Assessment

OBJECTIVES

After studying this chapter, you should be able to:

- Describe the use of norm-referenced tests, competency-based assessments, teacher-made tests, and criterion-referenced tests in inclusive settings.
- Identify and implement strategies to modify test formats to meet the needs of students with disabilities.
- Compare and contrast curriculum-based measurement, performance assessment, and portfolio assessment and their applications for students with special needs.
- Describe specific test-taking strategies for taking standardized tests, and how these strategies can be taught.
- Design and implement strategies for taking teacher-made tests such as multiple-choice, true-false, matching, and essay tests.
- Identify procedures and rationales for modifying grading and scoring of tests for students with special needs.

Tests are a significant component of education because they provide information relevant to placement, instruction, and future career decisions. Tests are also being used increasingly to evaluate the performance of schools. Tests, however, must be administered appropriately and interpreted correctly, or they can do more harm than good. It is also important to be able to describe the purposes of different tests to parents, as well as to be able to interpret for parents the information they provide about their child. Teachers should be aware of different types of tests, the purposes they serve, how they can be used, and how they can be interpreted. Skills for maximizing test performance and modifications to accommodate students with special needs are also necessary.

Types of Tests

In education, many different tests address many different, specific needs. One type of test is no "better" than another, because different tests serve different purposes. As a teacher, it is critical to understand what information specific tests provide, and what information they do not provide.

All educational testing serves to compare performance with some type of standard (Howell & Nolet, 2000). One major distinction made in testing is between norm-referenced and criterion-referenced testing. In norm-referenced testing, student performance is compared with the performance of other students. Students receive scores such as "85th percentile," which means that the student scored higher than 85% of other students on that particular test. In criterion-referenced testing, student performance is compared to specific, specified criteria, usually considered as meeting minimal competency. A written test for a driver's license, in which individuals either pass or fail to meet a certain criterion, is a good example of a criterion-referenced test.
CLASSROOM SCENARIO

Nate

Mr. Montoya saw Nate in his middle-school resource room for 45 minutes per day. Although much of the time was devoted to basic skills development, Mr. Montoya also allocated time to helping Nate prepare for upcoming tests. Nate had particular difficulty taking tests in his U.S. Constitution and government class, and Mr. Montoya also was having difficulty helping him. For 2 days before the test he would work with Nate by reviewing the content and creating practice questions for Nate to answer. However, it seemed that no matter how well prepared Nate appeared to be, he did poorly on the test. When Mr. Montoya asked Nate why this was, he just shrugged his shoulders and said the test did not make any sense to him.

Both norm-referenced and criterion-referenced testing can be standardized, which means that all students take the test under the same, or standard, conditions. The information that comes from the test results, then, assumes standardized testing conditions were applied (McLoughlin & Lewis, 2008). Standardized administration procedures are published in test manuals and are expected to be closely followed for the test scores to be meaningful.

Another important distinction is whether a test is summative or formative in nature. Summative testing usually refers to tests given at the end of a particular educational period. Achievement tests given at the end of a school year are good examples of summative evaluation. The results tell how much has been accomplished throughout the educational period, and may provide implications for placement in the next educational period. Many norm-referenced tests are summative in nature, but criterion-referenced tests can also be summative if they are administered at the end of a particular educational experience.

Teachers use formative evaluation when they test at frequent intervals, so that student progress can be evaluated. For example, students who are attempting to learn and remember 100 multiplication facts may take a weekly test on these facts, so that the rate of growth can be evaluated and instructional modifications can be made (e.g., more time-on-task) when growth is unsatisfactory. Formative evaluation is most frequently used in basic skills areas.

Evaluation can also be curriculum-based. This means that the tests are derived directly from the curriculum being taught (Hosp, Hosp, & Howell, 2007). Most teacher-made tests are intended to evaluate student learning of the curriculum, and therefore are types of curriculum-based tests. Distinctions have been made between curriculum-based assessment—which could include any procedure that evaluates student performance in relation to the school curriculum, such as weekly spelling tests—and curriculum-based measurement—characterized by frequent, direct measurements of critical school behaviors, which could include timed (1- to 5-minute) tests of performance on reading, math, and writing skills (McLoughlin & Lewis, 2008). Curriculum-based measurement is formative in nature, and allows teachers to make instructional decisions about teaching and curriculum while learning is taking place.

Other types of tests include performance assessments and portfolio assessments. Performance assessments are usually curriculum-based, and require students to construct responses on real-world tasks, usually in ways that allow teachers to evaluate the student's thinking (Fuchs, 1994). Portfolio assessment is also usually curriculum-based, and consists of student products and other relevant information collected over time and displayed in a portfolio. All of these types of tests have relevance to students with special needs. Table 12.1 provides examples of these types of tests applied in the context of reading.

Regardless of the type of test, it must be demonstrated to have reliability and validity to be of value. All measures of reliability seek to determine whether the test is consistent in what it measures. No less important, validity refers to the extent to which a particular test measures what it is intended to measure. Validity is often evaluated by comparing different tests of the same skills or abilities (McLoughlin & Lewis, 2008). For example, students should receive similar scores on different standardized tests of reading achievement, if both tests are valid.

Tests commonly used in special education are listed in Figure 12.1.
Table 12.1  Examples of Reading Tests

<table>
<thead>
<tr>
<th>Types of Test</th>
<th>Example Reading Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standardized, Norm-</td>
<td>Published reading achievement test administered under standardized conditions. Students may answer test questions on computerized answer sheets or give answers to an examiner in an individual administration. Student’s score is compared with scores of a normative sample of students.</td>
</tr>
<tr>
<td>Referenced</td>
<td></td>
</tr>
<tr>
<td>Criterion-Referenced</td>
<td>Students’ test scores are compared with a certain predetermined criterion level to be considered competent in reading at their grade level.</td>
</tr>
<tr>
<td>Curriculum-Based</td>
<td>Test is based on the reading curriculum materials being used in class.</td>
</tr>
<tr>
<td>Assessment</td>
<td></td>
</tr>
<tr>
<td>Curriculum-Based</td>
<td>Students take brief tests of reading speed, accuracy, and comprehension. These scores are monitored over time to determine whether progress is adequate.</td>
</tr>
<tr>
<td>Measurement</td>
<td></td>
</tr>
<tr>
<td>Performance</td>
<td>Student could be asked to “perform” on a variety of reading-related tasks, such as summarizing a passage, looking up a reference, or identifying a certain printed label in a store.</td>
</tr>
<tr>
<td>Assessment</td>
<td></td>
</tr>
<tr>
<td>Portfolio Assessment</td>
<td>A variety of a student’s products relevant to reading are collected, for example, list of books read, book reports written, or tape recordings of reading selections.</td>
</tr>
</tbody>
</table>

Intelligence Tests

- Kaufman Assessment Battery for Children II, 2nd ed. (Kaufman & Kaufman, 2006; Pearson/American Guidance Service)
- Stanford-Binet Intelligence Scale, 5th ed. (Roid, 2003; Psychological Corporation)
- Wechsler Intelligence Scale for Children—IV, 4th ed. (Wechsler, 2003; Psychological Corporation)

Achievement Tests

- Kaufman Test of Educational Achievement, 2nd ed. (KTEA – II) (Kaufman & Kaufman, 2004; Pearson/American Guidance Service)
- Key Math—3: Diagnostic Assessment (Pearson/American Guidance Service, 2007)
- Peabody Individual Achievement Test—Revised/Normative Update (PIAT—R) (Markwardt, 1997; Pearson/American Guidance Service)
- Test of Written Language—3 (TOWL) (Hammill & Larsen, 1996; PRO-ED)
- Wide Range Achievement Test—4 (Wilkenson & Robertson, 2006; Western Psychological Services)
- Woodcock-Johnson III: Tests of Achievement (Woodcock, Johnson, & Mather, 2001; Riverside)
- Woodcock Reading Mastery Test—Revised/Normative Update (Woodcock, 1998; Pearson/American Guidance Service)

Adapting Tests for Students with Special Needs

ADMINISTERING NORM-REFERENCED TESTS

Some students with special needs exhibit difficulties with norm-referenced tests that may limit the reliability and validity of their test scores. Problems may include language or communication styles (e.g., the need for a sign language interpreter or communication board), the length of the testing, attentional difficulties, or reading difficulties when reading competence is not being tested. Another threat to the validity of individual scores of students with disabilities is that in some cases, individuals with disabilities are not included in the test’s standardization sample (Fuchs, Fuchs, Benowicz, & Barringer, 1987). Further, some tests may not be fair for students from some culturally diverse backgrounds (Artiles & Zamora-Durán, 1997; Baca & Cervantes, 2004; Harry & Klingner, 2006). Special considerations including modifications in
the testing procedure may be helpful and necessary (see also Chapter 5; Baca & Cervantes, 2004; Ford, Obiakor, & Patton, 1995; Gollnick & Chin, 2009).

Unfortunately, substantive deviations from standardized administration procedures typically limit the usefulness of the test. If, for example, an individual student is provided with a calculator as a modification to assist with math computation on a problem-solving subtest, the resulting score cannot be fairly compared with students who did not have access to calculators. Even though it can be argued that problem solving, and not computation, is being evaluated, and the student in question has difficulty remembering math facts, it is unknown how the students in the standardization sample would have performed if they also had access to calculators. Therefore, the student’s score cannot be easily interpreted with respect to the performance of the norm group (McLoughlin & Lewis, 2008). Nevertheless, there are some instances when modifications in administration of standardized tests may be appropriate, including use of calculators, and some states have published state-approved test accommodations (Johnson, Kimball, Brown, & Anderson, 2001; Massachusetts Department of Education, 2004).

**USE TEST MODIFICATIONS** While performance on modified tests may not always be fairly compared with performance under standardized administration conditions, results still provide relevant information about the skills and abilities of individual students. Test modifications include the following:

- Altering the timing or scheduling of the test
- Extending time limits
- Spreading the test over several shorter time sessions
- Administering the test over several days (Erickson, Yssel dyke, Thurlow, & Elliott, 1998)
- Changing the setting
- Changing to a smaller room
- Moving to a distraction-free room (Elliott, Kratochwill, & Schulte, 1998)
- Testing individually (Massachusetts Department of Education, 2004)
- Altering the presentation of the test
- Simplifying the language
- Providing prompts and feedback (including reinforcement)
- Allowing teachers to read the test and turn the test pages
- Allowing audiotaped, large-print, or braille versions
- Changing the response formats
- Allowing verbal versus written responses
- Allowing circling versus filling in the bubbles (McLoughlin & Lewis, 2008)

If students perform very differently under one or more reasonable modifications, the standardized test may not have provided an accurate depiction of the student’s ability. Research to date is somewhat equivocal regarding some of these modifications; for example, extended time sometimes, but not always, has a differential benefit for students with disabilities (Elliott & Marquart, 2004). For a research study investigating the effectiveness of test accommodations, see the Research Highlight feature.

**USE INDIVIDUALLY ADMINISTERED TESTS** In addition to providing more detailed information about student performance in a particular area, individually administered tests avoid some potential problems associated with group administration, such as reading directions, working independently, and using machine-scored answer sheets. For example, in group-administered tests of reading, students may respond to more complicated formats to assess reading skills, while on an individually administered test, a student’s individual reading can be directly assessed through interaction with the examiner. Therefore, it may be appropriate to rely more on individually administered tests for students who have difficulty taking group tests independently.

**TEACH TEST-TAKING SKILLS** Some students may know much of the content being tested, but do not understand how to apply that knowledge on the test. In these cases, students
specific training in test-taking skills appropriate to relevant tests, or administered published tests and given feedback on their understandability (Scruggs & Mastropieri, 1992). Skills training, appropriate for many different types of tests, is discussed later in this chapter.

**SEE MOTIVATION** In other cases, students may have relevant skills, but not be sufficiently motivated to work their hardest during the test. This may be true for all other types of tests as well as norm-referenced tests. While direct rewarding of test performance may reinforce the need to understand standardized tests, other motivational strategies such as those suggested in Chapter 2—setting, attribution training, praising students for promoting self-efficacy, and self-esteem, making the test setting fun and enjoyable, and involving students' personal investment—may be effective.

**SEE EXAMINER FAMILIARITY** Some students score better on standardized tests if they are familiar with the examiner than if they are responding to an examiner they have not met. This may be particularly true of African American and Latino students (Fuchs & Fuchs, 1987), as well as students with learning disabilities (Fuchs, Fuchs, & Power, 1987). Try to find an administrator who is well known by, or acquainted with, the student. If an examiner is used, he or she should first establish rapport with the student by introducing himself or herself, engaging the student in personal conversation, explaining the purpose of testing, describing test activities, and encouraging student questions (McLoughlin & McGhee, 1998). Such established familiarity may improve the validity of test responses.

**TEST MODIFICATIONS FOR COLLEGE ENTRANCE EXAMS** Among the most commonly administered tests for college entrance are the Scholastic Assessment Test (SAT) and American College Testing (ACT). These are usually administered in a student's junior or senior year of high school. Both of these tests allow special accommodations to be made for students with disabilities (Learning Disabilities Association, 1994). Students with disabilities may be offered accommodations if they meet eligibility requirements. Accommodations that can be requested include extended time, large type, alternative test form with accommodations required as noted on the student's IEP, a reader or scribe, audiocassette with written form, a magnifying glass, or a four-function calculator.

**CATALOGIES FOR APTING COMPETENCY-BASED AND STATEWIDE ASSESSMENT**

Competency testing has helped develop common standards for educational attainment and establish educational accountability. In some states, performance on competency tests has become a requirement for graduation, and other issues of school operation, and has been referred to as "high-stakes" testing. Because of No Child Left Behind legislation, states have developed competency tests.

Minimum competency tests share many characteristics with norm-referenced achievement tests. Although competency tests are oriented toward competencies students are expected to know for promotion or graduation, they are also developed for comparative purposes. Minimum competency tests are also involved with Title I legislation, which requires states to hold students to the same expectations (Phillips, 1995). Therefore, allowing adaptations for special needs while still maintaining standardization is a concern of competency tests, and can be achieved through consultation with test developers or appropriate educational agencies (e.g., the district or state department of education).
Test Accommodations Using Dictation and Speech Recognition

Although testing accommodations are frequently recommended for students with disabilities, it is less certain whether all accommodations result in positive benefits. Accommodations are intended to remove performance barriers while maintaining the integrity and validity of the measure. The number of possible accommodations increases dramatically with the advancement of innovative technologies. MacArthur and Cavalier (2004) examined the effects of dictation using speech-recognition software compared with dictation using a scribe for a written exam with high school students with and without learning disabilities. Dictation with speech-recognition software has potential advantages of allowing students to see and review developing text. All students participated in three testing conditions: handwriting, dictation using a scribe, and dictation using speech software. All students were trained to use the speech software, Dragon Naturally Speaking, Version 4 (1998), to write persuasive essays. Students were taught to think of a sentence and dictate it one word at a time when using the software. All students were also taught a strategy to write persuasive essays. Strategic steps, which were consolidated into a graphic organizer, included writing their position, listing evidence points for position statements, noting reasons why some might disagree, and concluding with a strong statement. Students were then given three different essay prompts and required to complete the essays under one of the three conditions.

MacArthur and Cavalier reported that all students successfully learned to use the speech-to-text software, that students with learning disabilities created higher-quality written products when using dictation with a scribe rather than dictation with speech-to-text software, and that both methods were superior to handwriting. The dictation methods did not result in superior essays for students without disabilities, indicating that use of dictation during essay writing may be a viable and valid test accommodation for students with learning disabilities.

**QUESTIONS FOR REFLECTION**

1. Why do you think dictation methods might work better for students with learning disabilities than for students without disabilities?
2. Why do you think effects were greater for dictation to a scribe than for speech-recognition software for students with learning disabilities?
3. How could you adapt the writing strategy for a lower-age-level group of students?
4. How could you design practice for learning to use the computer with students with disabilities?

**USE TEST MODIFICATIONS OR ACCOMMODATIONS**

In many cases, testing modifications or accommodations are considered appropriate because they better allow some students to demonstrate what they know. Because many students with disabilities may need accommodations, IDEA requires that individual student IEPs provide testing accommodations for state tests as well as district and teacher-made tests (Salend, 2008). Most states provide standard accommodations that are permissible on statewide competency tests (Johnson et al., 2001, p. 255; Massachusetts Department of Education, 2004). It is important that these accommodations do not change the nature of the test, for example, by reading passages to students on a test of reading comprehension (Salend, 2008).

Thurlow, Lazarus, Thompson, and Morse (2005) obtained policies for accommodations from state departments of all 50 states. They reported that states most commonly allowed accommodations in the areas of:

- **Presentations**, for example, braille, read-aloud, clarification of directions, sign interpretation;
- **Equipment/materials**, for example, amplification, audio-/videocassettes, calculators, magnification;
- **Response mode**, for example, computers, scribes, spell checkers;
- **Scheduling and timing**, for example, extended time, testing over multiple days or at student-preferred times, allowing multiple breaks; and
- **Setting**, for example, individual or small-group administration, separate testing rooms, or testing at student’s home. (p. 236)

**USE ALTERNATIVE ASSESSMENT**

For students with disabilities, alternative assessment measures may include: computerized testing, computerized proctors, a teacher-graded test, an alternative test, and a school-developed test. Students with disabilities may also receive accommodations on alternative assessments, which may include: extended time, a scribe, a reader, extra breaks, and an assistant. (p. 235)

**USE AIDS AND TOOLS**

Aids and tools are available to help students with disabilities complete assessments. These aids and tools may include: dictionaries, calculators, computerized proctors, and assistive technology devices. (p. 235)
Salend (2008, p. 17) also described *linguistically based* accommodations, including using familiar language, repeating directions, teaching the language of testing, translating tests, allowing responses in different languages or dialects, providing translators, and use of bilingual materials. Cawthon (2008) surveyed professionals working with students who are deaf or hard of hearing, and reported that accommodations for statewide testing most commonly reported included extra time, small-group administration, and test items and directions read or interpreted.

Some research has been conducted on the effectiveness of accommodations in statewide assessments. To date, the results of this research are somewhat inconsistent and equivocal (Shriner & Ganguly, 2007). Bolt and Thurlow (2004) suggested the effects of accommodations be evaluated for individual students, which can be done by monitoring performance with and without specific accommodations.

**USE ALTERNATE ASSESSMENTS** Standard statewide assessments may not be appropriate for some students with disabilities. In these cases, it may be possible to arrange for alternate assessment procedures. In the state of Virginia, for example, students for whom the state (Standards of Learning) competency tests are not considered appropriate may participate in the Virginia Alternate Assessment Program. These assessments are administered at ages 8, 10, 13, and 1 year prior to the student's exit year. They consist of a "Collection of Evidence" that measures student performance relevant to IEP objectives that access the state Standards of Learning. The assessment incorporates multiple forms of data collected over time and could include, for example, work samples; student observations; interviews with teachers, parents, or employers; videotapes of social skills or life skills; and journal entries (Training and Technical Assistance Center at the College of William and Mary, 2005). It is understood that students participating in alternate assessment are working on educational goals other than those prescribed for the traditional diplomas (modified standard, standard, or advanced studies), and therefore would not be eligible for those diplomas (Virginia Department of Education, 2007).

**REQUEST MODIFICATIONS ON GED TESTS** Competency tests also include the Tests of General Educational Development (GED). GED tests are intended to evaluate the knowledge and skills that were intended to have been acquired from a 4-year high school program, but which may have been acquired in a different manner, such as independent study or tutoring. Students with special needs who have not graduated from high school, but believe they have met high school graduation criteria, can take the GED tests. Individuals wishing to take the GED must be a resident of the state in which the test is administered, and usually are older than 18. Also, students must not be enrolled in a public school; so, as a teacher, you may have little direct interaction with students taking the GED. However, you may be able to provide information about the GED to students who are about to leave school without graduating, or to former students who may ask you for assistance in taking the GED.

Students with disabilities may fill out an "Application for Special Testing" and sign a release of information form to have specific medical or psychological records sent to the GED center to be evaluated. Possible modifications that may be obtained include an audiocassette edition of the test (with printed reference copy), large-print version of the test, extended time for taking the test, use of a calculator, frequent breaks, and use of a private testing room (Learning Disabilities Association, 2004).

**ADAPTING TEACHER-MADE AND CRITERION-REFERENCED TESTS**

Putnam (1992) surveyed secondary teachers and concluded that an adolescent with mild disabilities who is enrolled in four content-area classes may be required to take as many as 44 tests during a 45-day grading period! In addition, the use of state high-stakes testing places added demands on students with disabilities. Clearly, helping students be successful in dealing with the challenges of testing is critical to promoting school success. The *Technology Highlight* feature provides suggestions for collecting records and monitoring progress more efficiently.

Teachers can modify their own tests in much the same way that other tests are modified. However, be careful to ensure that your modifications are having the desired effect of accommodating
the student's disability. For example, Lewandowski, Lovett, Parolin, Gordon, and Coddington (2007) reported that students with ADHD gained less than the students without ADHD from extended time limits on a math computation assessment.

**MODIFY TESTS** In the earlier scenario, Nate performed well on answering questions on the chapter posed by the resource teacher, but performed poorly on the actual test covering the U.S. Constitution and government. Because he apparently knew much of the required information, it is possible that Nate did not fully understand the format of the teacher-made test. Although training in test-taking skills may be important for Nate in this case, it is also possible that the social studies teacher could be encouraged to make some modifications to the format of the test so that students will better understand what is required of them, as shown in the continuation of the scenario.

**CLASSROOM SCENARIO**

**Nate**

Mr. Montoya made an appointment to speak to Nate's social studies teacher, Ms. Leet. She acknowledged that Nate was not doing well on the tests, and expressed a willingness to help solve the problem. Mr. Montoya and Ms. Leet examined the tests together, and Mr. Montoya noted that he believed Nate did know the answer to several of the questions that he had answered incorrectly. It appeared that Nate was more likely to answer questions incorrectly when the items contained double negatives, contained potentially confusing options such as "(e) all of the above except (b)", or when the test called for matching two columns of information. While Mr. Montoya agreed to provide Nate with practice on test-taking skills, and to provide practice tests that more closely resembled Ms. Leet's tests, Ms. Leet agreed to make modifications in her test to make the individual items more understandable. She also asked her class to provide her with some sample items that they thought should be on the test.

With training in test-taking skills and test modifications, Nate's scores increased from an average of D– to an average of C–. In addition, Ms. Leet found that the average score of her entire class seemed to improve.

**QUESTIONS FOR REFLECTION**

1. If test scores improve, how could you know if your modified tests are more easily understandable, or simply easier?
2. What kind of students would you expect to benefit most from test modifications?
3. How could you determine what aspects of your tests need revision?

**Modify Test Formats** Format modifications that can be generally employed on teacher-made tests—and which are acceptable to teachers (Gajria et al., 1994)—include the following:

- Prepare typewritten rather than handwritten tests.
- Space items sufficiently to reduce interference.
- Provide space for students to respond on the test itself.
- Provide items in a predictable hierarchy.
- Administer more tests with fewer items, rather than fewer, longer tests.
- When not testing reading, adjust the reading level of the items, or provide assistance with reading when needed.
- Define unfamiliar or abstract words if their meanings are not directly being tested.
The need to maintain clear, accurate records of student performance and progress is important in education, especially when monitoring progress of students with disabilities who are included in general education classes. Organized systems for creating and maintaining recordkeeping for students' assignments, homework, grades, attendance, portfolio assessment products, and progress monitoring will greatly reduce the amount of noninstructional time for teachers. Fortunately, recent advances in technology have greatly reduced the amount of teacher time needed for many of these tasks. Software is now available that facilitates all recordkeeping and progress-monitoring activities.

Curriculum-based measurement (CBM) is one way to monitor student progress in academic areas. In the future, curriculum-based measurement may be recommended as a way to help identify students with learning disabilities. As described in the text, teachers can develop their own CBM measures; however, some software is available to facilitate the process of using curriculum-based measurement in basic skills such as reading, math, and spelling. The National Center on Progress Monitoring (NCPM) Website (http://www.studentprogress.org/) provides current sources on progress monitoring, including an analysis of available computer-assisted programs. Progress monitoring can be applied to the implementation of response to intervention (e.g., Fuchs, 2008), and software developed specifically for response to intervention is analyzed on the NCPM site. NCPM standards for evaluating CBM materials include having adequate reliability and validity, alternate forms, sensitivity to student improvement, academic year benchmarks, student learning and/or teacher planning, and specifying rates of improvement. Available materials including software are RTim Direct (available from the Centris Group) and AIMSweb (available from http://aimsweb.com).

Software is also available to assist with managing students' assignments, homework, attendance, grades, and reports to both students and parents. Grade Machine (Misty City Software) contains features that allow teachers to upload student information from existing school database systems. In addition to tailoring systems to include a variety of recordkeeping formats, Grade Machine has features such as multilingual report writing (currently in Spanish, French, Russian, German, and English), electronic dissemination of reports to facilitate better home-school communication, and templates or customizing features for maintaining records of attendance, homework, assignments, behavior, and seating plans, as well as grading terms and scales.

Newer software enabling the use of multimedia is available that can assist with the maintenance of portfolio assessment materials. Teachers can manage their own as well as their students' portfolios using available software. Teachers can show their students how to compile their own portfolios using the available technology. With the use of scanners, digital cameras, digital videos, and available software, student products can be collected on a single CD rather than in a huge box.

- Provide models of correctly answered items.
- Change the test setting for students with special needs (e.g., a quiet space where the student can work privately).
- Allow more time for test completion for students who are slower with reading, writing, or processing test requirements.
- Allow students to dictate responses or to use communication boards to indicate their responses. (p. 238)

**Specific Formats** Recommendations have also been made for specific types of tests (Salend, 1995):

- For true-false items, write out the words *true* and *false* for clarity, and avoid double negatives or emphasize negatives with bold or underlining. Students may become confused when asked to choose "false" to a negative statement, such as, "The office of president is not described in the Constitution."
- For multiple-choice tests, reduce the number of options, and limit the number of confusing options, such as (a) and (b) but not (c). If possible, have students answer on the test itself rather than a separate answer sheet, particularly at the elementary grades.

- For matching items, reduce the overall number of items. Provide an example of a correctly answered item, and place the entire list on one page.

- For short-answer questions, consider providing a choice of answers for the student to circle, rather than filling in a blank.

- For essay questions, describe what you would like to see included in the essay (without providing too much information), and recommend how the answer should be organized.

**MODIFY SCORING PROCEDURES** In addition to format modifications of tests, you can also modify the way you score the tests. If some students have particular difficulty in areas such as spelling and grammar, it probably is unnecessary to penalize these students in every class they take, particularly if they are doing all they can to improve in these areas. If it seems important to grade on spelling, grammar, and neatness, consider grading them separately from actual mastery of the content, and perhaps ascribing these areas less weight. It may also be helpful to consider giving partial credit for answers that are incorrect, but nonetheless demonstrate some knowledge of the content covered. It seems reasonable that answers that demonstrate even a little knowledge may be given more credit than answers that reflect no knowledge.

**STRATEGIES FOR USING CURRICULUM-BASED MEASUREMENT**

Curriculum-based measurement (CBM) was developed to document student progress through the class curriculum and to assist teachers in creating more effective instructional environments for students (Fuchs, Fuchs, Allinder, & Hamlett, 1992; Hosp, Hosp, & Howell, 2007). Fuchs, Fuchs, Hamlett, Phillips, and Bentz (1994) described two major distinguishing features of CBM.

First, CBM entails a standardized (but probably not norm-referenced) set of procedures for administration. These standardized procedures include sampling test items from classroom curricula, administering the test under the same or similar conditions, summarizing the test information, and using the test information in instructional decision making.

The second distinguishing feature of CBM is its focus on a long-term curricular goal—for example, the goal that you wish students will achieve by the end of the year. To this extent, CBM differs from other types of continuous measurement (or formative evaluation), in which student progress is assessed directly through changing objectives and standards throughout the year. With CBM, the test domain remains constant from the beginning of the school year until the end.

**APPLY CBM TO MONITOR LEARNING PROGRESS** For an example of CBM, consider the curriculum area of spelling (Fuchs et al., 1992). The teacher examines the level of the curriculum for an entire domain of words that students are expected to be able to spell by the end of the year. Then the teacher samples from this list, creating, for example, 50 versions of a 20-item spelling test that include words that students will study throughout the year. The teacher administers one of these lists about twice a week under standardized administration procedures (e.g., words are read
Student performance can be scored by means of measures that may be more sensitive than number of words read correctly, such as number of correct letter sequences (Fuchs & Fuchs, 1994).

Letter sequence scores can then be plotted over time, either for individual students or for class as a whole (see Figure 12.2). Student progress can be plotted and the teacher can estimate whether students will attain end-of-year goals if they continue to progress at the current rate. If progress seems inadequate, teachers can increase time-on-task or individual work with specific difficult letter patterns (Fuchs et al., 1992).

Curriculum-based measurement is an excellent way to monitor the progress of all students, including those with special needs, toward end-of-year goals. In this way, instructional decisions can be made throughout the year to help ensure that students do meet their goals. CBM has been used in all basic skill areas, including reading, spelling, writing, and mathematics (Stecker, Fuchs, & Fuchs, 2005).

Curriculum-based measurement also has been recommended for use in response-to-intervention (RTI) programs (Hosp et al., 2007). Students' responses to instruction can be measured formatively, based on the curriculum being used, as a guide to evaluation. Using CBM, adequate progress toward long-term objectives can be assessed to aid in placement decisions.

**STRATEGIES FOR USING PERFORMANCE ASSESSMENT**

Performance assessment addresses students' ability to interact (perform) appropriately with relevant instructional materials, and the content of instruction. As such, this type of assessment relies much less on direct recall of verbal information than do more typical classroom tests, and more on students' demonstration of understanding (Elliott & Fuchs, 1997). Performance assessment is helpful when testing students who may have word-finding (retrieval) problems, communication disorders, or other skills that limit verbal communication. For example, in an investigation by Engg, Mastropieri, Bakken, and Brigham (1993), students with learning disabilities performed relatively poorly on a more traditional test of their recall of vocabulary words after hands-on science instruction. However, they were much more able to demonstrate their knowledge in performance-based tests that required them to determine, for example, which of two minerals is harder, or whether a mineral contains calcite. Performance assessment is an effective way of measuring all students' comprehension of academic content in at least part of virtually all school subjects, including science, math, social studies, music, art, vocational education, and physical education.

Although performance assessments may vary widely, they often have three key elements in common:

1. Students construct their own responses, rather than selecting or identifying correct responses.
2. Teachers can observe student performance on tasks reflecting real-world or authentic requirements.
3. Student responses can reveal patterns in students' thinking and learning, as well as whether the question was correctly answered. (Fuchs, 1994)

**IMPLEMENT AND ADAPT PERFORMANCE ASSESSMENT** To set up performance assessment measures, first determine exactly what you want students to be able to do after the instructional unit, and state it as a behavioral objective. The next step is to set up the materials and provide the opportunity for the student to perform on the test. Specific tasks can be placed at several stations around the classroom, and students can move from station to station individually without observing another student's performance on the test.

A performance test allows students to demonstrate their knowledge.
Scoring is done by using a scoring rubric that lists test items and scoring criteria. For example, consider a performance assessment for a science unit on ecosystems (students had built their own "ecocolumns" using plants, animals, soil, water, and 2-liter bottles), which used the following test item:

- Draw a picture of an ecosystem. Label all parts.

To score this item objectively, a scoring rubric was constructed by which responses could be evaluated. For this item, the scoring criteria included the following:

<table>
<thead>
<tr>
<th>Score</th>
<th>Scoring Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Picture with living and nonliving things appearing to interact in some general way, living and nonliving things labeled.</td>
</tr>
<tr>
<td>2</td>
<td>Picture of living and nonliving things not labeled, or labeled living, or labeled nonliving.</td>
</tr>
<tr>
<td>1</td>
<td>One of above or general relevant comment.</td>
</tr>
<tr>
<td>0</td>
<td>Nothing of relevance.</td>
</tr>
</tbody>
</table>

**Figure 12.3** Student Response on Ecosystem Item of Performance-Based Assessment
Using this key, then, a picture drawn by a student that included both living and nonliving things, but with the items in the picture not labeled, would earn a score of 2 points. An example of a response to this particular item on a performance assessment is given in Figure 12.3. See if you can score number 2 in Figure 12.3.

Schirmer and Bailey (2000) described the development of a rubric for writing assessment that was employed successfully for middle-school students who were deaf. They emphasized that the rubric should be a dynamic tool, capable of accommodating individual differences in student needs, content, assignments, and curriculum. That is, some students may benefit from a rubric that emphasizes word choice as a means for expanding vocabulary, while other students may benefit from a rubric that emphasizes organization of ideas. In creating a writing assessment rubric, teachers should:

- Identify the qualities of writing.
- Create a scale.
- Define each quality by listing the characteristics that describe performance at each point on the scale. (Schirmer & Bailey, 2000, p. 55)

Modified rubrics could include traits and their definitions, and a scale for rating these traits. For example, Schirmer and Bailey (2000) created a rubric for writing assessment, adapted from a published English series, that listed traits, including topic, content, story development, organization, text structure, voice/audience, word choice, sentence structure, and mechanics. Specific definitions were provided for each trait. The In the Classroom feature on page 287 includes a math scoring rubric.

Accommodations on performance assessments may also be helpful for students with special needs. Crawford, Helwig, and Tindal (2004) reported some relative benefit from longer time limits on a performance assessment in writing, while Johnson et al. (2001) reported that reading math items to students with learning disabilities provided some benefit to test-takers.

PORTFOLIO ASSESSMENT

A portfolio has been defined as a "systematic and organized collection of evidence used by the teacher and student to monitor growth of the student's knowledge, skills, and attitudes" (Vavrus, 1990, p. 48). Using portfolios for assessment, teachers and students collect and organize relevant products to document performance and progress in different areas of academic and behavioral functioning (Wesson & King, 1996). These products can be collected in accordion folders, or in three-ring notebooks with pocketed dividers. You can refer to portfolios to document current functioning, to determine progress, to share information with parents and other teachers, and to plan appropriate interventions or modifications in the student's educational environment (Salend, 1998). Portfolios can be created in any area of student performance, including literacy, math, and science. Portfolios may also be useful in situations where more traditional, standardized tests may not be appropriate, for example, for some students with autism.

Student portfolios can be tailored to the specific needs of the classroom, the student, or the curriculum, and can therefore be considered quite versatile (Wesson & King, 1996). However, for these same reasons, portfolios may lack standardization and objectivity, and therefore teachers must ensure that judgments based on portfolio products are both reliable and valid. Helpful strategies include using multiple measures of the same skills or products, calculating interrater reliability (where different "experts" independently assess portfolio products), and making comparisons with more traditional measures (e.g., standardized tests or criterion-referenced measurement). Nevertheless, portfolios can provide authentic evidence of actual classroom performance that may be difficult to document by other methods. You can also use the portfolios to reflect on your own teaching. The Diversity in the Classroom feature on page 288 describes uses of portfolio assessment for English language learners.

Figure 12.4 provides a list of items that could be included in a literacy portfolio, while Figure 12.5 provides a list of items that could be included in a science portfolio.
A tape of the student reading from a self-selected piece of literature. The student may reread the same piece periodically, thereby allowing the viewer of the portfolio to clearly see improvement.

A checklist of skills the student has mastered, such as phonics rules or writing conventions like capitalization and punctuation.

A log of books read during the year, including dates completed, authors, and student's appreciation ratings of the books.

Copies of stories the student has written, including in some cases copies of all the draft stages the student has worked through.

Pictures of a student's project, which shows understanding of a topic. For example, after studying volcanoes, the student may build a volcano and prepare a poster to illustrate how eruptions occur.

Videotapes of students working cooperatively on language arts projects, such as putting on a skit to show understanding of a story.

Notes the teacher makes while observing the student at work or conferencing with the student. These notes help the teacher document instructional decisions.

A chart of progress using curriculum-based measures in reading and written expression.

Charts the student has developed to track bits of information collected in relation to a nonfiction theme being composed.

Excerpts from a student's journal and learning log.

Figure 12.4  Potential Items to Include in a Literacy Portfolio


- Audiotape of oral reading from science materials collected and added to periodically throughout the year.
- Samples of written work completed throughout the year.
- Samples of laboratory booklets and notes kept throughout the year.
- Samples of formative evaluation measures completed.
- Summaries of performance-based assessments throughout the year.
- Copies of summative evaluation measures (end-of-term exams).
- Teacher observations and anecdotal records regarding performance during general education science class, updated periodically.
- Videotapes taken at various times throughout the year of the student during general education science classes.

Figure 12.5  Sample Portfolio Items for Science


ADAPT PORTFOLIO ASSESSMENT FOR STUDENTS WITH SPECIAL NEEDS  In addition to the "traditional" uses of portfolio assessment in education, portfolio assessment can also be used to document the performance of students who have been referred to special education. Swicegood (1994) described how portfolios could be linked with individual student IEPs, by including work products that show growth on IEP objectives and by periodically completing summary sheets that link IEP objectives to documentation in the portfolio.

Wesson and King (1996) provided two case studies of the use of portfolios with students with disabilities. In the first study, a sixth-grade, general education teacher used a portfolio to chronicle the progress of a student, Tom, classified as seriously emotionally/behaviorally disturbed. Tom was described as having difficulties getting along with peers and frequently fighting with
Sample Mathematics Scoring Rubric

4 Exemplary Response
4.1 Complete, with clear, coherent, unambiguous, and insightful explanation
4.2 Shows understanding of underlying mathematical concepts, procedures, and structures
4.3 Examines and satisfies all essential conditions of the problem
4.4 Presents strong supporting arguments with examples and counterexamples as appropriate
4.5 Solution and work is efficient and shows evidence of reflection and checking of work
4.6 Appropriately applies mathematics to the situation

3 Competent Response
3.1 Gives a fairly complete response with reasonably clear explanations
3.2 Shows understanding of underlying mathematical concepts, procedures, and structures
3.3 Examines and satisfies most essential conditions of the problem
3.4 Presents adequate supporting arguments with examples and counterexamples as appropriate
3.5 Solution and work show some evidence of reflection and checking of work
3.6 Appropriately applies mathematics to the situation

2 Minimal Response
2.1 Gives response, but explanations may be unclear or lack detail
2.2 Exhibits minor flaws in underlying mathematical concepts, procedures, and structures
2.3 Examines and satisfies some essential conditions of the problem
2.4 Draws some accurate conclusions, but reasoning may be faulty or incomplete
2.5 Shows little evidence of reflection and checking of work
2.6 Some attempt to apply mathematics to the situation

1 Inadequate Response
1.1 Response is incomplete and explanation is insufficient or not understandable
1.2 Exhibits major flaws in underlying mathematical concepts, procedures, and structures
1.3 Fails to address essential conditions of the problem
1.4 Uses faulty reasoning and draws incorrect conclusions
1.5 Shows no evidence of reflection and checking of work
1.6 Fails to apply mathematics to the situation

0 No attempt
0.1 Provides irrelevant or no response
0.2 Copies part of the problem but does not attempt a solution
0.3 Illegible response

Note: To receive a particular score, a significant number of the associated criteria must be met.


them, being argumentative and noncompliant with teachers, being socially isolated, and making limited academic progress. Tom’s portfolio included a videotape (updated regularly) of Tom’s performance during cooperative group lessons, a description of Tom’s outside-school social activities, and a list of narrative observations the teacher (or teacher’s aide) had made as she watched Tom in social situations, including behavioral observations of Tom’s problem behaviors.

In the second case study, a portfolio was created for the vocational experiences of Chris, a 16-year-old student with severe disabilities. This portfolio included a videotape showing Chris working in academic and vocational settings, a transcript of an interview the teacher conducted with Chris, a vocational skill checklist, and a list of Chris’s circle of friends (see Chapter 8) and their roles in her life. Chris’s teacher hoped the portfolio would be useful when Chris applies for jobs and works in the community (Wesson & King, 1990). Kearns, Burdge, and Clayton (2006)
Assessment Portfolios

With the increased accountability movement and the increased amount of standardized testing in schools, some have advocated the use of assessment portfolios for English language learners (ELLs, Gomez, 2001). Assessment portfolios are defined as the “systematic collection of student work measured against predetermined scoring criteria” (Gomez, 2001, p. 1). Student work includes various types of writing samples, different types of student reports from a variety of subject areas such as social studies and science, samples of math problem solving, and copies of standardized test performance, such as statewide high-stakes tests and other norm-referenced standardized tests. Scoring criteria include scoring rubrics designed specifically for the contained assignments, checklists, and rating scales. Both the types of student work and the predetermined criteria for evaluating such work need to be established by the school or district.

Advantages of such a system allow for breadth of evaluation of students who are English language learners, and inclusion of those students within the high-stakes testing of districts. In addition, the development of the assessment portfolio provides teachers and administrators opportunities to identify critical components of the curriculum, which can lead to a shared vision of teaching and learning for all students. District personnel can decide to include anything observable, along with its respective scoring criteria, in the portfolio. Such a process may represent a more authentic picture of what ELLs and all students have gained throughout a school year than simply a standardized score on a high-stakes test. The process may also yield information that is easier to communicate with parents. Sharing actual samples of student work and how it was evaluated during parent conferences might assist parents in understanding their child’s level of performance better than a standardized test score.

Challenges associated with assessment portfolios also exist. As with any portfolio, there is a chance of more limited reliability and comparability across classes and grade levels compared with a single standardized test score. It also is a challenge to include standardized administration procedures for all works contained in the portfolio. For example, when including a long-term social studies project, it may be difficult to ensure that the student completed the work entirely independently. Overall, however, assessment portfolios can provide a rich and important complement to more traditional methods of assessment, and may help to reveal relative strengths not documented with standardized tests.

described the use of enhanced portfolio and performance assessments to document adapted grade level content standards for statewide testing for students with significant cognitive disabilities.

Teach Test-Taking Skills

Tests are given frequently in school to determine how well students have learned various content areas and to determine their overall achievement levels. Many students with disabilities and at risk for failure in school perform poorly on tests because of poor test-taking skills (Deshler & Schumaker, 2006; Scruggs & Mastropieri, 1988, 1992).

Test-taking skills strategies help students with disabilities improve their performance on both standardized and teacher-made tests. Several researchers have described a number of test-taking strategies that have been helpful for all types of learners (Hughes, 1996; Hughes, Schumaker, Deshler, & Mercer, 1988; Kesselman-Turkel & Peterson, 2004; Scruggs & Mastropieri, 1992). This section describes test-taking strategies that are successful in increasing test performance of students with special needs.

STRATEGIES FOR
TEACHING TEST-TAKING SKILLS

TEACH GENERAL TEST-PREPARATION STRATEGIES General preparation strategies refer to things students can do to help when preparing for any exam. Many students, but especially those with disabilities, will benefit from explicit instruction in each of these areas (Wood & Willoughby, 1995).
The first and most important general test strategy is academic preparation. See Chapters 10 and 11 for more information in this area. The next general strategy is physical preparation, and includes getting enough rest and nourishment, particularly before studying and before taking the test. A positive attitude toward tests is also important. Improve test attitudes by helping students set realistic goals, providing practice tests, explaining the purpose of the particular test, rewarding effort, and providing training in test-taking skills.

Anxiety reduction also can help. You can help students reduce anxieties during testing situations by encouraging their use of positive attributions—that is, by helping them focus on effort and strategies, rather than thinking about what their score will be or how others will do (see Chapter 9). Teach students to recognize signs of tension in themselves—such as grinding teeth, biting fingernails, and picking at hair or face—and to respond by consciously relaxing their muscles and controlling their breathing (Erwin & Dunwiddie, 1983; Lucangeli & Scruggs, 2003).

TEACH GENERAL STRATEGIES FOR STANDARDIZED TESTS  You can teach students general strategies that they can apply across a number of standardized tests and testing situations (Paulk, 1987). These strategies include using separate answer sheets, elimination strategies, guessing effectively, and using time wisely.

Separate Answer Sheets  Most standardized tests require students to record their responses by filling a circle or “bubble” on separate answer sheets. Provide students with practice filling in the appropriate answer bubble “quick, dark, and inside the line.” If practice tests are provided by the test publisher, provide instruction on the use of separate answer sheets (if not, make simulated answer sheets and test booklets when appropriate).

Use Elimination Strategies  Teach students to eliminate response options they know are incorrect. For example, if there are four answer options and a test-taker can eliminate three of them, then the remaining option must be the correct response.

Guess When Appropriate  Encourage guessing where appropriate, as many students with disabilities and at risk for school failure do not realize that guessing is better than leaving an item blank on most standardized tests.

Use Time Wisely  Teach students to use time efficiently on familiar items, and not to waste time on items they are unlikely to answer correctly. Teach students to monitor their time as they take the test. That is, when the testing period is half over, they should be finished with about half the test.

TEACH SPECIFIC STRATEGIES FOR STANDARDIZED TESTS  Strategies can be employed for specific subtests of standardized tests.

Reading Comprehension Subtests  Most standardized reading comprehension subtests require students to read a specific passage, then answer questions about the passage. Teach students to read as much of the passage as possible, as they can still answer many of the questions even if they have skipped some unfamiliar words. Encourage students to read the entire question and every stem option before selecting responses. Teach students to check back in the passage when possible to verify their answer choice was correct. When reading selections contain information in tables, such as basketball schedules, teach students to quickly skim the information, then look to the questions and refer back to the table to identify answers.

Decoding Subtests  Since students do not respond orally and decode words, decoding subtests on group-administered standardized tests may have unusual formats. For example, students may be asked to match a word that contains the same sound as that underlined in the stem:

1. Which word contains the underlined sound?
   a. plan
   b. yard
   c. afraid
   d. drag
Teach students to say the underlined sound of the word to themselves, and be certain they have found an answer that matches this sound (e.g. "afraid"), and not the appearance of the stem word (a. "plan").

**Mathematics Computation Subtests** Mathematics computation subtests require students to look at test items, compute answers on scratch paper, and select the correct answer from the options provided. Provide students with practice using scratch paper and identifying the correct answer from an array of choices. Teach students to rewrite the problem into the format that they are most comfortable with. Be sure students have sufficient practice with mathematics vocabulary that will be used in word problems. Review words such as **sum**, **product**, **difference**, **quotient**, and other words that may appear on the test.

**Mathematics Concepts Subtests** Mathematics concepts subtests cover a range of skills in math and are presented in a variety of formats on standardized tests. Model examples in which you read the question, rephrase it, and then think aloud through to the solution. Some math problems may contain boxes to indicate missing values, as in the following example:

2. What number should be in the □?
   \[ 524 - □ = 425 + 75 \]
   a. 500
   b. 75
   c. 24
   d. 425

Practice solving problems before the test using those types of boxes or other symbols that may be used on standardized tests. If specific formats that will be used are not known (and this is likely), practice solving problems throughout the year using different answering formats. Be sure students are aware of any specialized vocabulary (e.g., **quotient**, **subtract**ed) that may be included on the test.

**Math Problem-Solving Subtests** Tests of math problem solving require reading the problem, determining what is known, figuring out what operation is called for, generating a plan for a solution, computing the solution, selecting the correct answer from the options, and marking the selected response appropriately on the answer sheet. Provide students with practice using their scratch paper, carefully matching the number of the problem on their scratch paper with the test booklet, along with practice executing all the other necessary steps in the procedure for solving word problems.

Tell students to practice requesting help with the reading if they need it. If test administrators are not allowed to provide assistance in an area, they will simply say, "I cannot help you with that."

Some math problems do not contain all the necessary information to answer the question and students are asked to furnish the missing, but necessary, information. For example:

3. Tyler is 66 inches tall. What else do you need to know to figure out how much he grew this year?
   a. How old he is this year.
   b. How tall he was last year.
   c. How tall his father is.
   d. How much his brother grew last year.

Practice with this type of format is necessary for students with disabilities to ensure successful performance. Model and demonstrate by thinking through the solution aloud. Have students practice using similar procedures.

**Science and Social Studies Subtests** The formats for science and social studies exams parallel the formats employed in reading comprehension and mathematics subtests. Many items require students to read expository passages and then answer questions about the passages. Other items require students to examine charts, diagrams, reference materials, or maps and interpret them before selecting correct answers. Provide practice using these various formats with students when teaching throughout the year.
TEACH STRATEGIES FOR TEACHER-MADE TESTS  Teachers sometimes use tests developed by textbook publishers to accompany adopted text materials. At other times they develop their own tests. Some items on both teacher-made and publisher-developed tests include objective tests that contain multiple-choice, matching, and true–false items, and written formats that contain short-answer, fill-in-the-blank, essay, and performance-based items. The general preparation strategies, and many of the general strategies described for standardized tests, are also applicable to teacher-made tests. In addition, some specific strategies for teacher-made tests should be learned.

Objective Tests  Objective tests contain multiple-choice, true–false, and/or matching items. All strategies described so far may be applicable for helping students prepare for objective tests. However, students should be familiar with the content on teacher-made tests, and they can use this knowledge, or partial knowledge, to improve their test scores.

Written Tests  Written tests may contain sentence-completion, short-answer, or essay items. Strategies can help students become better test-takers on these tests.

1. Sentence Completion Items and Short-Answer Items. Sentence-completion items are usually short sentences containing blanks that must be filled in correctly (“The longest river in South America is _______”), while short-answer items ask questions requiring a brief response (“What were the causes of the War of 1812?”).

   Encourage students to provide some answer, even if it is only partially correct. Many teachers give partial credit for some answers, but cannot provide any credit if the items are left blank. Have students guess if they are not completely sure, encourage them to use partial knowledge, and teach them to make the sentence sound logical in sentence-completion items. Sometimes, lists of items are considered acceptable responses for short-answer items. Determine whether sentence segments or lists will result in the same credit as complete sentences.

2. Essay Questions. Essay tests are difficult for students with disabilities, but several strategies exist to facilitate essay test performance. One strategy, referred to as SNOW, stands for:

   Study the question
   Note important points
   Organize the information
   Write directly to the point of the question (Scruggs & Mastropieri, 1992, p. 89)

   Teach students how to implement each step of this strategy and provide corrective feedback on their performance. Have them study the questions by underlining the specific words that tell them what to do, such as describe, define, explain, compare, contrast, list, justify, or critique (see Figure 12.6).

   Next, students should note important points that come to mind. Then they should organize their notes by numbering the main and supporting points in logical order for discussion. Finally, they should write concisely and directly to the point of the question.

Performance Tests  Performance tests are designed to parallel the exact format of what has been taught and practiced, and are designed to provide better information about instruction (Baron, 1990). A practice test may be helpful for some students in preparing for the test. Teach students to read directions carefully, and not to answer too quickly if something looks familiar. Show them how to talk through the steps of answers before responding.

TEACH OTHER TEST-TAKING STRATEGIES  Other test-taking strategies may be helpful in preparing students to take tests. One strategy is called SCORER (Carman & Adams, 1972). Each letter in SCORER represents clue words to help students perform better during testing situations: Schedule time; Clue words (see Figure 12.6); Omit hard items; Read carefully; Estimate answers; and Review work. This strategy has been successfully used with students of middle-school age (Ritter & Idol-Maestas, 1986).

Another strategy, PIRATES, was developed by Hughes, Rule, Deshler, and Schumaker (1993) and Hughes and Schumaker (1991). PIRATES is a seven-step strategy designed to help students perform better on teacher-made tests. Each letter in PIRATES represents a step of the strategy: Prepare to succeed; Inspect the instructions; Read, remember, reduce; Answer or
Command Words on Test Items and Their Implications

<table>
<thead>
<tr>
<th>Word</th>
<th>Possible Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discuss</td>
<td>Provide reasoning behind; give different points of view.</td>
</tr>
<tr>
<td>Describe</td>
<td>Give an overall impression; give examples.</td>
</tr>
<tr>
<td>Compare</td>
<td>Show how two or more things are similar; provide examples of common characteristics.</td>
</tr>
<tr>
<td>Contrast</td>
<td>Show how two or more things are different; provide examples of differing characteristics.</td>
</tr>
<tr>
<td>Explain</td>
<td>Clarify or simplify; describe the rationale behind.</td>
</tr>
<tr>
<td>Justify</td>
<td>Argue in favor of; defend.</td>
</tr>
<tr>
<td>Critique</td>
<td>Argue in opposition of; find fault with.</td>
</tr>
<tr>
<td>List</td>
<td>Give a simple list of elements.</td>
</tr>
<tr>
<td>Outline</td>
<td>Give a list of elements organized into a system.</td>
</tr>
</tbody>
</table>

Figure 12.6  Command Words and Their Explanations

abandon; Turn back; Estimate; Survey. Although generally used with students with learning disabilities and emotional/behavioral disorders, this strategy has also been employed successfully with high-functioning students with autism (Son Gol, 2007).

Another strategy is called ANSWER (Hughes, 1996). While PIRATES was originally designed for improving performance on objective tests, ANSWER is designed to assist students with essay type exams. The steps in ANSWER can be summarized as:

- **Analyze** the situation, by reading the item carefully, underlining important words, and estimating time needed;
- **Notice** requirements, by marking different parts of the question and committing to a quality answer;
- **Set up** an outline, including main ideas, and check outline ideas with the question;
- **Work in** details, remembering previous learning and applying it in appropriate order, using abbreviations;
- **Engineer** your answer, by writing an introductory paragraph, referring back to your outline, using topic sentences and additional details, and providing examples; and
- **Review** your work, by checking the entire answer with all components of the question (Hughes, 1996).

Grading

**Strategies for Adapting Report Card Grading**

Report card grading is an essential component of the U.S. educational system (Brookhart, 2004), and the importance of grades in our society cannot be denied. However, across the country, standards for grading appear to be somewhat variable. Polloway et al. (1994) reported that about 39% of the districts surveyed had a specific policy for modifications in grading for students with disabilities (see also Roejewski, Pollard, & Meers, 1992). The most common responses involved modifications reflected in the students' IEPs, decisions made by a committee, and notations of accommodations noted on the report card.

**Modify Grading Procedures** There appears to be no one "right" way to proceed when issuing report card grades to students with disabilities. However, following are some considerations that could be helpful in planning grading procedures (Bradley & Calvin, 1998).
1. **Consult school and district policy.** Some schools have established official policies on issuing report card grades to students with disabilities. Find out whether your school has such a policy, and, if so, follow its guidelines. Make recommendations when needed to appropriate school personnel.

2. **Follow recommendations on the IEP.** IEPs typically state explicit goals and objectives for the academic year. For example, an objective on an IEP may state that the student will score 70% correct on tests given in a general education science class. This goal can be taken into consideration when determining the student's grade in the class.

3. **Make no grading modifications at all.** This approach is adopted by many regular classroom teachers, and there are some advantages to this approach. The grades the students earn reflect directly their success at performing in the regular classroom, and can be a source of pride. However, many students are simply not able to compete successfully in such an environment without any supports, and grading without modifications may doom some students to failure. Carefully consider the effect of adopting such a policy.

4. **Use a pass-fail system.** Consider carefully what the minimum standard for a passing grade would be, considering attendance, effort, and performance. Using the PASS variables, prioritize class objectives so that students with disabilities or other special needs receive as much appropriately adapted instruction on critical objectives as possible. At the end of the grading period, record performance with “pass” or “fail” (or “no pass”).

5. **Use a double-standard approach.** With this approach, students with disabilities can be graded using different standards for letter grades. It may not be necessary simply to lower the standards, such that, for example, an “A” on the special education standard is equivalent to a “C” on the general education standard. It is also possible to consider the grade itself differently. For example, a grade on a special education standard could weight more heavily considerations such as effort, persistence, attitude, and progress (see Bursuck et al., 1996). Placing more importance on these areas also demonstrates to students that the grade they receive is more in their control than one that sets unrealistic academic standards and that may lead to resignation or quitting. A special education grading standard could also consider more carefully goals and objectives for the student documented on the student's IEP.

Often when different grading standards are applied, some notation is included that acknowledges that the standard is different. This could be done by a discreet note on the report card (e.g., “Special grading standard”), or by circling the letter awarded. Use of different grading standards can make goals more realistic and achievable for students. On the other hand, it is important to first determine that usual grading standards are not appropriate for particular students. If it seems that students may be able, with sufficient effort, to meet the same standards as the rest of the class, it may be best not to use a different standard.

6. **Contracting.** In some cases it may be helpful to establish a formal contract with a student regarding report card grades (see Chapter 7). The contract can specify what the student will do to earn a particular grade in the class, with respect to, for example, attendance, punctuality, homework completion, participation, and test scores. Grades are then allocated according to the terms of the contract.

7. **Personal Grading Plans.** Munk and Bursuck (2001) described the development of Personal Grading Plans (PGP) created by teams of general and special education teachers to provide more appropriate grading for individual students. For example, it was determined that science grades of one eighth-grade student with learning disabilities were lower than expected because of the heavy weighting of tests and quiz scores. A PGP was developed that included specific objectives within each thematic unit, with specified criteria and a modified grading scale for each objective. With thoughtful modifications and effective communication such as this, grading can be a useful and productive experience for everyone.
Summary

- Many types of tests are used in education; however, all tests must be reliable and valid to be useful.
- Norm-referenced testing compares the score of an individual with the scores of other students in a standardization sample.
- Modifications in standardized tests or administration procedures may detract from the validity of the test. However, such modifications as teaching test-taking skills, enhancing motivation, and enhancing examiner familiarity may improve test validity without compromising standardization.
- Competency-based and statewide testing assesses the skill levels of students and is being used more often in schools. Some modifications in these tests, or alternate assessments, may be appropriate for students with special needs.
- Teacher-made tests can be modified to obtain a clearer picture of student performance, without detracting from the test itself. Modifications can be applied to a variety of test formats.
- Curriculum-based measurement is an excellent means of documenting progress of all students, including students with disabilities or other special needs. Curriculum-based measurement allows the teacher to make instructional decisions as instruction is going on.
- Performance assessment evaluates student competence in particular instructional units. Because it focuses more on doing than writing or speaking, it may be particularly suited for diverse classrooms.
- Portfolio assessment is an ongoing means of obtaining information from student products and other sources. It is a particularly useful form of assessment that also has direct applications to some students with disabilities.
- Explicit instruction on general strategies to improve test performance, such as academic preparation, physical preparation, reducing anxieties, and increasing motivation, can improve the test performance of students with special needs.
- General strategies for improving standardized test performance include using separate answer sheets, using time wisely, elimination, and guessing strategies. Test-taking strategies for specific types of subtests can also improve standardized test performance.
- Test-taking strategies for teacher-made tests include strategies for taking objective tests and written tests, including fill-in-the-blank, short-answer, and essay tests.
- Some other test-taking strategies, such as SNOW, SCORER, PIRATES, and ANSWER, have been successfully taught to students with special needs and have improved their performance.
- Modifications can be made in grading and scoring the work of students with special needs. These modifications can be applied on report card grades, homework, and seatwork.

PROFESSIONAL STANDARDS LINK:
Assessment

Information in this chapter links most directly to:
- CEC Standards: 3 (Individual Learning Differences), 4 (Instructional Strategies), 5 (Learning Environments and Social Interactions), 6 (Language), 7 (Instructional Planning), 8 (Assessment)
- INTASC Standards: Principles 3 (understands learning differences, adapts instructional opportunities), 4 (instructional strategies), 5 (creates learning environments), 8 (assessment strategies), 10 (reflects on practice)
- PRAXIS II™ Content Categories (Knowledge): 3 (Delivery of Services)
- PRAXIS II™ Content Categories (Application): 2 (Instruction), 3 (Assessment)