to guide instruction; however, grades are usually derived from summative evaluations. Summative evaluations include homework scores, quiz grades, and test percentages that collectively comprise a student’s final grade in a course. Effective teachers are able to present to students, at the onset of a course, those assessments and their relative value that will ultimately determine a student’s grade in a course.

Ornstein (1994) notes several reasons that teachers use grades: (1) to ascertain mastery of specific content at a predetermined level, (2) to determine grouping of students, (3) to diagnose or plan instruction, and (4) to motivate students toward learning objectives. Wiggins (1988) notes that teachers are sometimes arbitrary when determining grades for students: “Students see that even teachers next door to each other, teaching different sections of the same course, employ different standards.... A grade is usable by students only if the criteria behind it are explicit and put in descriptive terms” (p. 23). To that end, several guidelines from Ornstein (p. 64) are applicable:

• Explain your grading system to students.
• Base grades on a predetermined set of standards.
• Base grades on the student’s degree of progress.
• Base grades on a variety of sources.

SUMMARY

In this chapter, we discussed how teachers who follow three principles of assessment are able to develop and use frequent and systematic assessments of critical curriculum objectives to make sound decisions about instruction. Furthermore, we described how involving students during their assessment process can promote responsible, motivationally oriented, and meaningful learning of instructional content and progress. We pointed out that teachers can gather information about student progress using a variety of assessment systems, including authentic, performance, portfolio, and curriculum-based systems. Effective teachers use the information gained from assessments to guide their teaching methods, materials, and techniques throughout the instructional process, not just on a pretest or posttest basis. Furthermore, encouraging student involvement by teaching students how to set goals for their learning and to self-evaluate their performance can increase students’ achievement. We discussed how students with mild to moderate disabilities benefit educationally when their teachers involve them in their
Classroom Assessment Practices for Instruction

assessments. By collaborating with students during the assessment process, developing and beginning teachers can enhance achievement gains and improve learning opportunities for students with mild to moderate disabilities.

**ACTIVITIES TO EXTEND YOUR KNOWLEDGE**

1. Develop an inventory that samples a broad spectrum of students’ skills or knowledge within an identified instructional domain or unit.
2. Identify a unit of instruction.
   a. Write a measurable goal and at least two corresponding objectives or benchmarks for student performance.
   b. Design a pretest to measure students’ entry-level skills on the identified objectives.
   c. Compose an alternate form of the pretest you developed.
   d. Answer the following questions for the pretest and alternate form you developed:
      - Does each form of the assessment contain different items that require students to perform the same skills?
      - Are the scoring criteria for each form of the assessment explicit enough for different people to obtain the same scoring results?
3. An assortment of performance assessment methods are available to assess students’ competencies in targeted areas. For your students, identify a domain or unit of instruction for which performance assessment could be used. Choose a method of performance assessment and predetermine the criteria for successful performance. What will you say to explain the criteria? When you talk with students during feedback sessions, what will the focus of your discussion be?

**POINT AND CLICK ABOUT THE PROFESSION**

*IDEA.* Several Internet sites provide paraphrases of IDEA content as well as access to the law itself. Because the IDEA contains important elements that guide instruction and assessment for students with IEPs, beginning teachers may find these sites useful not only for themselves but also for some of their general education colleagues. This important special education legislation may be reauthorized soon; visit these sites to keep up with the latest.

- [www.idealines.org/idea97a.htm](http://www.idealines.org/idea97a.htm)
- [www.ldonline.org/ld_indepth/iep/idea97.html](http://www.ldonline.org/ld_indepth/iep/idea97.html)
- [www.ed.gov/offices/OSERS/Policy/IDEA/index.html](http://www.ed.gov/offices/OSERS/Policy/IDEA/index.html)
- [www.cec.sped.org/pp/](http://www.cec.sped.org/pp/)

*No Child Left Behind Act of 2001.* There is considerable momentum nationally toward achievement and accountability for all students’ performance, including the performance of students with disabilities. Statewide assessment formats and results, along with interpretations of adequate yearly progress, are receiving widespread attention. These Internet sites can provide information to help beginning special educators keep abreast of how assessments on a large scale are impacting assessments in the classroom.

- [www.wpilc.net/AYPConfSummary.asp](http://www.wpilc.net/AYPConfSummary.asp)
- [www.studentprogress.org/library/determining_Adequate_Yearly_Progress.pdf](http://www.studentprogress.org/library/determining_Adequate_Yearly_Progress.pdf)
General Education Curriculum Standards from National Organizations. Beginning teachers may use local, state, or national curriculum standards to guide them when developing instructional and assessment content (check whether your state or school system posts its standards on the Internet). The following Internet sites identify different general education curriculum standards from national organizations. Special and general educators can use these or similar sites (e.g., their local school system) to assist in determining instructional and assessment items.

Curriculum Standards for Social Studies, National Council for Social Studies
www.ncss.org/standards/1.1.html

National Standards in Foreign Language Education
www.actfl.org/htdocs/standards/index.htm

National Council of Teachers of Mathematics
www/nctm.org

National Council for Music Education
www.namm.com/mktdev_ncme.shtml

National Geography Standards
www/cadgis.lsu.edu/lagea/natgeostand.html

National Standards for Arts Education
www.amc-music.com/srfact.htm

National Standards for Civics and Government: ERIC Digest
ericae.net/db/digs/ed380401/htm

National Standards for United States History
www.sscnet.ucla.edu/nchs/us-toc.htm

Standards for Science and Mathematics
ssdoe.gsfc.nasa.gov/education/standards.html

Assessment. The following Internet sites can be especially helpful for beginning special education teachers if the instructional and assessment content is a good match for their local school curriculum. If there is not a good match, some teachers may be able to adapt the content to achieve a good fit. Moreover, some sites contain generic information (e.g., literacy rubrics, math portfolios, CBA probes) that can easily be used for noting progress across many curricular and IEP areas regardless of what curriculum is used. These sites are particularly helpful for beginning teachers who are developing a number of different types of assessments (such as CBAs, performance assessments, and portfolio rubrics) because they include forms that can be individually tailored for students’ IEPs and other general education content areas.

www.uvm.edu/~mhock/standards/rubric/altmath.html
www.aae1.k12.ia.us/transition/goalexamples/html
school.discovery.com/schrockguide/assess.html#rubrics
www.teach-nology.com/web_tools/rubrics
www.quadro.net/~ecoxon/Reporting/rubrics.htm
www.rubrics4teachers.com/
cress96.cse.ucla.edu/CRESST/pages/samples.htm
www.rmcdnver.com/useguide/assessme/portfoli.htm?
brt.uoregon.edu/rct/rtpcim/annweb/orfrationale/html
www.cse.ucla.edu/CRESST/pages/Rubrics/htm
REFERENCES


Chapter 4


