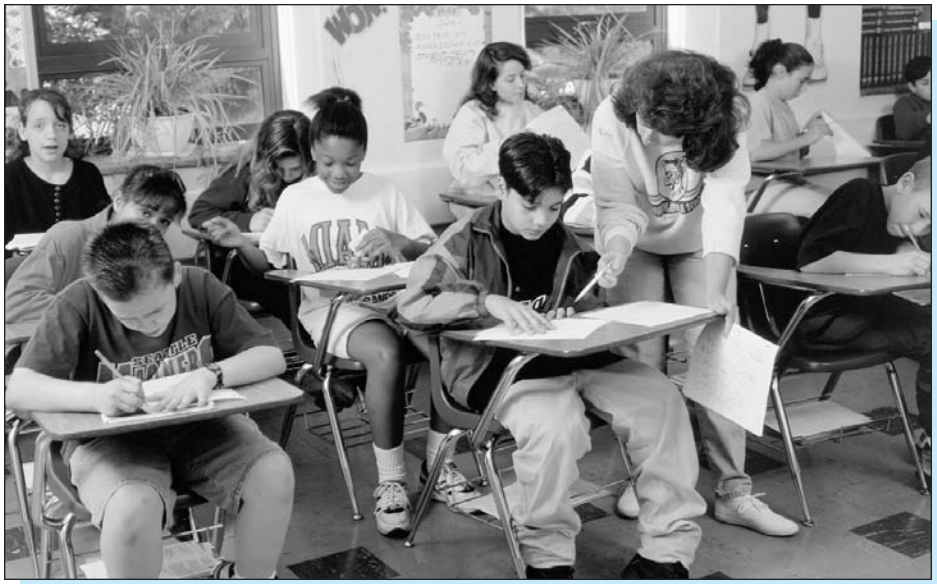
3 Assessing Readers and Their Texts



After reading Chapter 3, you should be able to answer the following questions:

1. What is diagnostic teaching?
2. What steps are involved in diagnostic decision making about reading?
3. How will diagnostic decision making help me set sound learning goals and develop appropriate instruction for my students?
4. What are major differences between formal and informal assessment and what are some examples of each related to reading?
5. What are portfolios and how will they contribute to assessing student work and to student-led conferences?
6. How can I discover what comprehension strategies my students use and how much metacognitive awareness they have?
7. What categories of adolescent readers am I likely to find in my classroom?
8. How can I determine the readability and accessibility of texts for my students?

Double-Entry Journal: Before Reading

If, at the beginning of a class, you wanted to evaluate your students to discover how well they read and what problems they had with reading, what steps would you take?

Now go to the Double-Entry Journal for Chapter 3 on our Companion Website at www.prenhall.com/unrau to fill out your journal entry.

Diagnostic Teaching

History is littered with examples of solutions that failed because the problems they were to solve were inaccurately described and explained. An eighteenth-century Scottish physician, John Brown, treated diseases by administering large doses of either stimulants or sedatives to his patients. Based on his observations, he concluded that diseases were caused by too much or too little stimulation. As you might guess, his solution caused considerable harm to many people because the basis of the treatment method was wrong.

Describing and explaining how a process works when it works correctly enables us to understand what changes need to be made when a procedure is flawed and does not work. All of us have witnessed successful problem solving moments when we have discovered the right fit between a problem's description and the solution we have selected for it.

Some of these solutions are quite simple. After flipping a light switch in the hallway, a light bulb fails to come on. We examine the bulb, discover the filament is broken, replace the bulb, flip the switch, and illuminate the hallway.

Some problems are far more difficult to solve. We may not be able to describe the problem space so easily as we can describe the problem space of a hallway with a burned-out light bulb. To our misfortune, we may remain in the dark for days or forever.

Without clear descriptions and explanations of learning processes, we are going to have trouble bringing light to the problems our students encounter when trying to learn. Why struggling students cannot create meanings from a text they are trying to read is many a teacher's dark puzzle. Gaining clearer descriptions and explanations of how our students read and why their lights too often fail to go on is the purpose of this chapter.

Teachers, like physicians, can view themselves as diagnosticians. But the illnesses teachers treat are those caused by improper conceptualization, lack of appropriate skills, misconceived strategies, and ineffective thinking. They engage in what Solomon and Morocco (1999) describe as "critical scrutiny" of student output to discover ways to improve performance. While diagnostic teachers carefully examine student work for signs of healthy, productive thinking that leads to correct understanding and good solutions, they also look for signs of conceptualizations and problem solving procedures that are unproductive and ineffective. And, like physicians, diagnostic teachers find ways they can carefully administer new conceptions to students, new procedures, and new strategies that lead to productive thinking and learning.

Throughout our professional careers, we should continue to look upon our work with students as endless opportunities to observe how their minds are working to solve the problems in learning that we and the world present to them. The more we learn over years of careful observation and the more strategies we can bring to bear in helping students solve the problems they face, the better we can be at diagnosing and ameliorating the disorders in learning our students acquire.

Although we will be reviewing standardized, norm-referenced tests as well as other assessment tools, our goal should not be simply the ranking of our students by level of skill or knowledge. The diagnostic teacher's focus should rather be on understanding the features, gross and subtle, of each student's thinking, of each student's mental operations when reading and learning. That knowledge gained from critical scrutiny should then inform teaching practice. The diagnostic teacher emphasizes building the capacity to learn in students over that of depositing information.

When diagnostic teachers view reading (as well as writing) as meaning-making processes, as we've seen they are in the previous chapter, these teachers are far more likely to make efforts to understand how their students make meaning from texts. They look for each student's particular way of comprehending texts, and they try to discover how to improve the quality of that comprehension rather than delivering generic, one-size-fits-all solutions.

Content Teacher's Diagnostic Decision Making About Reading

I encourage teachers using texts of any kind to use a diagnostic decision-making approach to instruction. It calls for a thoughtful diagnostic assessment of students before, during, and after instruction. The purpose for engaging in that assessment is to develop diagnostic teaching sessions and appropriate reading instruction. Although time away from content coverage is the bane of many a teacher, assessing students and their texts will help you design instruction that accounts for your student's reading level and its further development. That diagnostic approach should be applied to instructional programs that use literacy skills and strategies, like reading, to master knowledge in content courses.

A diagnostic approach to reading assessment for content area teachers answers several questions, some of which Kibby (1995) posits:

1. What is the student's current level of reading ability, and is it satisfactory for the reading expected in the course?
2. Which reading strategies and skills strengthen or limit the student's reading?
3. What factors are associated with the student's reading ability?
4. What instructional conditions most favor the student's learning?
5. What recommendations or referrals will further the student's reading development?

Going through the steps of the diagnostic decision-making process with students enables you to answer each of these questions and provide optimum reading instruction and growth for students in your classes.

In adapting Kibby's (1995) diagnostic decision-making process to middle and high school teaching, I identified seven steps to guide the assessment of students in content classrooms:

Step 1. Begin learning about each student's identity, history, goals, values, and interests.

Step 2. Determine the expected level of reading at which students will need to perform satisfactorily in the course.
Step 3. Assess each student's reading capacity using a standardized reading test, Group Reading Inventory, or Curriculum-Based Measurement. For students reading below grade level or observed to have significant problems comprehending course texts, administer an Individual Reading Inventory (IRI) to clarify instructional needs.
Step 4. Develop an overall literacy profile for the whole class of students, including strengths and weaknesses of the entire group.
Step 5. Inventory and review available teaching strategies and resources.
Step 6. Engage in diagnostic teaching to maximize compatibility between content texts and readers' capacity.
Step 7. Continue instructional monitoring, modifications, and recommendations, including referrals for remedial reading instruction.

In the following discussion, I'll describe each step in more detail, explaining procedures to apply in your classrooms. Figure 3.1, the Content Teachers Diagnostic Decision-Making Model, provides a graphic summary of the process.

Step 1. Student's Identity, History, Goals, Values, and Interests

Recall that much heard educator's quip, "I teach students—not (fill in the subject)"? Of course, there's much to commend the view that what comes first is the student's mind and not the content knowledge teachers may want to deposit there. There's plenty of evidence on influential teachers (Ruddell, 1995; Ruddell, Draheim, & Barnes, 1990) to assert that students favor and respond favorably to some teachers more than others. Students tend to prefer teachers who take a personal interest in their learning, who ask questions about how they are responding to instruction, who want to engage their students by discovering what interests them and how they can become more interested in a course's content.

None of this is meant to demean the importance of a teacher's knowledge of their subject. As one of the core propositions articulated by the National Board for Professional Teaching Standards puts it: "Teachers know the subjects they teach and how to teach those subjects to students." Both knowledge of your subject *and* of his or her procedures to teach it must enlighten your classrooms.

But for diagnostic teaching, the student must come first. Diagnostic teachers want and need to discover as much as they can learn about their students' identities, their educational histories, their aspirations, their values, and their interests. Although we will investigate these antecedents of instructional engagement much more carefully in Chapter 10 on motivation, diagnostic teachers should be committed to discovering what they can about their students in order to put each student's reading into a living perspective.

Early in the school year, you can discover a lot about your students' reading and attitudes toward reading through surveys and questionnaires. Nancy Atwell (1998), the author of *In the Middle,* has designed a reading survey she gives to her middle school students so she can learn about each student's reading experiences and attitudes at the beginning of the school year. She asks about how they learned to read, why they read, what they think it takes to be a good reader, what kinds of books they like to read, how often they read at home on their own, and how they feel about reading in general. During the first week of school, students complete her surveys,

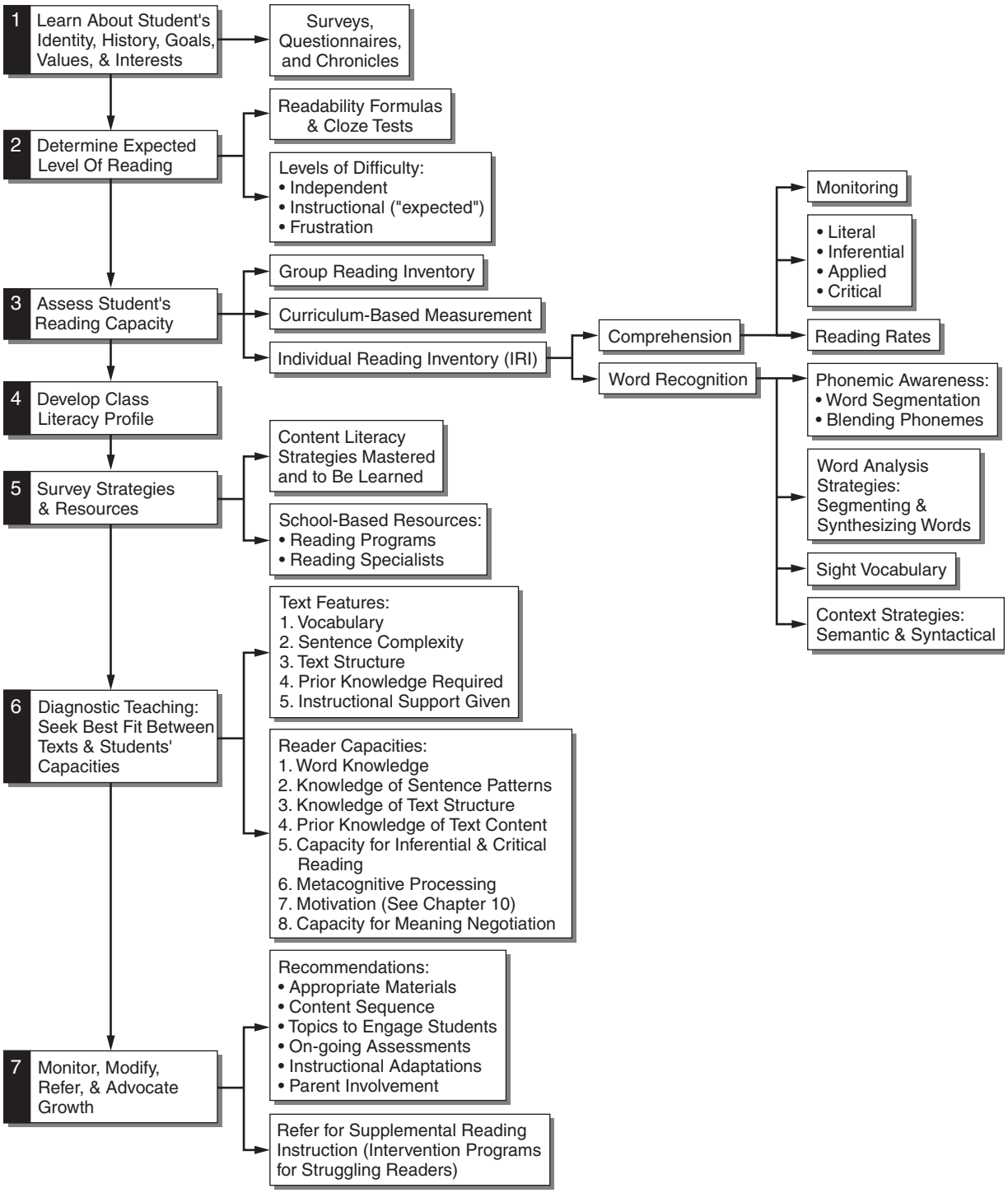


FIGURE 3.1 Content Teacher's Diagnostic Decision-Making Model.

she reads them over, makes notes about who her students are, and puts the surveys into individual folders for each student.

Jeff Waid, a teacher at Los Angeles High School, keeps a "student chronicle," a continuous and evolving record of each of his students throughout the school year. He starts the chronicle with a Student Information Sheet that provides him with background data about each student's home language, after-school jobs, responsibility for siblings, and personal information about favorite movies and music. (See Figure 3.2.) Early in the school year, Jeff asks students to write an autobiography that includes information gathered through interviews of family members, information about each student's language history, learning goals, and home life. Jeff believes that, by maintaining chronicles for his students, they recognize that their history and home life are valued and "feel confident in bringing their entire experience to bear as readers and writers" in his classroom (Waid, 2002). The evolving chronicles deepen the ways he interacts with them and they interact with him.

Step 2. Expected Level of Reading

Expected Level of Reading is the level of difficulty that a text presents to a reader. It's the level of reading at which a reader is expected to perform. But at what level *is* the student expected to perform? Levels of reading vary depending on the degree of challenge a text presents to a reader. Usually, the readability of a text is measured with a readability formula or a cloze test. Readability formulas yield a grade level, so a readability level of 9 means that, to successfully construct meaning for that text, a student should be able to read at the ninth-grade level or better. Cloze tests yield categories of text difficulty. These categories span the independent, instructional, or frustration levels. More details about measures of readability will come later in this chapter.

The expected level for satisfactory reading performance in a class is usually the "instructional" which means the reader is reading at grade level. Unlike the independent level, the instructional level assumes that you will provide support for reading texts. However, while some of your students will find the text to be at their frustration level, other students may need more challenging texts in order to grow.

Step 3. Assess Student's Reading Capacity

The next step entails your assessing each student's current reading capacity to decide if that capacity will enable the student to satisfactorily engage and learn from your content area texts. Your student's silent reading comprehension may be measured with any of several reading comprehension tests, such as the Gates-MacGinitie Reading Comprehension Test. The results of a standardized reading comprehension test may be a percentile rank, a stanine score, a normal curve equivalent (NCE), or a grade equivalent score from a standardized test. I'll explain these scores when we discuss test interpretation later in this chapter. Often scores from standardized reading tests are available in a student's cumulative file. However, if scores are more than a year old, I recommend testing to obtain a more current score.

You can also give your students a Group Reading Inventory (GRI) and/or a Curriculum-Based Measurement (CBM) to assess their capacity to read texts normally given in your content area. The procedures for constructing and giving GRIs and CBMs will also be provided later in this chapter.

STUDENT INFORMATION SHEET

Please take your time and fill out this sheet as completely and honestly as possible. And hey, please write neatly.

Name _____
First Middle Last

The name you go by _____ Birthday _____ Grade _____

Parent(s)/Guardian _____ Relationship _____
First Last

Parent(s)/Guardian _____ Relationship _____
First Last

Address _____ City _____ Zip _____

TELEPHONE NUMBER _____

	Not at all ⟷ Very Well				
I speak and understand English (circle one):	1	2	3	4	5
My parents speak and understand English:	1	2	3	4	5

If you speak another language besides English, please answer the following questions:

What other languages do you speak? _____

	Not Fluently ⟷ Very Fluently				
How fluently?	1	2	3	4	5

In what other countries have you lived? _____

How long have you lived in the United States? _____

Please describe any special limitations about you that I should be aware of so I can best help you in this class (For instance, do you need to sit close to the front to see?)

_____

Is there anything that prevents you from studying or doing your homework? Please explain (e.g., "I have to share a bedroom with my sister who talks too much and bugs me every time I try to do my work.") _____

_____

_____

If you have a job, where is it? _____

How many hours a week do you work? _____

What are your responsibilities around the house (e.g., chores, caring for brothers and sisters)? _____

_____

_____

FIGURE 3.2 Student Information Sheet.

Source: Originally designed by Nick M. Deligencia and modified by Jeff Waid.

Please do your best to answer the following:

What is your favorite:

Television Show? _____

Why? _____

Radio Station? _____

Why? _____

Music Group? _____

Why? _____

Individual Singer? _____

Why? _____

Song? _____

Why? _____

Latest Movie? _____

Why? _____

All-time Movie? _____

Why? _____

Actor/Actress? _____

Why? _____

What hobbies, clubs, sports, or outside activities have you enjoyed? _____

_____

_____

What are your plans for the future? _____

_____

What are your plans for now? _____

_____

What college would you like to attend? _____

Please complete the following sentences:

*The greatest things about me a*re: _____

_____

_____

*The greatest problems confronting me now a*re:

_____

_____

In the space below, write down three questions that you would like to ask me.

FIGURE 3.2 *Continued.*

If a student is more than a year below grade level or is manifesting significant frustration in comprehending course reading material, I recommend administration of an Individual Reading Inventory.

An Individual Reading Inventory or IRI generates more detailed information about a student's reading process than standardized reading tests, GRIs, or CBMs. An IRI yields estimates for a student's independent, instructional, and frustration levels and information about performance on different kinds of comprehension and aspects of word recognition. You may not have the time to administer IRIs to all your students because they take between 30 and 45 minutes. However, other specialists in your school could give the inventory and provide you with information about the results.

Step 4. Class Literacy Profile

After your students have been given tests to measure their reading capacities, you can create a profile for the entire class. That profile should reveal the reading levels for each student as indicated by standardized reading tests, GRIs, and CBMs. Students identified as likely to be struggling readers in your course should be given further diagnostic testing, such as the IRI recommended in Step 3. Their strengths and weaknesses should be taken into account as you design lessons that entail reading. Some of these struggling readers may need additional reading instruction beyond what you could possibly offer. We will discuss the importance of appropriate referral of students like these in Step 7.

Information about all students need not be gathered before instruction begins. As we've seen, diagnostic teaching entails on-going observation and collection of information about students' performance. Group surveys, questionnaires, and standardized group tests can be administered at the beginning of the course or school year. In the case of standardized reading tests, recent information about students' reading performance may be available in their cumulative records. However, we need to be wary of data more than a year old when looking at reading performance.

Step 5. Teaching Strategies and Resources

At this stage, diagnostic teachers survey the strategies and resources available for their use in helping students read and learn from reading. Resources may include reading specialists in your school or district and reading intervention programs, such as those to be described in Chapter 9. Later in this book I will describe how you can use several strategies to enhance students' reading comprehension. Chapter 4 focuses on vocabulary development. In Chapter 5, I'll explain how to use the Directed Reading–Thinking Activity, Directed Inquiry Activity, graphic knowledge organizers, and other comprehension fostering strategies. In Chapter 6, you'll learn about group methods to promote literacy and learning, including cooperative learning and reciprocal teaching techniques. In Chapter 7, I'll present several strategies to enhance critical responses to texts, such as Inquiry Questions (or IQs), ReQuest, Questioning the Author, the Thesis Analysis and Synthesis Key (TASK), and principles for conducting class discussions to develop critical literacy. And, in Chapter 8, you'll learn about the uses of writing to assess, promote, and observe learning. So even if you are a beginning teacher feeling limited by the number of instructional strategies you currently know, in a few days or weeks you'll be introduced to many more. All can

be tried in the diagnostic teacher's classroom to discover how they enable your students to read and learn more effectively.

Step 6. Diagnostic Teaching

Diagnostic teachers strive for compatibility between their students' reading capacities and course texts. When selecting content textbooks and supplementary reading materials, you should weigh and balance readers' capacities with features of the texts. At the diagnostic teaching stage in the decision-making process, you should have gathered enough information to discover the kinds of instructional conditions generally favorable to your students.

If text comprehension requirements are too great, even readers with good monitoring and control skills, high motivation, and considerable capacity for meaning negotiation over texts in the classroom will need lots of teacher support—or they will be overwhelmed.

Text features. When evaluating texts that your students will encounter in their reading for your courses, several text features that determine a text's accessibility are taken into account. These features include the text's vocabulary, sentence complexity, structure, prior knowledge expectations, and instructional support provided to facilitate accessibility. The text's vocabulary should be surveyed to discover what types of problems with word recognition and word meanings your students are likely to encounter. Sentence length and complexity, including number of embedded phrases and clauses, should also be examined and evaluated. Fry's Readability Formula, described later in this chapter, will help you evaluate both the challenge of vocabulary and sentences because those features are built into that formula. The kinds of text structures that the author used to convey content are important to assess, as are the forms and depth of prior knowledge expected of readers and the kinds of instructional support, such as graphic organizers, definitions of terms, summaries, and questions, provided in the text.

Reader capacities. To estimate a text's accessibility to your students, you will need to evaluate several of their capacities as readers. These include their knowledge of words, sentence patterns, and text structure; their prior knowledge related to a text; their ability for inferential and critical thinking; their metacognitive skill; their motivation; and their capacity for meaning negotiation. An assortment of instruments, formal and informal, are described in this chapter and other chapters to help you determine your students' compatibility with the texts they will read.

Finding, adapting, and supporting texts for instruction. Finding reading materials that fit a specific profile of needs for just ONE struggling reader is challenging. Finding the best fit between available content texts and the composite literacy profile for an entire class is a greater one. However, I have come to believe that good diagnostic teaching requires us to make serious and genuine efforts to attain that best fit. Too often the mismatch between students' reading capacities and course text reading requirements results in massive frustration for both students and teacher.

We should remember, however, that texts that are at students' instructional levels could be made accessible with teacher support. Even texts that are at your students' frustration levels can often be adapted or presented so those students can gain

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access to the information in them. Many reading comprehension strategies described in the next chapter help readers construct meaning through directed or guided interaction with challenging texts. At the other end of the spectrum from readers who find content texts frustrating are those who find the texts to be at an easy independent reading level. You'll need to take into account more knowledgeable and skilled readers who may not be sufficiently challenged by the course reading materials to enable them to grow as readers.

Through diagnostic discovery and teaching, you can formulate your lessons to provide greater opportunity for your students to achieve mastery of the material you present to your classes. While teaching, you can observe and collect information that will further inform your instructional decision making. With that knowledge, you can bring to bear your growing arsenal of teaching strategies and resources to provide additional opportunities for your students to learn strategies and skills that will help them grow as readers and learners.

Step 7. Instructional Monitoring, Modification, and Recommendations

Diagnostic teachers who follow Solomon and Morocco's (1999) suggestions monitor and observe their students' reading and learning in detail and continue to make judg-

ments about (a) students' strategies and comprehension, (b) their acquisition of subject-matter knowledge, and (c) the effectiveness of teaching strategies and practices used in the classroom. You can observe a wide range of factors affecting learning from texts:

- Your students' levels of interest and motivation,
- Their responses to success as well as failure,
- Their attention span,
- The effects of pace on their learning, and
- The amount of additional support and review of content required for their success.

Using these observations, you can modify your teaching, note the impact of those modifications, and make recommendations. Those recommendations include the assignment of appropriate materials, the selection of topics to engage students, instructional adaptation, and on-going assessment.

While parental involvement in children's literacy development tends to taper off as children progress through the middle and high school years, I believe parents' continued engagement has many benefits. Keeping parents informed of students' progress in reading development, while sometimes overlooked, is especially important for struggling readers. Parents can offer at-home support for literacy growth as well as encouragement for school-related literacy tasks. In some families, middle and high school students discuss school and independent reading with parents. These discussions can provide students with opportunities to explore aspects of their reading they may otherwise miss. Some teachers promote communication with parents by developing and sending home newsletters that give parents information about the curriculum, including books, their children are covering in school.

Recommendations for individual reading remediation. Serious reading problems that diagnostic teachers find with individual students are too often ignored or denied because no program has been established to address the literacy needs of struggling readers. As Kibby points out, individual reading remediation should be recommended "even if there are no individual instructional facilities available or funds for such facilities" (1995, p. 53). His rationale for these recommendations make complete sense because parents may not seek alternative reading remediation resources if they are not informed of their children's reading difficulties. Urging students and their families to seek help may prompt school personnel and other educational agencies to provide essential programs for struggling readers who may be at risk of failing and of eventually dropping out of school.

Assessment Instruments for Diagnostic Teaching

You are the best assessment instrument your students have. Your observational and interpretive powers compose the most powerful set of reading and learning assessment tools that your students could ever face. What you observe, how deeply you observe, and how you interpret those observations inform critical dimensions of teaching, like your understanding of your students' comprehension levels, skills, and

needs. Your observations of your students' behavior in classrooms, how they interact with texts and how they participate in text-based discussions, often yield information and insights far more useful than data from a standardized test. However, both formal and informal reading assessment tools can focus and magnify your observational powers to help you discern what's going on in the minds of your students as they read and learn.

The effective implementation of a diagnostic decision-making process relies upon your understanding of what instruments can facilitate diagnostic work and how to use them. Some of these instruments are formal tests and others are informal assessment instruments. I'll begin by describing formal tests and then turn to informal assessment instruments. We'll approach formal tests by starting with the most widely used international testing programs and then explore national, state, district, school, and classroom testing. We'll also look at differences between norm-referenced and criterion-referenced formal tests. Finally, we'll look at several examples of formal testing instruments that are used to assess groups of students and individual, struggling readers during the diagnostic decision-making process. In short, we'll progress from global to local.

Formal Assessment

Several features define the difference between formal and informal assessment. (See Table 3.1, Two Methods of Assessment Compared, for a summary.) Formal tests are standardized by having all subjects complete similar tasks and follow similar procedures that enable comparisons between individuals or groups taking the test. Given directions must be followed, and time limits, if provided, must be observed. Formal testing includes international-, national-, state-, and district-level assessment. The instruments used for these large-scale evaluations are usually designed by testing experts. Some formal tests, like the National Assessment of Educational Progress (NAEP) or the Scholastic Achievement Test (SAT), include test items that are usually used once and retired to be replaced by similar but unique items. Other formal tests, like the Gates-MacGinitie Reading Test or the Stanford Achievement Test, include passages and items that are used repeatedly. Reading comprehension tests often have two or more different forms at the same grade levels to measure growth over time.

Formal testing in middle and high schools is extensive. Middle school testing programs often include assessments, such as the Stanford Achievement Tests, the Iowa Test of Basic Skills, or the Texas Assessment of Academic Skills. Teachers may also administer some form of reading test, such as the Nelson-Denny or the Gates-MacGinitie. While all these tests may also appear in high school testing programs, other kinds of "high-stakes" formal testing for college admission, such as the Scholastic Achievement Tests (SAT) or the American College Test (ACT), absorb the attention of thousands of students. Many other state-, district-, or school-sponsored testing programs have flourished in recent years, adding to a test-heavy schedule.

Your role in these testing programs will usually be that of monitor. However, because some of these tests may be aligned to teaching standards and reflect in-

TABLE 3.1 Two Methods of Assessment Compared

	Formal Assessment (aka: "High-Stakes")	Informal Assessment (aka: "Authentic"or "Naturalistic")
Purposes, Uses for Data	• Measurement of student performance, usually in groups, to compare reading levels or determine growth following intervention. • Measure change for state accountability and reward programs. • Determine reading levels to select texts. • Measure reading ranges in a class. • Categorize students, e.g., to identify struggling or delayed readers for further diagnosis or placement.	• Identify qualities of students' reading performance, such as fluency and miscues. • Discover strategy use while reading. • Monitor and detect problems in comprehension. • Resources for teacher team meetings. • Data for benchmarks to monitor development (e.g., CBMs). • Feedback to evaluate effectiveness of teaching.
Designers	Testing companies and committees of experts.	Teachers, reading experts.
Student Interaction with Tasks	All subjects complete similar tasks, follow similar procedures, observe same time limits. Students usually complete test in groups according to schedule.	May complete similar or different tasks; procedures usually similar but may vary; time limits less likely. Usually given in small groups or one-on-one. May be repeatedly given to measure progress or monitor development.
Teacher's Role	Administer test, monitor, interpret results. May do some test preparation.	Observe reading behavior, interact with students, record reading behavior, analyze data.
Method of Measurement	Multiple choice, other forms of closed-ended questions, quantitative.	Observations, more open-ended questions, qualitative.
Examples	IEA, NAEP, State Testing Programs (STAR in California, TAAS in Texas), test batteries (Stanford Achievement Test, Iowa Test of Basic Skills), Gates-MacGinitie, Scholastic Aptitude Test (SAT).	Informal Reading Inventory (IRI), Curriculum-Based Measures, Running Record, Cloze, portfolios, teacher-made tests, classroom observations, student self-reports.

struction, you and your school's administrators may have some significant stake in their outcome. However, the extent of that stake varies from state to state, district to district, and school to school. While some school cultures are test performance sensitive, others are far less so.

Norm-Referenced Tests

A norm-referenced test is a standardized test that can be used to compare one student's reading performance with that of a reference group. The reference groups are often composed of thousands of students who are drawn from a wide sampling of

schools in different communities. Norms are ranges of scores representing an average in a distribution.

Norm-referenced survey reading tests yield several different kinds of scores: raw score, percentile rank, stanine, normal curve equivalent, and grade equivalent score.

The ***raw score*** is nothing other than the total number of items a student got correct on the test or its subparts. The subparts of a norm-referenced reading test usually consist of separate comprehension and vocabulary tests. You can refer to appropriate tables and transform raw scores into more meaningful scores, such as those next described.

The ***percentile rank*** reveals where, in percentage categories from 0% to 99%, a student's raw score lies within a range of scores. It tells the percentage of students in the same grade with lower raw scores. If a student's percentile score is 37, she has done better than 37% of the students in the norm-referenced group who took the test. A percentile score of 50 shows that the test-taker has done better than half the students in the norm-referenced group.

Similar to percentile ranks, ***normal curve equivalents*** (NCEs) present a student's reading level relative to other students at the same grade level. NCEs are based on percentile ranks, but those percentiles have been changed into a scale of equal reading achievement units. Because each NCE unit is equal throughout the scale, they can be used for computing averages and making comparisons between scores.

Stanines divide the spectrum of reading achievement into nine score bands or categories. Because each stanine measures reading in a relatively broad band of achievement, stanines do not encourage focusing on what may be meaningless small score differences.

Grade equivalent scores (GEs) rank students' reading performance within groups that include students from all grades. They characterize performance in terms equal to that of other readers in a particular grade. A grade equivalent of 8.5 indicates that the reader performed as well as the average eighth grader in the sixth month (February) of the eighth grade because the first month (September) would be scored as 8.0. GEs are not standards or criteria to be reached. They are simply measures of performance.

Criterion-Referenced Tests

While a norm-referenced test yields results that enable comparisons between test takers—and, thereby, may foster competition, criterion-referenced tests are designed to measure a student's performance against a set standard or criterion. Teachers in some states must score at or above a set standard on tests of basic skills, like reading comprehension, essay writing, and mathematics, in order to be eligible to receive a credential.

As a teacher, you may also establish standards of performance on skills or mastery of content material that your students must attain before they can progress to the next unit. Some districts establish literacy criteria, such as a certain level of performance on reading and writing tasks that must be reached before a student can progress to the third grade or from middle to high school. Several states, including New York and California, have high school exit exams that are based on standards that students must meet in order to graduate.

Benchmarks, indicators of performance used to measure students' progress toward skill or content standards, are finding their way into more schools and classrooms. You can set up an assessment system of benchmarks in your own classroom to record and monitor your students' progress in reading, writing, and learning in a content area. Some middle schools use a reading fluency measurement to monitor students' progress in reading at intervals of two or three months throughout the school year. Students use the data to monitor their progress; teachers use it to chart students' growth and identify special needs; and schools use it to quickly spot struggling readers and the impact of intervention programs.

Currently, many states use norm-referenced testing programs that may not be closely tied to a school's, district's, or even state's curriculum. Because criterion-referenced tests provide information about students' mastery of specific, explicit curriculum content, many educators (Calkins, Montgomery, & Santman,1998) are urging their use rather than norm-referenced testing. With criterion-referenced tests, teachers, students, and their parents can know what kind and degree of mastery in reading or any other subject has been established by assessment policy. Furthermore, standards, frameworks, teacher-preparation programs, and mission statements of discipline-based professional organization can be aligned with content criteria. Knowing those expectations, you and your students could work together toward their attainment.

Assessing the Assessment Instruments

Validity. To evaluate the quality of assessment instruments, we need to take into account a test's validity and its reliability. For a test to be valid, it must measure what its designers claim it will measure. If test designers say that a test is made to measure reading comprehension but provide no evidence that it actually does measure reading comprehension, we cannot view the test as a valid instrument.

Several concepts of validity are commonly applied: construct, content, predictive, and concurrent (or statistical). ***Construct validity*** refers to the degree to which some theory (or construct) is reflected in a test. Thus, if your students were able to rapidly identify the meaning of words on a test of vocabulary, they would, in theory, have enough automaticity and semantic knowledge to read well. So a test measuring a student's memory for the meaning of a list of vocabulary words would have construct validity as a test of reading. ***Content validity*** refers to the match between the content of a test and the reading or tasks that are taught in the curriculum. A valid test of reading strategy instruction would need to reflect the strategies taught as part of the curriculum. If you taught your students how to activate background knowledge related to a topic about which they were to read and you gave them a test to see if they used that approach when reading, your test would have content validity. ***Concurrent (or statistical) validity*** occurs when performance on a new test is compared to performance on an established test through calculating a correlation between them. If you were to design a new test of reading comprehension and attempt to reveal its concurrent validity, you would compare the results of readers' performance on your test with their performance on an existing test of reading comprehension to reveal the magnitude of the correlation between the two tests.

Lastly, ***predictive validity*** refers to the extent to which a test predicts some specified performance. For example, scores on a standardized reading test are likely to predict students' grades in an English class and have relatively strong correlations.

Reliability. A test may measure what it purports to measure at one time. But does it do so consistently? A reliable test is one that consistently measures what it is designed to measure. So, if one of your students retakes a reliable test, you would expect that student to receive approximately the same result.

Standard error of measurement. A single resulting score on a test should be viewed as a more or less narrow range or spectrum of scores rather than an absolute point on a scale. That's because no test is perfect, and scores are likely to have errors built into them. Statisticians refer to these errors as the *standard error of measurement* or SEM. An SEM is an estimate of the variance between the score actually received and the score that would result from a "perfect test."

What Reading Processes Can't Be Adequately Assessed

We can learn quite a lot about our students' reading processes through formal procedures that now exist. With commercial reading comprehension tests, we can measure vocabulary and comprehension of several kinds, such as literal, inferential, applied, and critical comprehension. However, several aspects of the reading process are difficult, if not impossible, for us to adequately quantify or measure with formal, norm-referenced tests. Among those are our students':

- Background knowledge relevant to specific texts encoded in long-term memory (LTM);
- Range of genre knowledge, including poetic language and argumentation, held in LTM;
- Depth of engagement experienced with texts;
- Range of reading strategies (stored in LTM) activated when reading, especially when the going gets tough;
- Capacity to summarize, ask questions, and make predictions while reading (Metacognitive strategies);
- Degree of automaticity in word identification, and
- Application of learning to near and far transfer tasks.

Some of these features can be measured or examined more closely with informal assessment instruments.

Informal Assessment

While informal tests may be made to measure any population of students on just about any skill and provide more flexibility in administration, they lack a standard scale (norms) for categorizing or ranking student performance. However, with informal instruments, you can often discover more about students' background knowledge, range of genre knowledge, depth of engagement, strategy use, metacognitive skills, word recognition processes, as well as comprehension. Often informal assessments, like miscue analysis or individual reading inventories, provide detailed information that helps with decision making. Without detailed information about

how your students respond to texts often used in your classroom instruction, you will have less information to make informed decisions about what kinds of texts are best used for content instruction. Furthermore, informal assessments can provide insights about how your students think and construct meaning while they read.

Informal assessments of reading are often called "authentic" reading assessments. Usually, "authentic" assessments engage students in the reading of actual texts used in classroom instruction or in tasks undertaken in a natural environment, like a classroom, rather than tasks completed in a clinical or test-structured environment. Often, "authentic" assessments are based on reading materials and tasks normally constituting daily classroom teaching.

Informal or "authentic" reading assessment will also allow you to see more clearly your students' thinking and meaning construction processes. By looking closely at those thinking processes, you can better understand what is working and what is breaking down as your students construct meaning through interaction with content area texts.

Among the informal reading assessments we will review are the Group Reading Inventory (GRI), miscue analysis, running records, Curriculum-Based Measurement (CBM), retellings, comprehension think-alouds, and interviews.

Group Reading Inventory (GRI)

To discover how your students are likely to comprehend texts used in your class, you can administer a Group Reading Inventory (GRI). Its purpose is to discover which students will probably find a particular textbook frustrating to read and will, therefore, need additional support and guidance to comprehend it. For normal teaching purposes, students should be reading texts at an instructional level, if teachers are to work with the text in class, or at an independent level, if the texts are to be read on their own. With a GRI, you can time students to get a reading rate and test comprehension with a set of questions assessing vocabulary and various forms of comprehension. Because of wide differences in interests and background knowledge, students should be given GRIs for each content area text they are expected to read.

STEP-BY-STEP: *Group Reading Inventory*

STEP 1. From the textbook or other material that students will be reading, select a passage of about 500 words that students have not yet read.

STEP 2. Prepare 10 or 20 questions to assess vocabulary, literal comprehension, such as main ideas, details, sequence, and inferential comprehension. The questions may be either multiple choice or open-ended. A sample GRI reading with questions (Rakes & Smith, 1992) appears in Table 3.2.

STEP 3. Develop an answer key with original questions and appropriate answers. Identify the type of skill each question requires to answer correctly, such as identifying main ideas or comprehending details. A sample GRI answer key (Rakes & Smith, 1992) appears in Table 3.3.

STEP 4. Distribute the passage to students or tell them which pages from their text they are to read and explain that you will be asking them to time themselves. To help in this regard,

TABLE 3.2 Sample GRI Reading with Questions

Directions: Read the selection beginning on page _____ through page _____ to find out how the early novel developed and the various forms it took. When you have finished reading the selection, raise your hand and you will be given a short questionnaire over the material.

The Novel

One of the nicest pleasures in life for many people is to curl up in a comfortable place and read a good novel. Novels have been in existence for a relatively short time, compared to other forms of literature. For example, the drama has existed for centuries, whereas the novel came into being only about three hundred years ago. Basically, a novel can be defined as a long story, written in prose, and having many characters and more than one plot.

Prior to the development of the novel in its present form, stories were often written in verse. These verse stories were known as "romances" during the Middle Ages. Usually the stories revolved around characters, such as kings, queens, knights-in-armor, and other heroes. Rarely were ordinary people and their problems ever subjects for romances—they were considered unfit subject matter for literature.

During the Renaissance, dating between the fourteenth and sixteenth centuries, people began to see that ordinary people and their lives could be interesting and meaningful subjects for stories, often changing their point of view about life and literature.

Among these important changes were the geographical expansions of many countries (etc.)

Comprehension Questions

1. What is a novel?
2. What was the "picaresque" novel?
3. Approximately when did the novel come into being?
4. What is a "plot" novel?
5. How did the invention of the printing press affect literature?
6. What are "romances"?
7. How does the "plot" novel differ from the "adventure" novel?
8. If our society were only composed of the very rich and the very poor, with no middle class, what type(s) of novel(s) might we have today?
9. How did exploration affect the merchants?
10. What type of modern literature do you think may have been an outgrowth of space exploration?
11. What are two examples of "adventure" or "journey" novels in English or American literature?
12. How might the mass media (television, newspapers, etc.) negatively affect the novel today?
13. Why did the novel develop the way it did?
14. What social topics might be found in modern novels today?

secure a timing clock that all students can see. Otherwise, write down the time on the board in 10 second intervals. (Later, students will compute a words-per-minute score by dividing the total number of words in the passages they read by the time taken to read them.)

STEP 5. When finished reading the passage, students should either close their books or flip their papers over and answer questions you've provided.

STEP 6. Review results of the GRI to determine how many students scored at an independent (90% or higher), instructional (70 to 90%), or frustration level (50% or less). Students who comprehend 70 to 75% of well-designed questions based on the passage should be able to understand the text with some instructional support in class. That support should include key vocabulary, study methods, and strategy instruction to promote comprehension.

TABLE 3.3 GRI Answer Key Sample

Skill	Question and Possible Answer
Main Idea	1. What is a novel? (long, prose story with many characters and more than one plot; Paragraph 1)
Context	2. What was the "picaresque" novel? (stories of adventures of rogues or rascals who traveled about the country; from the Spanish word *picaro* meaning rascal; Paragraph 5)
Detail	3. Approximately when did the novel come into being? (during the Renaissance; between fourteenth and sixteenth centuries; Paragraph 3)
Context	4. What is a "plot" novel? (stories of love between people, set in only one place and having few characters)
Detail	5. How did the invention of the printing press affect literature? (large quantities of books available at reasonable cost)
Context	6. What are "romances"? (stories written in verse usually about kings, queens, knights, or other heroes; Paragraph 2)
Detail	7. How does the "plot" novel differ from the "adventure" novel? ("plot" novels are usually set in one place and have fewer characters)
Inference	8. If our society were only composed of the very rich and the very poor, with no middle class, what types(s) of novel(s) might we have today? (answers will vary)
Detail	9. How did exploration affect the merchants? (gave them more markets in which to sell products)
Inference	10. What type of modern literature do you think may have been an outgrowth of space exploration? (science fiction)
Detail	11. What are two examples of "adventure" or "journey" novels in English or American literature? (*David Copperfield*, *Oliver Twist*, *Huckleberry Finn*, *Robinson Crusoe*, or *Joseph Andrews*)
Inference	12. How might the mass media (television, newspapers, etc.) negatively affect the novel today? (answers will vary)
Main Idea	13. Why did the novel develop the way it did? (people were becoming more practical and realistic; discovered that the "ordinary" could make good stories; other varied answers)
Inference	14. What social topics might be found in modern novels today? (answers will vary)

Performance Levels

Independent: 0–2 questions missed
Instructional: 3–6 questions missed
Frustration: 7 or more questions missed

Reading Rate

Words-per-minute rate = Total number of words read/Time = _____.

Miscue Analysis

Miscues are oral reading responses that vary from those expected. Kenneth Goodman (1969, 1994) has observed that mistakes in oral reading should be viewed as miscues in a "psycholinguistic guessing game" rather than errors because these mistakes are actually attempts to construct meaning. Examining miscues can help you understand how a reader decodes texts and tries to make sense of them.

Miscue analysis is often done as part of a larger informal reading inventory (IRI), but a miscue analysis can be done independently. Certain kinds of miscues that are judged "mistakes" but should be scored as word recognition miscues are described

TABLE 3.4 Word Recognition Miscues That Are Scored

Miscue	Example	Comments
Use of nonsense word or mispronunciation	(regmint) The ~~regiment~~ went on to defeat the enemy.	Reader attempts pronunciation but produces a nonsense word.
Substitution	when ~~want~~	An incorrect real word gets spoken in place of one on the page.
Omission	For the first time, Fanny ran behind the tall ~~Blue~~ Spruce. (Reader leaves out Blue.)	Reader does not appear to notice that any word was skipped.
Reversal	He stood on the ~~pad~~. (The word *pad* is pronounced "dap.")	Reader reverses words or letters.
Insertion	The (puffy) blue cloud floated all the way to Toledo. ("Puffy" inserted.)	Word or series of words that are not in the text are inserted.
No attempt to pronounce a word	Jamie looked into the ~~sarcophagus~~ and fainted. (Reader does not say word.)	Reader refuses to say a word that the teacher says so assessment can go on.

TABLE 3.5 Word Recognition Miscues That Are NOT Scored

Miscue	Example	Comments
Self-corrections	Jaime went to the store (door). (Reader says "door" first, then corrects without prompting.)	After making an error, reader recognizes the mistake and corrects it.
Repetition	Alex listened to the ("the" repeated) hit album six times.	Reader repeats word or phrase at least once.
Pause	(…) Take my (purse) and throw it into the lake.	Reader makes long pause before pronouncing a word correctly.
Missing the Point	Two independent sentences separated by a period are read as if they were one sentence. No stopping point intoned.	Reader pays no attention to periods, commas, or other points of punctuation.

in Table 3.4. Other miscues not scored as mistakes are listed and explained in Table 3.5. Although procedures for scoring miscues during an oral reading analysis or an IRI vary among authors, the rationale for including items to be scored or not scored on a miscue analysis are based on recommended procedures in Burns and Roe (1999), McCormick (1999), and Wilde (2000).

Running Records

A running record is an informal oral reading assessment that you can use to discover if material you present to your students is at a manageable reading level and what strategies your students use to decode difficult words. It's relatively quick and easy. As your student reads, you record his performance using predetermined miscue guidelines. For miscues, you can use a system like that provided in Table 3.4.

TABLE 3.6 Running Record Guidelines

Degree of Difficulty	Percentage of Correct Responses
Easy	95–100%
Instructional	90–94%
Hard	80–89%

Source: From Thomas G. Gunning. *Assessing and Correcting Reading and Writing Difficulties,* 2e. Published by Allyn & Bacon, Boston, MA. Copyright © 2002 by Pearson Education. Reprinted by permission of the publisher.

Running records can be used with any text your student reads. Mark miscues in a copy of the text your student is reading. When a miscue occurs, circle the word or mark the text and note the kind of error the student made.

To calculate the percentage of correct responses, you can simply divide the number of words correctly read by the total number of words in the reading. Although running record standards for determining degree of text difficulty vary somewhat, Gunning (2002) offers guidelines in Table 3.6 that you could apply.

If one of your students has less than a 90% correct response rate and manifests other behaviors that indicate problems in comprehension, such as the inability to answer basic comprehension-check questions, the text you are asking him to read may simply be too difficult.

While similarities between running records and both IRIs and miscue analysis are apparent, the merit of the running record is that it can be done on the spur of the moment with little advanced preparation. However, planned running records with pre-selected texts of 200 words or so can also be used with each of your students to obtain benchmarks of individual student and even whole-class progress.

Curriculum-Based Measurement (CBM)

The oral reading fluency of students and their improvement can be quickly and efficiently assessed with Curriculum-Based Measurement (CBM). Fluency can be measured by counting the number of words a student reads correctly in one minute. Researchers (Fuchs, Fuchs, & Hosp, 2001) have gathered evidence to demonstrate that oral reading fluency serves as an indicator of reading competence.

CBMs provide useful information to both teachers and students. Measuring and monitoring changes in a student's fluency while reading curriculum-based texts provides indications of a student's reading development in your content area classroom. Data from CBMs can help you decide what kinds of texts your students can read at an instructional level, their responsiveness to content area instruction, and their need for reading intervention programs. Meanwhile, CBM data can help students monitor their own growth in reading and serve as the basis for graphs of reading progress in a student's portfolio.

An initial CBM provides a baseline for students' reading fluency, an opportunity to observe miscues, and a method of determining the degree of difficulty that a particular text is likely to present to individuals and, collectively, to a class. The miscues will provide you with data to use as the basis for developing helpful instructional programs tailored to individual students or small groups of students sharing similar reading problems.

Although you can conduct CBM data for oral reading fluency by determining the number of words a student reads correctly in one minute (Fuchs, Fuchs, & Hosp, 2001), I suggest using a two-minute reading to increase the accuracy of the measurement. During a one-minute reading, a student may encounter unfamiliar words that significantly reduce their fluency rate. More time reading improves the chances that you will get a more accurate picture of your students' general fluency. It takes a little more time and a little more math, but it yields a more reliable measurement.

STEP-BY-STEP: *Curriculum-Based Measurement (CBM)*

STEP 1. Select a passage of about 600 words from a language arts, history, or science text designed for the grade level the students are currently in or are about to enter. Make sure the passage has a reasonable starting point with respect to content and does not include a large number of specialized words infrequently encountered in students' reading at their grade level.

STEP 2. For the student copy, type the text in approximately the same font and size as the original.

STEP 3. For the teacher's copy, produce the same text as you did for the student copy; however, on the right hand side of the page, make a column for line-by-line cumulative word counts. At the top of the page, create space for the Student's Name, Grade, Date, and Assessing Teacher. On the bottom of the page, create a rate box with space for the following information: Words Read in Two Minutes, Total Number of Scored Miscues, Total Number of Words Correctly Read in Two Minutes, and Average Number of Words Correctly Read in One Minute (or Correctly Read Words ÷ 2).

STEP 4. Using the student copy of the text, the student reads aloud for two minutes. When exactly two minutes are up, put a slash mark after the last word read.

STEP 5. As the student reads, the assessing teacher marks miscues on the teacher's copy by putting a line through miscued words or writing in an inserted word. Miscues are responses to texts that differ from expected responses. They occur when the reader reads words that are different from those on the assessor's copy. Miscues include use of nonsense words, substitutions (e.g., ran for rain), omissions, reversals (words not read in the correct order are miscues), inserted words, and no attempt to say a word. However, self-corrected words, repeated words, hesitations, words read with an accent or dialect, and improper intonation resulting from ignored punctuation marks are all scored as correct. (See Tables 3.4, 3.5, and earlier section on Miscue Analysis for further explanation and examples.)

STEP 6. Observing a reader's problem-solving strategies while reading a text is quite instructive. Teachers should observe carefully what readers do when they encounter a difficult word. Do they try to sound it out, use context cues, ask for help, give up? Do some of the mistakes make sense? For example, Gunning (2002) emphasizes the importance of observing semantic (was for were) or graphic (letter for leather) similarities between miscues and the actual text. How well does the reader monitor the reading process? How are errors corrected? Answers to questions like these provide insights into students' reading strengths and clues about ways struggling readers can be helped. In the Observations Box, write answers to any of these questions or other observations made during the assessment.

STEP 7. After a student reads the text for two minutes, the assessing teacher calculates the student's oral fluency rate or number of words correctly read in one minute. This is

done by dividing the total number of words read correctly in two minutes by 2. For example, in the first minute of reading a selection from her world history textbook, Maria read 73 words and in the second minute she read 66 for a total of 139. However, she made 5 miscues which reduced the total number of correctly read words to 134. After dividing by 2, Maria's average number of words read correctly was 67. (See Figure 3.3.)

STEP 8. Oral fluency rates should be kept for each struggling reader and, if possible, for each student. The same text can be used at three points over the traditional academic year to measure oral fluency development: September, January, and May. Minor variations in this schedule should not affect results. However, frequent use of the same text is likely to result in learning that could influence the CBM's validity. CBM data for an entire class or grade level can also be calculated and graphically displayed to show development over time.

STEP 9. Teachers can also calculate CBM rates for any other text they wish by following the guidelines provided above. Such information will help teachers decide on the appropriateness of a text for a given student or even for a whole class and the amount of instructional scaffolding that students may need to read the text successfully.

Informal Assessments for a Closer Look at Comprehension Processes

Neither a standardized reading test nor a miscue analysis provides detailed information about a reader's comprehension process. While an oral reading and miscue analysis provide valuable information about a reader's decoding skills and processes, they do not tell the whole story about what meanings that reader constructed. Nor do standardized reading tests, such as the Gates-MacGinitie, which often depend upon a student's recognition rather than recall to answer multiple-choice items. Other procedures, including retellings, think-alouds, and interviews, magnify a student's thinking while reading and furnish more detailed information about comprehension. That information can help you understand how thoroughly your students comprehend narrative or expository texts, how they organize knowledge, and what they do when meaning-making breaks down.

Retellings

A retelling is just what its label indicates. After a student reads a narrative or expository text, she tells you what meanings she constructed. Rather than mere recognition, retellings require recalling knowledge from a reading selection.

Step-by-Step: *Retelling*

STEP 1. Select a text, narrative or expository, that is difficult enough to engage a student in using strategies to make sense out of challenging reading materials. If possible, choose a text that is not at the reader's frustration level.

Student's Name Maria Russell Grade: 6 Date: 9/15/2002

Teacher's Name Joseph Knell

Text: *Ancient World: Adventures in Time and Place*	Word Count
(Banks, et al., 2000) Pericles became Athens' leader in 462 B.C. He quickly acted to boost the role of poor or working citizens in government. Pericles said that citizens should be paid when they held a government job or served on a jury. A jury is a group of citizens chosen to hear evidence and make decisions in a court of law. This money would allow farmers and other working citizens to take time off / from work so they could serve in government.	73 wpm
Democracy Grows Pericles won enough votes in the citizen assembly for his bill to become law. As a result, many citizens were able to become involved in government during Athens' Golden Age. Even the poor citizens could accept important jobs in government. Look at the diagram on page 356. What kinds of jobs did citizens do / to keep Athens running smoothly?	66 wpm
All citizens were now able to take part in votes that affected their own lives. When they voted for Athens to go to war, for example, it meant that they themselves would fight. Unlike many other city-states, citizens made up the bulk of the Athenian army and navy, not a group of hired soldiers.	

omitted -ed
omitted -d
help
as
would

RATE CALCULATION

Total Number of Words Read in Two Minutes:	139
Total Number of Scored Miscues:	5
Total Number of Words Correctly Read:	134
Average Number of Words Correctly Read in One Minute (Words Correctly Read in Two Minutes ÷ 2)	67

Observation Box

Maria read haltingly but at a consistent pace. At a couple of points, she did not read as though she knew a sentence came to an ending. That suggests that she may not be paying attention to units of meaning while she reads. Her comprehension of informational text should be monitored. Her average number of words read correctly per minute (67) also suggests that she is having trouble with decoding and recognizing words. She clearly did not automatically recognize several words in the passage, such as *held, served,* and *allow.* The passage, according to a readability formula, is written at a 5.8 grade level. However, she clearly has difficulty with the passage and will need significant scaffolding to help her comprehend this text.

FIGURE 3.3 CBM Data Sheet (SAMPLE FORMAT).

STEP 2. Create an outline of the selected text that includes the main points and supporting details. The outline will serve as your guide and as a source for generating probing questions to prompt the recall of information the student omitted from the retelling.

STEP 3. Explain to your student that you will request a retelling after reading and then have him read the text silently. Observe your student's behavior while reading the selection to identify any strategies used to aid comprehension, such as previewing the selection, rereading sections, and so forth.

STEP 4. Ask students to retell everything that they can remember about the passage they read without referring to the text. It's important to ask for all the reader can recall. Otherwise, a superficial summary may be recited.

STEP 5. You can use the outline you created in step 2 to get an estimate of the percentage of the text that your student recalls.

STEP 6. If a reader missed important elements in the text that are noted in the outline, you should ask follow-up questions, or probes (McCormick, 1999). These probes can also elicit levels of comprehension beyond the literal level, such as understandings about a story's themes or generalizations that might be drawn from an expository text.

Some teachers prefer to tape record retelling sessions so that they can compare the retelling with the text's outline. You, too, may find this an efficient method. McCormick (1999) points out that some students may provide a disorganized retelling that suggests poor comprehension. However, that may not be an accurate impression. The student may comprehend successfully but structure the retelling poorly. Practice in retelling usually remedies disorganized responses.

If time for retellings is limited or you are working with large groups, students could write out summaries of the texts they read. While some things may be lost using this method, such as opportunites to probe for details, other things are gained, such as time and a written record that can be scored and kept on file.

Comprehension Think-Alouds

An effective way to discover how your students think when they read is to do a Comprehension Think-Aloud with them. During think-alouds, readers describe their thoughts as they form meanings through interaction with the text. The think-aloud provides a view of cognitive processes that readers use to make sense of what they are reading. Struggling readers often have trouble carrying out processes that good readers engage in automatically, processes we saw when we reviewed their qualities in Chapter 2. You'll recall that, among other things, good readers activate background knowledge, make predictions, form mental images as they read, monitor their comprehension progress, and fix up problems as they go along. While doing think-alouds with your students, you can watch for examples of these processes.

To show students how to do a think-aloud, you should demonstrate the process first. You may activate background knowledge and associate a story's or article's title to concepts held in long-term memory. You may admit moments of confusion, use fix-up strategies, and discuss multiple meanings as you work through ambiguities. However, you should try to keep your associations close to the text and limited in length. Your demonstration then serves as a model that your students can use to understand what they will do when engaged in a think-aloud.

TABLE 3.7 Think-Aloud of "Sea Fever"

"Sea Fever" by John Masefield	R. Silva's "Thinking Aloud"
I must go down to the sea again, to the lonely sea and the sky, And all I ask is a tall ship and a star to steer her by, And the wheel's kick and the wind's song and the white sail's shaking And a gray mist on the sea's face and a gray dawn breaking. (pause)	After reading the first section of the poem aloud, Mrs. Silva said, "First of all, I would go back and reread it silently." After doing so, she said, "I think it's a sailor or somebody who's working on a ship who needs to be back on the ocean again, to feel what it's like to be out there again. He needs a tall ship to guide him through the seas and a star to let him know where he's going. He hears wind and sees gray mist, and that's how he sees the sea, feels it."
I must go down to the seas again, for the call of the running tide Is a wild call and a clear call that may not be denied; (pause)	"Something is calling him (or her) there. He (or she) has a need to be there. The running tide and the wild call are things asking him to come."
And all I ask is a windy day with the white clouds flying, And the flung spray and the blown spume, and the sea-gulls crying. (pause)	"To make this day complete, it would be a nice windy day with the white clouds flying above spraying ocean water, and sea gulls crying above."
I must go down to the seas again to the vagrant gypsy life, To the gull's way and the whale's way where the wind's like a whetted knife; (pause)	"This and the previous passage actually remind me of *Charlotte Doyle* by Avi and the men who were on that ship…. They just loved the sea. It was their way of life. At the end (of the novel), she feels called back to the boat."
And all I ask is a merry yarn from a laughing fellow rover,	"She missed the camaraderie she had there. That's what he misses besides the sea. Having peace within himself."
And a quiet sleep and a sweet dream when the long trick's over.	I next asked Mrs. Silva if she had any other comments about what the author was conveying to the reader or how she would express the poem's main idea. She said, "Everyone has a place where they want to be, and his place is on the sea."

To investigate how different readers in a Los Angeles middle school culture construct meaning for John Masefield's "Sea Fever," I videotaped think-alouds by a teacher and sixth-grade students. The videos were intended not only to demonstrate the think-aloud technique but also to observe meaning construction in process and to study differences between expert and novice readers. To help you "hear" what the middle school teacher, Remi Silva, said in response to the poem, I present the poem on the left and her comments on the right in Table 3.7. We began the think-aloud session with my asking Mrs. Silva to read the poem aloud, pause at points indicated, and tell us what was going on in her mind to make sense of the poem.

This think-aloud shows students how a teacher constructs meaning for a complex reading task. Unlike the other students videotaped, for example, Mrs. Silva pauses to say she wants to reread the poem to get into it before explaining what she's gotten out of it. As she explains her understanding of the poem's meaning, she makes an important intertextual connection with *The True Confessions of Charlotte Doyle* by Avi. That "young adult" novel is about a 13-year-old girl who makes a life-

changing voyage to America from England in 1832. She's the only passenger on a ship with a tyrannical, cruel captain and a mutinous crew with whom she eventually unites but not before winning their trust. After Charlotte arrives safely in America and rejoins her family, she decides to abandon the comforts of home for the adventures of the sea. This intertextual link helps Mrs. Silva put "Sea Fever" in context, make sense of its language, and compare the sea-enchanted Charlotte to the poem's sailor who also becomes feverish for the sea.

One of the sixth graders, Liliana, who also completed a think-aloud for "Sea Fever," had a remarkably different intertextual link. The connection she made reveals both her struggle to make sense of the poem and her use of background knowledge to do so. She made an intertextual connection between "Sea Fever" and a movie entitled *Free Willy*. In that film, a young boy and his family conspire to free a whale from captivity. To this young reader, the poem was not about a man yearning for the sea and the sailor's life but about people and animals interacting, about people wanting to protect and help animals so they won't lose their friendships or families. The sea gulls were crying because they wanted men to stop trying to get the whales, and the wind wanted a knife to free the whales. Comparing the two think-alouds reveals how differently two readers can interpret the same text and activate background knowledge that sustains or elaborates upon the meanings they construct. Comparing the think-alouds also reveals the potential power they hold in helping teachers see and understand their students' meaning construction processes.

STEP-BY-STEP: *Doing a Comprehension Think-Aloud*

STEP 1. Select a passage of about 200 words that is new to the reader and at the instructional level. It should challenge but not overwhelm the reader. You should pre-read the passage and identify one or more sentence chunks of text with stop-points.

STEP 2. Explain to the reader that the passage will be read in segments marked with stop-points and that at those points he will explain what meaning has been gained from the text. Forewarn the reader that you may ask a few questions, such as "What do you think this is about?" to encourage the development of text-based hypotheses.

STEP 3. Prepare to record the session so that you can make a transcription of it along with your observations of the student's meaning construction processes.

STEP 4. After the think-aloud is complete, talk with the student about what he observed and learned from doing a think-aloud.

STEP 5. Analyze the results to determine if the reader:

- Formulates hypotheses.
- Provides information to support the hypotheses generated.
- Draws upon background knowledge and makes intertextual connections, such as those Mrs. Silva and Liliana made.
- Uses strategies, such as rereading, to cope with breakdowns in comprehension.
- Uses strategies to figure out the meaning of unfamiliar words.
- Notices inconsistencies between interpretations and the textbase.
- Understands the gist of the passage.

Interviews and Interactions

You can learn much about your students' reading habits, preferences, and processes simply by talking with them, asking questions, and being observant during instructional interactions.

Discovering how your students decode texts provides diagnostic information that can influence your decisions about promising interventions to improve struggling readers' word identification abilities. Interviews, careful observation, and questions all can help. Gunning (2002) suggests a "word identification interview" based on questions that, when answered, lead to insights about how a student thinks and creates meaning while reading. He suggests word identification questions such as these:

- How do you feel about reading?
- What is the hardest thing for you to do when you read?
- Why do you think it's hard for you to recognize words when reading?
- Why do you think it's hard to learn words?
- What would make it easier?
- What makes it hard to figure out some words?
- What kinds of words are hardest to learn?

Answers to questions like these may amplify and clarify clues and hints about reading problems that trouble struggling readers in your classes. You may have made some diagnostic discoveries through standardized tests or informal assessments, but talking with your students about how they read can release information that sharpens your diagnosis and points to sensible intervention instruction.

Comprehension processes can also be made clearer through several informal assessment procedures. You can include questions like these during interviews with students about comprehension:

- How do you know you understand something you are reading?
- Do you ever notice when you're reading that you can't make any sense out of it? What do you do when that happens?
- When, if ever, do you ask yourself questions about what you're reading?
- Do you ever ask yourself questions about the book you're reading and then try to answer them as you read along?
- Do you ever find yourself guessing what's going to happen next in a story?
- When you're having trouble understanding a book, do you let your teacher know?
- What are some things you do to help yourself when you're having trouble understanding what you're expected to read?
- What are some things teachers do that help you understand your reading assignments?

Obtaining answers to these questions and others like them will help you see what strategies students use to construct meanings for text and to discover what kinds of strategic instruction would benefit your struggling readers.

Reading workshops. In her work with middle school students, Nancie Atwell (1998) has discovered that as a teacher she is "always beginning," an approach to teaching that indicates her readiness to look at her students and their work through fresh eyes. But she has a clear and structured curriculum to build her students' strengths as read-

ers. She has developed an organized and effective system to get to know her students, how they read, and how they feel about reading. In many ways, she exemplifies a diagnostic approach to teaching reading.

By looking carefully at what Atwell believes students often learn about reading from the lessons we teach in classrooms, she has made some memorable discoveries. Among the lessons that students have sometimes unintentionally learned are these:

- "Errors" in comprehension or interpretation will not be tolerated.
- There is one interpretation of a text: the teacher's (or the teacher's manual).
- Reading requires memorization and mastery of information, terms, definitions, and theories.
- Reading is a waste of class time.
- There's another kind of reading, an enjoyable, secret, satisfying kind you can do on your free time or outside of school.

As a teacher of English, Atwell had the opportunity to design instruction to radically change the way reading is taught and the way her students approach it. The radical vehicle she designed for that change is the reading workshop.

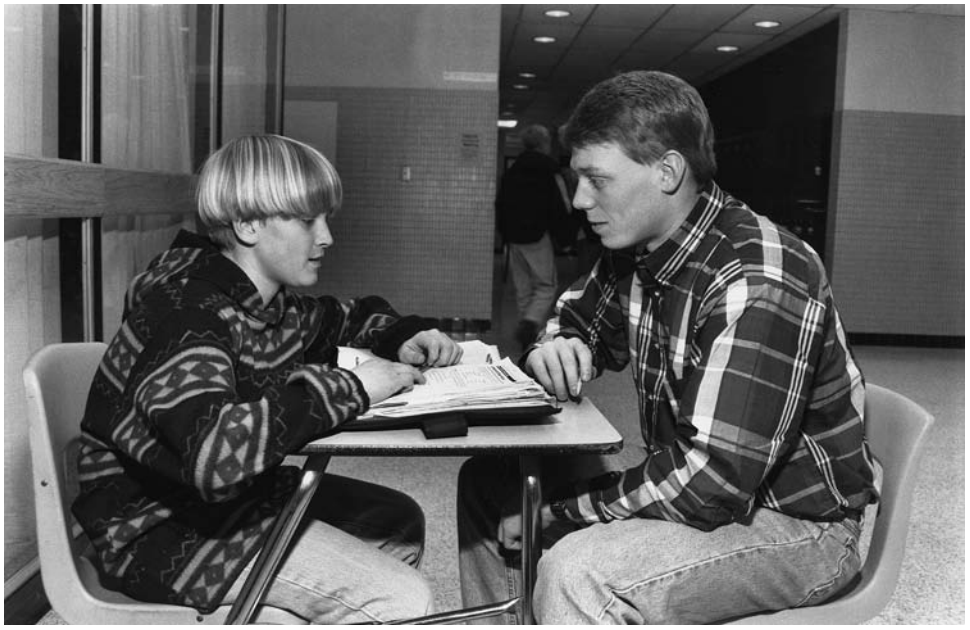
To prepare for these workshops, she asks herself a number of questions most content teachers and all diagnostically oriented teachers might benefit from asking themselves at the beginning of a school year:

- How do I talk with kids about their reading in ways that move them forward?
- How do I organize myself? How do I arrange to keep track of each reader's activity, accomplishments, problems, pace, and growth?
- How do I provide models of the kinds of reading I want kids to engage in?
- How do I assess students' reading so it reflects what I ask of them as readers, doesn't put them in competition with each other, and makes sense to them and to their parents?
- How can I use mini-lessons to advance students' learning?
- What behaviors do I want to see in the reading workshops? How do I encourage them? Which should I mandate?
- How and when do I demonstrate my experiences as a reader? To what ends?

Even before she begins teaching through the workshop approach, Atwell (1998) surveys her students to discover what she can about their experiences and attitudes as readers. She asks them how they learned to read, why they think people read at all, what it takes to be a good reader, what kinds of books they like, how they decide which books they will read, how often they read at home, and how they feel about reading. After giving these surveys during the first week of school, she reads them over, highlights features important to reading, and begins to get to know her kids.

Portfolio Assessment in Content Area Classrooms

What are portfolios? For diagnostic teaching, portfolios provide an extraordinary means of discovering how each of your students reads, writes, thinks, and grows. Furthermore, portfolio assessment encourages your students to look more carefully at their own work and reflect upon it. Basically, a portfolio is a collection of work. But that collection of work can be selected, organized, analyzed, and reviewed so that it provides a kaleidoscopic as well as microscopic view of each student's engagement in content area learning. The portfolio can reveal how much work your



students are doing, how well they are doing it, what kinds of help they need to progress, and how they conceptualize their own progress. Moreover, thoughtful observation of students' portfolios can guide productive classroom instruction because, as you perceive your students' learning needs, you can formulate plans to address them. Those diagnostically responsive plans could include individual instruction, cooperative learning teams, mini-lessons, or whole-class teaching.

Benefits and limitations of portfolios. In comparison with standardized, formal testing, portfolios have several distinctive advantages. While standardized tests are one-shot, often high stakes performances, portfolios allow on-going assessment. Standardized tests often communicate a formal judgment about one-time outcomes rather than a developmental perspective over time. With standardized tests, goals for improving performance are more removed from immediate classroom achievement. With portfolios, your goals for improvement are formed on the basis of immediate prior classroom accomplishments. While standardized test results rarely provide direct information to you or your students about what could be done to improve performance, portfolios provide avenues for clear and direct intervention. After taking a standardized test, students are given a score, perhaps one that is machine generated and printed out. With portfolios, your students can assess their own achievement and progress. They must be accountable to their own sources of evidence. When formal, standardized tests are used to assess students' learning and achievements, the tests may not be directly aligned with your classroom teaching. However, the content of your students' portfolios reflects directly your standards and your classroom teaching practices.

However, portfolios have their drawbacks in comparison with formal testing. To gain validity and increase reliability, portfolio scoring requires the development of rubrics or scoring guides. Reading the content of the portfolio and scoring that content, usually with rubrics, takes patience and time. Even by using rubrics and exercising patience, standardized tests usually have greater statistical validity and reliability. Furthermore, standardized tests are often easier to administer and definitely easier to score.

Using portfolios in the content area to examine student work. What goes into a student's portfolio? Although portfolios can function as showcases for your students' best works, their value as an assessment tool resides in their allowing both you and your students to examine individual student work emerging from classroom assignments. To fulfill their function as mirrors of students' reading, writing, and thinking in a content area, you must decide what materials will reflect your students' learning achievements, progress, and problems. The choices are many: homework assignments, quizzes, tests, a graph of grades received, reading logs, learning logs, responses to readings, lab reports, questionnaires, notes on lectures, responses to discussions, drafts of papers from first to last revision showing progression of thought and organization, letters to you from your students and from you to your students.

You and your students can examine individual items, such as an essay, to identify strengths, areas of growth, and specific needs for further development. When you have a writing conference with a student, both of you can look over the student's work to identify those specific aspects of writing that need to be addressed for the student writer to progress. If a problem in writing, such as pronoun-antecedent agreement, troubles only one of your students, you can reach out to that particular student and help her address it in her writing. If the problem troubles many of your students, you can design a mini-lesson for the whole class that addresses that weakness. (See Chapter 6 on mini-lessons.) What I've described is how I've used portfolios when teaching eleventh graders in English. However, portfolios can be used in similar ways to diagnosis and design instruction for students in math, science, social studies, or other content area classes.

Linnea Dahl, an English teacher in an arts "magnet" high school (Los Angeles County High School for the Arts), asked her seniors near the end of their high school careers to reflect on portfolios of work that they kept all year. She designed a series of three lessons that included a reflective essay on their portfolios and their evaluation.

For the first assignment, Linnea asked her students to complete a planning sheet that included several tasks. She asked students to select the best six assignments in their portfolios and rank them. Any written assignments they turned in during the year that had more than five mistakes had to be revised. She also asked them to reflect on any other written work they had done throughout high school, including any pieces they had published. She then asked them to "Look at what you have to work with. What is your initial reaction?" Students were to compose a "freewrite" focused on what their portfolio said to them about who they were as seen through their written work in high school.

For the second assignment, Linnea's seniors had to examine and write about all the writing in their class portfolio. They could also include material from other sources. To help them plan a reflective essay on their history as a writer, she composed another planning sheet. In it she explained that the portfolio essay should "delve into the person that the writing has come from" and be a comparison between early and more recent efforts. Explicit prompts called out for students to

- Describe how they saw themselves as writers earlier in high school and "what kind of writer you are now."
- Target areas of specific improvement and areas where they still lacked confidence.
- Examine ways their personalities influenced their writing.
- Define future writing challenges and how they will be met.

- Identify what they would like someone to "really see or understand" about their writing.

She gave them two weeks to complete the essay and asked them to express how they honestly felt about writing.

The third assignment was an independent evaluation of their essays. Earlier Linnea and her students developed a criteria chart that she used to prepare a rubric or scoring guide. Using that rubric, students had to assess their work, give themselves a grade, and (with reference to the rubric) explain how they arrived at that grade. Linnea, using the same rubric, also evaluated their portfolios and met with them when differences in ratings arose. She added her perceptions of their writing and its development that they may have overlooked. Linnea decided to use this portfolio evaluation process in lieu of a final examination grade.

In response to this assignment, one of her seniors wrote the following:

> Throughout most of high school I wrote papers in the standard, simple format for the sole purpose of getting a grade. There was no personal flair to them and they did not reflect my personality, but I found this acceptable since I had little attachment to the assignment. I told myself that if the paper was only for class and therefore was of no particular significance to me, then it was alright (sic) for me to do a mediocre job. I never felt satisfied with these papers. I was timid and embarrassed to turn them in because I knew that, despite there (sic) adequate outward appearance, they were not work I could honestly be proud of.
>
> My analytical/academic writing is the most obvious example of how my uncommitted feelings influence my work. I have always wanted to write well, but I was not willing to put my heart into the writing. The essay I wrote on *Slaughterhouse Five* is a good example of my writing, not at its worst, but far from its most stimulating. It is not always clear what I am talking about and although there are sections of inspired thought when it seems that there is a real connection or realization taking place, such as in the last paragraph, those tidbits are few and far between. Writing analysis of books is not difficult for me since I am generally perceptive to themes and subtleties in writing, but I am still searching for a way to make the process of writing, and the subsequent paper, more interesting and alive.
>
> My more inspired writing comes when I am involved in a more creative pursuit, such as playwriting. The new morning elective playwriting class has been such an inspirational experience for me and has allowed me to discover a wonderful new way with which to express myself. . . .

The writer goes on to describe a couple of his plays that show how he is moving toward a "more defined personal style." This activity not only allowed Linnea's students to explore the development of their writing, it also gave them an opportunity to explore aspects of their identities, who they are, and who they are becoming in terms of evolving literacies.

Portfolios and the student-led conference. Portfolios can also be the engines that power student-led conferences. A student-led conference is a meeting at school between a student and parent or other adult over course work kept in a portfolio (Austin, 1994). Student-led conferences have many benefits:

- Students must be responsible and accountable to themselves, their teachers, and their parents,
- Students communicate course curriculum and expectations to their parents,
- Students must keep track of their work and its progress,
- Students have to organize and maintain a portfolio of their work,
- Students review the portfolio's documents and write periodic self-evaluations,
- Students conduct conversations with their parents about their school work,
- Students must be ready to refer to evidence in their portfolio that supports claims they make about their academic progress as well as problems in learning, and
- Students construct learning goals that are based on their portfolio and conference and that are shared with the student's parent(s) and the teacher.

In summary, these benefits contribute to your students' becoming more self-regulated and motivated learners in all content area classrooms. Although student-led conferences have been more widely used in middle schools, their value in high school instruction has, I believe, often been overlooked. They can vitalize and deepen students' engagement.

But how can you build student-led conferences into your instructional plans? At the beginning of the school year, you should notify parents that their student will be maintaining a portfolio of work in your course and that parents will be invited to school so that their child can discuss the portfolio. You can notify parents at an open house or have each student write a letter home describing student-led conferences and explaining what their parents' role in them will be. In one way or another, parents learn that they will be meeting with their children at least twice during the school year to talk about the portfolio, its contents, and their child's progress.

What goes into portfolios for student-led conferences? One answer is *everything*. Another is to let the student decide. Yet another is what makes the student's work in the course look good. Still another is to include documents that show learning. None of these answers is ideal. Some teachers believe it is best to analyze their state or local standards, curriculum goals, instructional strategies, and assignments to determine which documents and data are to be included and the rationale for their inclusion. I believe that last solution, though requiring some decision making on your part, holds considerable promise for the success of student-led conference portfolios.

At the beginning of the course, you should let your students—as well as their parents—know what will be kept in the portfolio and how to maintain it. Knowing that the contents of the portfolio will be presented to parents often serves as a significant motivator for students—and as a focus of interest to parents. A list of standards and portfolio items that demonstrate their realization can be affixed to the file's inside front cover. Graphs of grades to track test and quiz performance could also be displayed. If desired, the portfolio could also include learning logs, letters (to teachers or other students about course material), attendance records, lecture notes, and more.

In preparation for a student-led conference, each of your students should

1. Review the work in the portfolio,
2. Write a report that covers the period under review, and
3. State a learning goal that will be evaluated as part of the next student-led conference and reasons for choosing it.

You can give your students specific questions to answer as part of their covering report. These questions can focus on specific kinds of work, like essays, logs, lab reports,

chapter tests, projects, cooperative team presentations, and the like. Documents in the portfolio then serve as evidence for claims about learning and performance that your students make in their reflections. The review and report then serve as a context for each student stating a learning goal and reasons for working toward its achievement.

Teachers using student-led conferences usually write letters to parents letting them know when the conference will be held and what aspirations the teacher and student have for the meeting. You can explain that you'll be available in the "conference room" for consultation should the need arise. In the letter, you can also provide some guidelines to parents that will help them understand how their responses to their student's work can have a positive, motivating effect. In addition, you may wish to have your students write a welcoming invitation to their parents to attend the student-led conference. And it's not a bad idea to include an RSVP with the student's invitation that will enable you to plan for refreshments or surrogate parents if required.

As orchestrators of student-led conferences, you will have to schedule times for parents to come to school. Most teachers schedule no more than 10 student-led conferences to be held in the same room simultaneously. The length of the conference depends on the amount of material to be reviewed. However, conferences usually run about 45 minutes or so. During the conference, you'll roam, troubleshoot, but (most importantly) shadow presentations to get a sense of how they are progressing.

Part of preparation for student-led conference day is practice. Students, even those having done conferences in the past, may need rehearsal time. Some teachers recommend using education students from a nearby college as rehearsal parents (Austin, 1994). In some classes where cooperative learning groups have been established and the climate is supportive, students could practice presenting their portfolio to another member of their co-op team. For the rehearsal, a list of procedures will help your students know and remember what steps they should take—from introducing parents to the teacher at the beginning to thanking parents for attending at the end. These directions can even be tailored to the specific content of key documents in the portfolio to make sure they are covered during the student-led conferences.

You are likely to have some students whose parent cannot attend the conference, and, of course, you'll wonder to whom the student can present their portfolio. Usually, teachers find other teachers or administrators to serve as parent surrogates during the student-led conferences. Ideally, teachers serving as parent surrogates have the student who will present the student-led conference as a student in their own classes. That way your colleague will learn much about how a student they are teaching is performing in other classrooms with other teachers. Such interactions can be quite enlightening for teachers.

After the student-led conference, you should plan to give your students an opportunity to debrief and discuss the event. Following the discussion, students benefit from writing a report that they give to you to read. The discussion and report can include the following:

- What went well,
- What needs some improvement,
- What the student got from the experience, and
- What the student thought the parents got from it.

The report can help you make decisions about modifications to the student-led conference process and lead students to consider how they might improve their next conference presentation. Of course, this concluding report gets filed in their portfolios.

Stephanie Pearson, a middle school teacher in Los Angeles, engages her students in after-conference reflections. One of her students, Grace, had a range of comments about how things went during the conference, what could have gone better, what she gained from the experience, and what she thought her dad gained. Grace felt the conference went well "because I felt that I was speaking a littler clearer to my father. Also, I explained about what I was doing in class. I felt I did an okay job explaining what it was we do in class." She felt things might have gone better "if maybe he wasn't in a rush to go home and work. Then I probably could of talked a little more." She wrote that she would have told him more about the process her class went through when writing essays. As for what she gained, Grace wrote that she thought she could have spoken "a little louder and clearer to my dad 'cause I don't talk a lot. Also it showed how much I knew about the class and what the goals and points of it were." She felt that the conference helped her dad get a "better understanding of what I'm doing in class and if I was doing good."

Reading Strategies Inventories

Two informal instruments to be reviewed in this section include a diagnostic reading series to gauge a student's comprehension skills and an inventory to measure metacognitive awareness of a student's reading strategies. The "Comprehensive Assessment of Reading Strategies" (Curriculum Associates, 1998) gives students opportunities to assess and practice their own comprehension skills. The "Metacognitive Awareness of Reading Strategies Inventory" or MARSI (Mokhtari & Reichard, 2002) is designed to evaluate students' awareness and use of reading strategies while reading content area texts.

Comprehensive assessment of reading strategies.

The "Comprehensive Assessment of Reading Strategies" (Curriculum Associates, 1998) provides feedback and practice for students, especially those in grades 6 through 8, on reading skills or objectives and feedback to teachers about student skill levels, information that can inform further instruction in reading. Although originally designed for use with students up to and through middle school, the series can be used to assess high school students' mastery of comprehension objectives, especially students who are delayed or struggling readers. Reading comprehension skills or objectives, as they are called in some standardized test programs, include summarizing, finding a word's meaning from its context, making inferences, recalling facts and details, understanding sequence, making predictions, comparing and contrasting, recognizing cause and effect, identifying an author's purpose, finding the main idea, and distinguishing between fact and opinion. Some of these objectives, such as finding the main idea, entail basic understanding of a text while others, such as comparing and contrasting, require analysis and evaluation that are forms of critical reading. The assessment consists of 10 reading selections accompanied by 12 questions, one for each comprehension skill. This diagnostic series can also help you design instruction to improve student performance by identifying strengths and weaknesses in student skills usually assessed on standardized reading tests.

Metacognitive awareness of reading strategies inventory.

The MARSI assesses reading metacognition of students in grades 6 through 12. While making students more aware of what they do when coping with content-area reading, MARSI helps teachers understand the instructional needs of their students. Mokhtari and Reichard identified three categories (or factors) into which their inventory items fell: Global

TABLE 3.8 Metacognitive Awareness of Reading Strategies Inventory (Version 1.0)

Directions: Listed below are statements about what people do when they read *academic* or *school-related materials* such as textbooks or library books. Five numbers follow each statement (1, 2, 3, 4, 5), and each number means the following:

- **1** means "I **never or almost never** do this."
- **2** means "I do this **only occasionally.**"
- **3** means "I sometimes do this" (about **50%** of the time).
- **4** means "I **usually** do this."
- **5** means "I **always or almost always** do this."

After reading each statement, **circle the number** (1, 2, 3, 4, or 5) that applies to you using the scale provided. Please note that there are **no right or wrong answers** to the statements in this inventory.

Type	Strategy	Scale				
GLOB	1. I have a purpose in mind when I read.	1	2	3	4	5
SUP	2. I take notes while reading to help me understand what I read.	1	2	3	4	5
GLOB	3. I think about what I know to help me understand what I read.	1	2	3	4	5
GLOB	4. I preview the text to see what it's about before reading it.	1	2	3	4	5
SUP	5. When text becomes difficult, I read aloud to help me understand what I read.	1	2	3	4	5
SUP	6. I summarize what I read to reflect on important information in the text.	1	2	3	4	5
GLOB	7. I think about whether the content of the text fits my reading purpose.	1	2	3	4	5
PROB	8. I read slowly but carefully to be sure I understand what I'm reading.	1	2	3	4	5
SUP	9. I discuss what I read with others to check my understanding.	1	2	3	4	5
GLOB	10. I skim the text first by noting characteristics like length and organization.	1	2	3	4	5
PROB	11. I try to get back on track when I lose concentration.	1	2	3	4	5
SUP	12. I underline or circle information in the text to help me remember it.	1	2	3	4	5
PROB	13. I adjust my reading speed according to what I'm reading.	1	2	3	4	5
GLOB	14. I decide what to read closely and what to ignore.	1	2	3	4	5
SUP	15. I use reference materials such as dictionaries to help me understand what I read.	1	2	3	4	5
PROB	16. When text becomes difficult, I pay closer attention to what I'm reading.	1	2	3	4	5
GLOB	17. I use tables, figures, and pictures in text to increase my understanding.	1	2	3	4	5
PROB	18. I stop from time to time and think about what I'm reading.	1	2	3	4	5
GLOB	19. I use context clues to help me better understand what I'm reading.	1	2	3	4	5
SUP	20. I paraphrase (restate ideas in my own words) to better understand what I read.	1	2	3	4	5
PROB	21. I try to picture or visualize information to help remember what I read.	1	2	3	4	5
GLOB	22. I use typographical aids like boldface and italics to identify key information.	1	2	3	4	5
GLOB	23. I critically analyze and evaluate the information presented in the text.	1	2	3	4	5
SUP	24. I go back and forth in the text to find relationships among ideas in it.	1	2	3	4	5
GLOB	25. I check my understanding when I come across conflicting information.	1	2	3	4	5
GLOB	26. I try to guess what the material is about when I read.	1	2	3	4	5
PROB	27. When text becomes difficult, I reread to increase my understanding.	1	2	3	4	5
SUP	28. I ask myself questions I like to have answered in the text.	1	2	3	4	5
GLOB	29. I check to see if my guesses about the text are right or wrong.	1	2	3	4	5
PROB	30. I try to guess the meaning of unknown words or phrases.	1	2	3	4	5

Scoring Rubric

Student name: _____ Age: _____ Date: _____

Grade in school: ❑ 6th ❑ 7th ❑ 8th ❑ 9th ❑ 10th ❑ 11th ❑ 12th ❑ College ❑ Other

1. Write your response to each statement (i.e., 1, 2, 3, 4, or 5) in each of the blanks.
2. Add up the scores under each column. Place the result on the line under each column.
3. Divide the subscale score by the number of statements in each column to get the average for each subscale.
4. Calculate the average for the whole inventory by adding up the subscale scores and dividing by 30.
5. Compare your results to those shown below.
6. Discuss your results with your teacher or tutor.

Global Reading Strategies (GLOB subscale)	**Problem-Solving Strategies (PROB subscale)**	**Support Reading Strategies (SUP subscale)**	**Overall Reading Strategies**
1. _____	8. _____	2. _____	GLOB
3. _____	11. _____	5. _____	PROB
4. _____	13. _____	6. _____	SUP
7. _____	16. _____	9. _____	
10. _____	18. _____	12. _____	
14. _____	21. _____	15. _____	
17. _____	27. _____	20. _____	
19. _____	30. _____	24. _____	
22. _____		28. _____	
23. _____			
25. _____			
26. _____			
29. _____			
_____ GLOB score	_____ PROB score	_____ SUP score	_____ Overall score
_____ GLOB mean	_____ PROB mean	_____ SUP mean	_____ Overall mean

Key to averages: 3.5 or higher = high 2.5–3.4 = medium 2.4 or lower = low

Interpreting your scores: The overall average indicates how often you use reading strategies when reading academic materials. The average for each subscale of the inventory shows which group of strategies (i.e., global, problem solving, and support strategies) you use most when reading. With this information, you can tell if you score very high or very low in any of these strategy groups. Note, however, that the best possible use of these strategies depends on your reading ability in English, the type of material read, and your purpose for reading it. A low score on any of the subscales or parts of the inventory indicates that there may be some strategies in these parts that you might want to learn about and consider using when reading.

Source: Metacognitive Awareness of Reading Strategies Inventory (Version 1.0) by Mokhtari and Reichard, from "Assessing students metacognitive awareness of reading strategies" in *Journal of Educational Psychology, 94* (2), 249–259. Copyright © 2002 by the American Psychological Association. Reprinted with permission.

Reading Strategies, Problem-Solving Strategies, and Support Reading Strategies. Global Reading Strategies include setting a purpose for reading, activating prior knowledge, and skimming to note text structure. Problem-Solving Strategies include adjusting reading rates, rereading, and visualizing information presented. Support Reading Strategies include taking notes while reading, underlining, and asking self questions. The inventory itself, including information about the category to which each strategy belongs and a scoring rubric, is in Table 3.8.

Categories of Adolescent Readers

With our cognitive model, a battery of reading assessment tools, and ample research on struggling as well as skilled readers (Beers, 1998; Hacker, 1998; Spear-Swerling & Sternberg, 1996), we can now identify several categories of readers you are likely to find in many of your classrooms. (See Table 3.9.) These categories range from nondecoders who have little, if any, alphabetic knowledge and little, if any, knowledge of letter–sound correspondences to highly proficient readers who can integrate ideas and information from many genres, make meaning from texts with challenging syntax and rhetorical devices, and comprehend specialized content.

I did not design this system of categories to serve as a classification system that identifies the underlying cause of a student's reading problem. We often can't diagnose specifically what has caused the condition we encounter in struggling readers. Causal factors are frequently so complex and interactive that attribution to a specific cause or even a constellation of causes is an impossible dream. So these categories are based on symptoms that struggling readers present. However, discovering your struggling readers' symptoms is likely to give you some hints about possible causes that we can visualize and understand with reference to our cognitive model of reading. Having some idea of the possible causes provides us with the potential to apply sensible interventions that stand a reasonable chance for improving reading.

Who Can Be Helped and How?

Most struggling readers who fit in the categories described in Table 3.9 can be helped with appropriate interventions, such as programs that build phonological processing, word recognition, and strategic knowledge and skills. Slow comprehenders may benefit from activities that increase automaticity, such as learning sight-words, and abundant practice in reading. Students lacking topic knowledge can be provided with information that facilitates comprehension. However, some struggling readers who also fit these categories are less likely to respond to appropriate instruction because of underlying limits, such as deficits in working memory and phonological processing problems that may be biologically based (Stanovich, 1990; Stanovich & Siegel, 1994).

Students with monitoring and control problems can be helped with activities that build metacognitive skills and strategies. Lacking the ability to detect comprehension problems, struggling under an illusion of knowing, or failing to activate strategies to repair reading problems can sometimes be improved through strategies like reciprocal teaching or collaborative reading.

Students in the "Disengaged" category who are unmotivated or uncommitted to reading, who do not see themselves as readers, and who even have negative attitudes toward those who do read may have disconnected because they had few enjoyable experiences with reading as young children. Beers (1998) found that children with negative attitudes toward reading had parents who read to them infrequently and for short periods of time. They remembered few, if any, enjoyable reading experiences. None the less, students with positive attitudes toward reading could remember many enjoyable and worthwhile reading episodes with their parents. Beers also found that even reluctant readers with quite negative attitudes can become more engaged in reading if they can:

TABLE 3.9 Categories of Adolescent Readers

1. *Non-Decoders or Weak Decoders:* Non-alphabetic readers who have not grasped the alphabetic principle that each speech sound has a graphic representation; very impaired reading comprehension and word recognition; little letter–sound or phonological knowledge; profound spelling difficulty.
2. *Compensatory Readers:* Grasp alphabetic principle; impaired word recognition and reading comprehension; limited orthographic and phonological knowledge; use sight-words and sentence context to compensate for lack of phonological knowledge; significant spelling difficulty.
3. *Slow Comprehenders or Non-Automatic Readers:* Accurate but non-automatic, effortful word recognition; naming-speed correlated with slowness in word recognition; lack of practice reading also contributes; use sentence context to help with word recognition; impaired reading comprehension; significant spelling difficulty.
4. *Delayed Readers:* Slow acquisition of automatic word recognition skills; few comprehension strategies, lack awareness of text organization; impaired reading comprehension; lag behind others of similar age; some difficulty with spelling; attribute problems with reading to ability ("stupid") rather than to lack of effort; thus, use fewer strategies; questions arise about cause of strategy deficits.
5. *Readers with Monitoring Difficulties:* Fail to monitor comprehension; experience "illusions of knowing"; root of monitoring difficulty may lie in one or more of the following areas (Hacker, 1998):
   - Lack linguistic or topic knowledge to detect dissonance,
   - Have linguistic and topic knowledge but lack monitoring strategies,
   - Have knowledge and strategies but lack conditional knowledge about when and where to apply them,
   - Comprehension and/or monitoring demand too much of readers' memory and other resources, and
   - Lack motivation to engage in monitoring.
6. *Readers with Control Difficulties:* Fail to execute control over perceived breakdowns in reading process; root of control difficulty may lie in one or more of the following areas (Hacker, 1998):
   - Lack knowledge needed to control problems monitored,
   - Have knowledge needed to control problems but lack strategies to apply their knowledge,
   - Have strategies for application but lack conditional knowledge about when and where to apply them,
   - Comprehension and/or control demand too much of readers' memory and other resources, and
   - Lack motivation to engage control resources.
7. *Readers Lacking Specific Topic Knowledge:* Decode but trouble making meaning because of weak topic knowledge in particular domain, including vocabulary, specifically in relation to subject of current reading; these readers may attain proficiency in some topic domains.
8. *Sub-Optimal Readers:* No problems with word recognition; limited repertoire of basic comprehension strategies; few higher-level language skills/strategies, such as knowledge of different genre, syntax sophistication, grammar mastery; adequate spelling skills.
9. *Disengaged or Inactive Readers:* Have adequate to advanced knowledge base, skills, and strategies but lack motivation or sufficient degree of connection with schooling to read; don't make time in their schedules for reading; may also be seen as disaffiliated or disidentified readers.
10. *English Learners:* Includes students in "immersion" programs, English as a Second Language programs; Bilingual programs; programs using specially designed academic instruction in English techniques.
11. *Advanced, Highly Proficient Readers:* See qualities of good readers that begins Chapter 2.

- Choose their own books,
- Select books with lots of illustrations,
- See a movie based on the book and then read it,
- Have books read aloud to them, and
- Respond to reading books by creating art works.

Additional strategies to engage struggling readers may be found in Chapter 10, which focuses on motivation to read in content area classes.

In any case, we need to carefully evaluate our students to determine the full range of their reading strengths and problems. In some instances, you will be able to evaluate your students with activities and instruments described and explained in this chapter. Other students with profound reading problems may require a thorough evaluation by trained reading specialists, special education teachers, or school psychologists to discover the strengths, weaknesses, and appropriate educational programs for those students.

Assessing Texts: Readability and Accessibility

No matter how much you learn about your students' reading skills and attitudes, you'll still need to evaluate the books you are going to ask your students to read. If you don't evaluate the books you expect them to read, you may be presenting your students with reading that is far too difficult, too easy, too "inconsiderate," too inaccessible, or simply too unfriendly. Our purpose is to work toward a good fit between students and the texts to be read. Instruments available to help us engage in that evaluation include readability formulas, cloze tests, and text evaluation scales.

Readability Formulas

What features would help us to determine a text's level of reading difficulty? Should we depend on the text's engagingness, its predictability, its decodability, its text structure, the number of unfamiliar words in it, its content or ideas or themes, or perhaps its literary elements? The determination of text difficulty presents teachers, text makers, standards writers, and curriculum developers with significant challenges.

Readability formulas, which were used throughout most of the twentieth century to determine grade-level difficulty, usually depend upon two primary variables to determine a grade-level score: sentence length and word difficulty. The grade-level score tells us what level of reading achievement a student should have to successfully comprehend the text. If the calculation for a specified text yields a score of 10, students should supposedly be able to read at the tenth-grade level in order to understand the text. However, several important variables that predict reading difficulty or ease are not included in readability formulas.

Readability formulas spit out narrow, specific numbers. However, you'll be wise to think of those grade-level numbers as elastic measures, loosely calibrated. You should not assume that a student reading at the tenth-grade level on a standardized reading test could easily comprehend a content area text written at the tenth-grade level according to a readability formula. Too many critical variables are either questionably represented in the formulas or entirely left out of them. That is why educators have tried to find other methods of establishing text difficulty (Hiebert, 2002).

Among the variables questionably represented in readability formulas are sentence length and word difficulty, their two main components. The reason that sentence length is not always a good predictor of grade-level complexity is that short sentences may be difficult to understand if their structure and content is complex: "To be or not to be, that is the question." However, long sentences could be quite

easy to follow if their structure and meaning is quite simple. Furthermore, word length does not always correspond to level of difficulty. Take the short words *epic, protist,* or *value*. Each is two syllables, but each is quite complex in meaning. Longer words, however, might not be so challenging, even to younger readers: *Disneyland*, *gymnasium*, *Mississippi*, *auditorium*, *portfolio*.

Among the variables not represented at all are background knowledge, paragraph structure, level of abstraction, and reader interest in a topic. Whether or not a reader has background knowledge to activate in response to a text can strongly influence level of comprehension. For example, readers having lots of background knowledge about biology may have no problem whatsoever with the word *protist,* while a student with little biology background would be left guessing.

Paragraphs that have clear topic sentences and that are clearly developed are usually far easier to comprehend than paragraphs with implied topic sentences and ambiguous development. E. M. Forster, the English author of *Aspects of the Novel* and *A Passage to India,* struggled to make his sentences and paragraphs models of clarity. Other authors, like the English romantic poet Coleridge, believed that readers should have to be willing to work to get an author's meaning. Of course, a reader's work might pay off in the quality of understanding gained.

Highly abstract texts with few, if any, vivid examples or illustrations that evoke visual imagery are often far more difficult to comprehend than texts with examples that excite visual imagery. Some philosophical texts, for example, are quite difficult to read because they treat abstract metaphysical problems and may have few examples that make their import graphically clear.

Lastly, reader motivation can significantly affect comprehension. At risk of gender stereotyping, I would suggest that an adolescent girl faced with a text in which she may have little or no interest, such as *Car and Driver* magazine or *A Military History of the Napoleonic Wars,* could find reading the text to be an uphill march, whereas *Seventeen* or Alcott's *Little Women* may be more engrossing.

The Fry Readability formula. Keeping these limitations in mind, let's take a look at one of the most popular readability formulas, namely the Fry Readability Graph (Fry, 1977). Designed to measure the grade level of a text from grade 1 through college, the Fry depends upon only sentence length and word length in 100-word passages. Instead of using only one passage of 100 words to determine grade level, Fry suggests using three and calculating an average. Fry claims that his readability graph predicts text difficulty within one grade level.

STEP-BY-STEP: *Calculating Readability with Fry's Formula*

Fry (Fry, Kress, & Fountoukidis, 2000) provides the following directions for calculating the difficulty level of a text:

STEP 1. Randomly select three sample passages and count out exactly 100 words beginning with the beginning of a sentence. Count proper nouns, initializations, and numerals.

STEP 2. Count the number of sentences in the hundred words estimating length of the fraction of the last sentence to the nearest one-tenth.

STEP 3. Count the total number of syllables in the 100-word passage. If you don't have a hand counter available, an easy way is to put a mark above every syllable over one in each

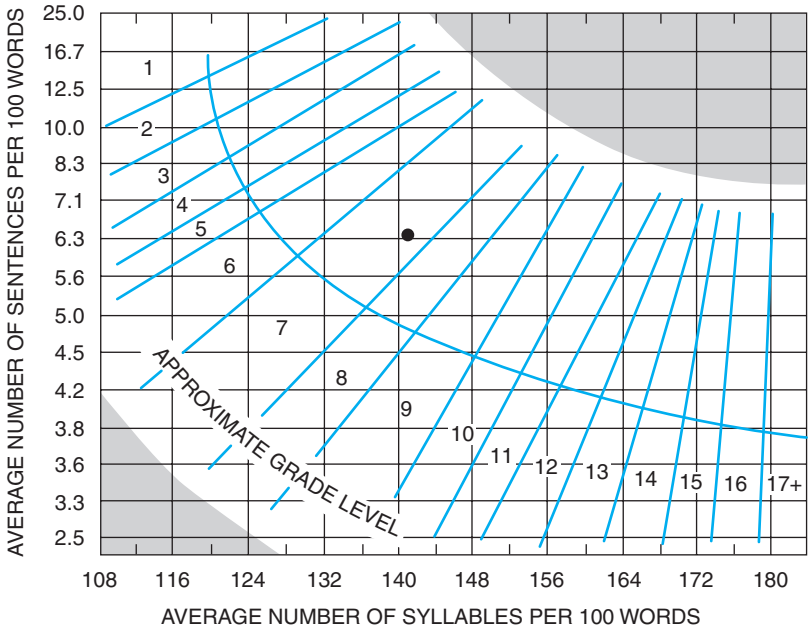


FIGURE 3.4 Graph for Estimating Readability—Extended.

Source: "Fry's Readability Graph: Clarifications, validity, and extension to Level 17," *Journal of Reading, December 1977, 21* (3), p. 249.

word, and then when you get to the end of the passage, count the number of marks and add 100. Small calculators also can be used as counters by pushing numeral "1," then push the "+" sign for each word or syllable when counting.

STEP 4. Enter on a graph the *average* sentence length and *average* number of syllables; plot a dot where the two lines intersect. The areas where a dot is plotted will give you the approximate grade level. (See Figure 3.4.)

STEP 5. If a great deal of variability is found in syllable count or sentence count, putting more samples into the average is desirable.

STEP 6. A word is defined as a group of symbols with a space on either side; thus, "Joe," "IRA," "1945," and "&" are each one word.

STEP 7. A *syllable* is defined as a phonetic syllable. Generally, there are as many syllables as vowel sounds. For example, *stopped* is one syllable and *wanted* is two syllables. When counting syllables for numerals and initializations, count one syllable for each symbol. For example, "1945" is four syllables, "IRA" is three syllables, and "&" is one syllable.

The worksheet in Table 3.10 outlines the procedure for calculating the score based on the number of sentences and the number of syllables in each of three 100-word passages.

Cloze tests. Cloze procedures have several uses: (a) to determine the readability of a passage, (b) to test a student's reading ability for placement, and (c) to teach comprehension strategies or review content knowledge. Our primary purpose here is to understand how the cloze test can be used to determine the readability of a text or an estimate of how competently a student can read a given text.

Cloze tests, originally conceived by Taylor (1953), work because of our mind's tendency to create closure. This propensity to create visual as well as verbal closure ap-

TABLE 3.10 Fry Readability Graph Worksheet

	Number of Syllables	Number of Sentences
Passage 1 (page:)	_____	_____
Passage 2 (page:)	_____	_____
Passage 3 (page:)	_____	_____
Totals	_____	_____
	(Divide totals by 3.)	
Average	_____	_____
(Enter averages on graph to plot intersection.)		
Grade Level (+ or – 1)		_____

pears to be founded in what German psychologists referred to as gestalts or forms that we perceive in our environment. In verbal contexts, we want to close in blank gaps with meaningful words. How well we close in those gaps depends on our background knowledge and facility with language. As readers interact with a text that has words missing, those readers often think of words that fit the author's meaning exactly. In fact, authors who fill in blanks systematically in their own writing do so at a statistically higher rate than competent readers, a discovery that has been used to detect plagiarism.

STEP-BY-STEP: *How to Administer a Cloze Readability Test*

When using the cloze procedure to determine text readability, you can take the following steps to prepare, administer, score, and interpret it.

STEP 1. Preparation

1.1. Select two passages of about 300 words from a text that your students have not yet read but will be assigned. Two passages are chosen to increase the accuracy of the procedure.

1.2. For each passage, leave the first sentence as written. However, starting with the second sentence, you should delete each fifth word and put in a blank space about 10 to 15 spaces in length. Delete exactly 50 words but retain the last sentence as written. A sample cloze passage appears in Figure 3.5.

STEP 2. Administration

2.1. Begin by asking students to read over the entire passage first.

2.2. Then, ask them to go back and fill in each blank with the word they believe was deleted.

2.3. If students have problems filling in a word, tell them to skip it, complete the rest of the passage, and return to the blank for another try.

2.4. The test is not timed.

2.5. A short practice test helps to prepare students for the actual testing.

2.6. While some students experience cloze testing as an entertaining and challenging puzzle, others may find it quite frustrating and require some encouragement.

STEP 3. Scoring

3.1. When scoring the cloze test, only exact words replaced are correct.

3.2. Correct spelling of replaced words is not required.

3.3. To calculate percent of correct words, divide 50 into the total number of correctly replaced words. If Cynthia replaced 30 words correctly, her score would be 60%.

3.4. When using two passages to increase accuracy, the percentages of correctly replaced words for each passage are averaged. If Cynthia got 60% on the first passage and 68% on the second, her average would be 64%.

STEP 4. Interpretation

4.1. Criteria for determining reading levels were developed by Bormuth (1968):

Percentage Correct	Reading Level
57% or more	Independent level
44–57%	Instructional level
Below 44%	Frustration level

4.2. Students scoring over 57% can probably read and understand most of the tested text on their own.

4.3. Students scoring between 44 and 57% can probably read the material tested with supportive teaching of vocabulary, comprehension strategies, and study guidelines.

4.4. Students scoring below 44% will probably have so much difficulty with the tested text that you will have to find alternative texts or methods of teaching the content knowledge you want those students to learn.

Benefits and limitations of cloze testing. On the benefits' side, cloze tests are relatively easy to prepare, administer, and score. They can help you get a rather quick fix on how each of your students is likely to engage and comprehend specific content texts. That's more than you'll get after calculating a readability formula for a textbook. Although the cloze procedure remains controversial, researchers (Shanahan & Kamil, 1984) have found fairly high correlations (.6 to .8) between cloze tests and standardized reading comprehension tests using multiple-choice items. For determining students' reading levels, Cziko (1983) demonstrated that these tests are valid and reliable measures.

However, cloze tests tell us very little, if anything, about our students' capacity for higher-order thinking in the form of interpretive or inferential comprehension. Many standardized reading tests assess that form of comprehension, as do most IRIs.

In addition, many students get quite frustrated when taking a cloze test. I've even heard many teachers in credential programs complain of their frustration when I've asked them to complete a cloze test on a text that's being used in a teacher preparation program. Middle and high school students may need substantial encouragement and a clear message that their performance on the "test" will not be averaged into their course grade!

Friendly Text Evaluation Scale

There are dimensions of texts that none of the more traditional instruments we've covered manage to measure. For example, how accessible is the text to its readers? Henry Singer (1992) developed a scale to help educators determine the "friendliness"

Your dermis also has tiny muscles that are attached to the hairs in your skin. When you are cold _1_ afraid, the muscles contract, _2_ the hairs upright. This _3_ process happens in the _4_ of other mammals. The _5_ of a cat, for _6_ , will stand up when _7_ cat is threatened by _8_ dog, making the cat _9_ larger and more dangerous. _10_ the cat is cold, _11_ fur fluffs up and _12_ more air near its _13_. Because trapped air is _14_ good insulator, this _15_ the cat stay warm. _16_. muscles in your skin _17_ just like those of _18_ cat. However, because you _19_ have fur, you just _20_ goose bumps—a leftover _21_ our evolutionary past.

_22_ skin, like all other _23_ parts of your body, _24_ nourishment to live. This _25_ is supplied by blood _26_ courses through tiny blood _27_ in the dermis. In _28_ to carrying nutrients, the _29_ in these vessels carries _30_ waste products and helps _31_ body temperature. Blood radiates _32_ into the air as _33_ passes near the surface _34_ the skin. If your _35_ becomes too hot, the _36_ blood vessels enlarge, allowing _37_ blood to flow through _38_ dermis near the body _39_. This increased flow of _40_ is easy to see _41_ light-skinned people as their _42_ becomes reddish during strenuous _43_.

Sweat is another way _44_ your body removes excess _45_. Your skin contains _46_ 100 sweat glands per _47_ centimeter. The evaporation of _48_ from the surface of _49_ skin removes heat much _50_ efficiently than simply radiating heat from the blood into the air. Without sweat, you would have great difficulty cooling your body on a hot day or after exercising.

FIGURE 3.5 Sample Cloze Passage.

Source: Excerpt from *Holt Biology: Visualizing Life,* by G. B. Johnson. Copyright © 1994 by Holt, Rinehart and Winston. Reprinted by permission of the publisher.

of a text. His Friendly Text Evaluation Scale can help you focus on a text's organization, consistency, and cohesiveness as well as on its capacity to explain concepts clearly. This Friendly Scale also includes several items focusing on a text's instructional devices, their variety, and their effectiveness. Information of this kind provides a different view of texts from those generated by readability formulas and cloze tests. The entire Friendly Text Evaluation Scale is present in Table 3.11.

After reading this text book, I invite you to apply the "Friendly Text Evaluation Scale" to these pages. And I hope you and your instructor will let me know what needs to be done to improve the book's accessibility.

DOUBLE-ENTRY JOURNAL: After Reading

Companion Website

Go to the Double-Entry Journal for Chapter 3 on our Companion Website at www.prenhall.com/unrau to complete your journal entry.

Having read this chapter, how would you modify (if at all) your plan to evaluate the reading performance of students at the beginning of a new class? Besides evaluating your students' reading levels, how would you approach teaching "diagnostically" in your content area? What benefits would you expect to gain from that approach?

TABLE 3.11 Friendly Text Evaluation Scale

Directions: Read each criterion and judge the degree of agreement or disagreement between it and the text. Then circle the number to the right of the criterion that indicates your judgment.

1. SA = Strongly Agree
2. A = Agree
3. U = Uncertain
4. D = Disagree
5. SD = Strongly Disagree

I. Organization	SA	A	U	D	SD
1. The introductions to the book and each chapter explain their purposes.	1	2	3	4	5
2. The introduction provides information on the sequence of the text's contents.	1	2	3	4	5
3. The introduction communicates how the reader should learn from the text.	1	2	3	4	5
4. The ideas presented in the text follow a unidirectional sequence. One idea leads to the next.	1	2	3	4	5
5. The type of paragraph structure organizes information to facilitate memory. For example, objects and their properties are grouped together so as to emphasize relationships.	1	2	3	4	5
6. Ideas are hierarchically structured either verbally or graphically.	1	2	3	4	5
7. The author provides cues to the way information will be presented. For example, the author states: "There are five points to consider."	1	2	3	4	5
8. Signal words (conjunctions, adverbs) and rhetorical devices (problem–solution, question–answer, cause–effect, comparison and contrast, argument–proof) interrelate sentences, paragraphs, and larger units of discourse.	1	2	3	4	5
Discourse consistency					
9. The style of writing is consistent and coherent. For example, paragraphs, sections, and chapters build to a conclusion. Or they begin with a general statement and then present supporting ideas. Or the text has a combination of these patterns. Any one of these patterns would fit this consistency criterion.	1	2	3	4	5
Cohesiveness					
10. The text is cohesive. That is, the author ties ideas together from sentence to sentence, paragraph to paragraph, chapter to chapter.	1	2	3	4	5
II. Explication	**SA**	**A**	**U**	**D**	**SD**
11. Some texts may be read at more than one level, (e.g., descriptive vs. theoretical). The text orients students to a level that is appropriate for the students.	1	2	3	4	5
12. The text provides reasons for functions or events. For example, the text, if it is a biology text, not only lists the differences between arteries and veins but also explains why they are different.	1	2	3	4	5
13. The text highlights or italicizes and defines new terms as they are introduced at a level that is familiar to the student.	1	2	3	4	5
14. The text provides necessary background knowledge. For example, the text introduces new ideas by reviewing or reminding readers of previously acquired knowledge or concepts.	1	2	3	4	5
15. The author uses examples, analogies, metaphors, similes, personifications, or allusions that clarify new ideas and make them vivid.	1	2	3	4	5

16. The author explains ideas in relatively short active sentences.	1	2	3	4	5
17. The explanations or theories that underlie the text are made explicit (e.g., Keynesian theory in Samuelson's economic text, Skinner's theory in Bijou and Baer's *Child Development,* behavioristic or gestalt theories in psychology texts).	1	2	3	4	5
III. Conceptual Density	**SA**	**A**	**U**	**D**	**SD**
18. Ideas are introduced, defined, or clarified, and integrated with semantically related ideas previously presented in the text and examples given before additional ideas are presented.	1	2	3	4	5
19. The vocabulary load is appropriate. For example, usually only one new vocabulary item per paragraph occurs throughout the text.	1	2	3	4	5
20. Content is accurate, up-to-date, and not biased.	1	2	3	4	5
IV. Metadiscourse	**SA**	**A**	**U**	**D**	**SD**
21. The author talks directly to the reader to explain how to learn from the text. For example, the author states that some information in the text is more important than other information.	1	2	3	4	5
22. The author establishes a purpose or goal for the text.	1	2	3	4	5
23. The text supplies collateral information for putting events into context.	1	2	3	4	5
24. The text points out relationships to ideas previously presented in the text or to the reader's prior knowledge.	1	2	3	4	5
V. Instructional Devices	**SA**	**A**	**U**	**D**	**SD**
25. The text contains a logically organized table of contents.	1	2	3	4	5
26. The text has a glossary that defines technical terms in understandable language.	1	2	3	4	5
27. The index integrates concepts dispersed throughout the text.	1	2	3	4	5
28. There are overviews, proposed questions, or graphic devices such as diagrams, tables, and graphs throughout the text that emphasize what is to be learned in the chapters or sections.	1	2	3	4	5
29. The text includes marginal annotations or footnotes that instruct the reader.	1	2	3	4	5
30. The text contains chapter summaries that reflect its main points.	1	2	3	4	5
31. The text has problems or questions at the literal, interpretive, applied, and evaluative levels at the end of each chapter that help the reader understand knowledge presented in the text.	1	2	3	4	5
32. The text contains headings and subheadings that divide the text into categories that enable readers to perceive the major ideas.	1	2	3	4	5
33. The author provides information in the text or at the end of the chapters or the text that enables the reader to apply the knowledge in the text to new situations.	1	2	3	4	5
34. The author uses personal pronouns that makes the text more interesting to the reader.	1	2	3	4	5

SCORE TOTALS _____

Add the numbers circled.

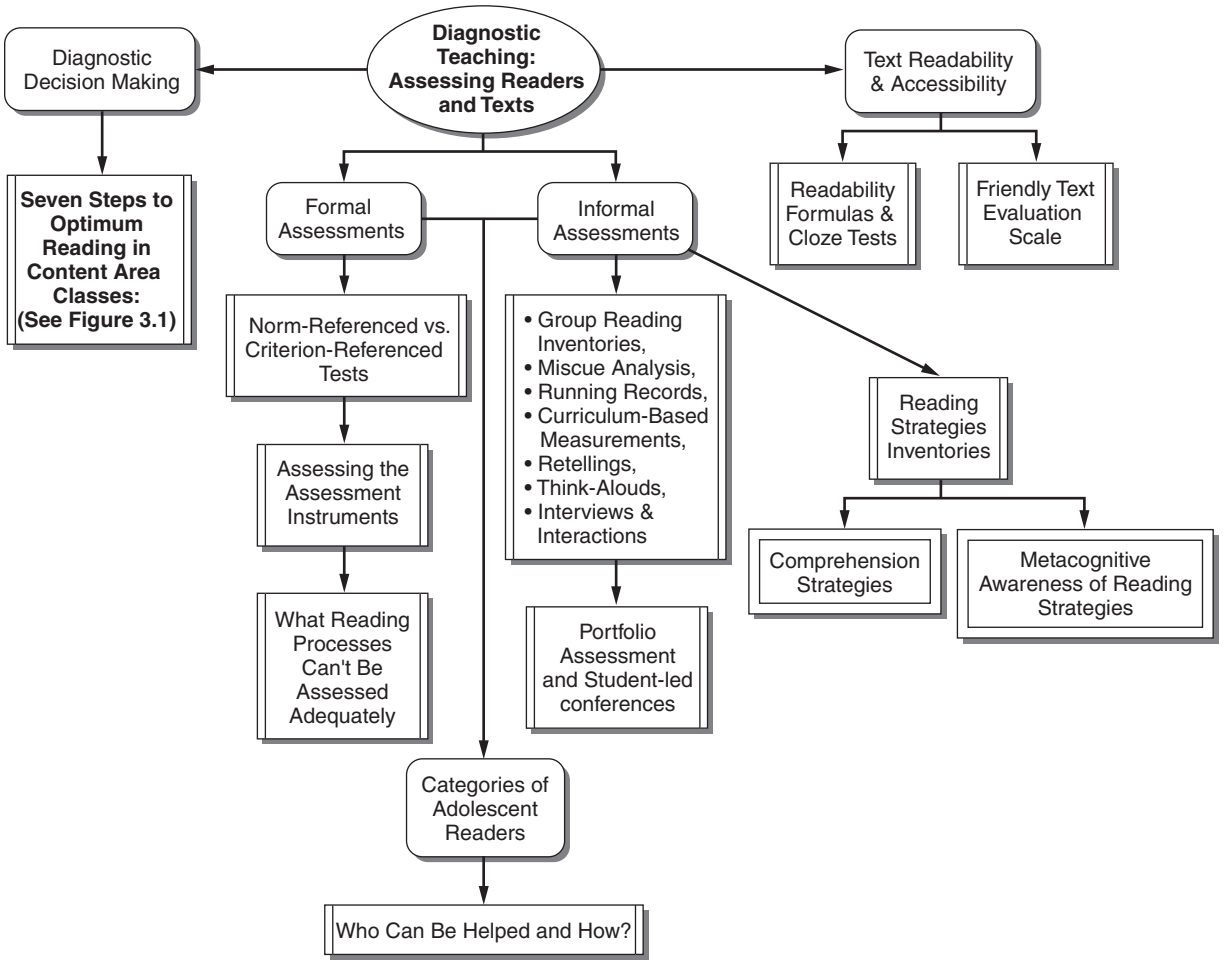
Score range: 34 to 170.

INTERPRETATION OF SCORES

A score closer to 34 implies the text is friendly; scores closer to 170 suggest the text is unfriendly.

Source: Singer, H. (1992). Friendly texts: Description and criteria. In E. K. Dishner, T. W. Bean, J. E. Readence, & D. W. Moore (Eds.), *Reading in the content areas* (3rd ed., pp. 155–168). Dubuque, IA: Kendall/Hunt.

CHAPTER 3 GRAPHIC SUMMARY



Companion Website

For exercises to clarify your understanding of chapter content, visit the self-assessments for Chapter 3 on our Companion Website at **www.prenhall.com/unrau**

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