CHAPTER 6

Producing Measurable Increases in Reading Fluency

The majority of educational programs and curricula emphasize accuracy (e.g., 80% correct) on tasks such as homework assignments and end-of-chapter tests. Teachers often rely on this information for decisions about whether to move students further along in the curriculum or not. Although being accurate is important, if a student is to be expected to progress to harder materials and subjects, an equally important criterion is how quickly he or she responds when asked to perform academic tasks. This issue is particularly important in the area of reading, where students learn to read so that they can ultimately read to learn.

Reading fluency includes the ability to read accurately, rapidly, and with little effort. Developing reading fluency is an important step to becoming a competent reader, because it increases the student's capacity to use reading as a helpful tool with more difficult tasks. Alternatively, poor reading fluency is likely to cause poor comprehension and hinder students' motivation to tackle the more complicated tasks of the school curriculum, such as doing research to write a paper. Additionally, fluent readers are more likely to find reading more pleasurable and in many instances may be more likely to choose to read than those who have not developed their reading fluency.

This chapter provides a rationale for targeting oral reading fluency for intervention. Procedures for assessing reading fluency are described, as are strategies designed to enhance it. A variety of empirically validated intervention strategies are described in sufficient detail to get you started. We present each strategy individually, with a rationale for appropriate use, so that you can assemble just the right components to create an intervention tailored to the circumstances of the referral problem. For instance, if you are starting a tutoring

program and will be using the intervention with a group of students, a procedurally simpler intervention is probably preferable; you might prioritize a smaller set of strategies. If, however, you are working with a single student who is having severe and persistent difficulties, you probably would want a stronger treatment and would therefore combine more intervention components. The chapter concludes with a description of how these strategies can be embedded in various tutoring and instructional formats, including a description of classwide peer tutoring.

WHY IS FLUENCY IMPORTANT?

Reading fluency can be defined operationally as the number of correctly read words per minute when an individual is asked to read a passage of connected text aloud for 1 minute. We address the details of administration and scoring later. Here we wish to point out that this simple measure has helped to explain a lot of things about the process of reading in general, and about why some readers struggle. Even though there have been differing explanations for why fluency is important, researchers studying reading fluency fully recognize the need for students to develop the ability to read both accurately and rapidly (Daly, O'Connor, & Young, 2014; Skinner, Neddenriep, Bradley-Klug, & Ziemann, 2002). We can readily identify three reasons why you should consider this factor to be a critical and legitimate intervention target (see Table 6.1). Each reason is discussed below.

Fluent Readers Are More Likely to Comprehend

Fluency is a solid indicator of overall reading competence and correlations between reading fluency and reading comprehension are strong (Hintze, Callahan, Matthews, Williams, & Tobin, 2002; Kranzler, Brownell, & Miller, 1998; Marston, 1989; Reschly, Busch, Betts, Deno, & Long, 2009; Shinn et al., 1992). Oral reading fluency is also a good predictor of performance on high-stakes statewide proficiency tests (Hintze & Silberglitt, 2005; McGlinchey & Hixson, 2004). Although not sufficient alone for comprehension, fluency is a necessary condition for adequate independent comprehension.

TABLE 6.1. What the Research Says about Why Reading Fluency Is Important

1. Fluent readers are more likely to comprehend what they are reading.
2. Building fluency is likely to make reading a more rewarding experience and may increase the chances that a student will actually *choose* to read rather than choose to do other things.
3. Building fluency makes reading less effortful and therefore less frustrating for students—factors that also increase the chances that a student might actually choose to read rather than do other things.

There are several ways to look at how fluency affects comprehension. First, the sequence and configuration of letters forming words on the page control your reading when words are correctly read. You can't just make up what you want to read on the page! Interestingly, poor readers tend to overemphasize cues that are not textual (e.g., relying on pictures), to the detriment of their reading, whereas good readers have been shown to attend to virtually every letter on the page (Adams, 1990). When a learner becomes fluent with reading words in texts, the action of reading the word on the page competes more effectively with wrong responses such as making an incorrect guess about a word, waiting for someone to say the word, or looking around. When the reader is fluent, word reading is strong and durable across a variety of texts. As such, correctly reading the word is the most likely response when the word appears in print in the text. This textual control also makes it more likely that the reader will use the previously learned words as a basis for answering comprehension questions when queried by a teacher or parent about what the text is saying. Fluent readers are more likely to generalize to harder tasks such as answering comprehension questions, because their word reading is more strongly connected to the text at the very outset.

An alternate viewpoint is that readers who read accurately but slowly expend a lot of energy (e.g., attention, working memory) attempting to decode words and therefore have a lowered capacity to comprehend while they are reading (LaBerge & Samuels, 1974; Perfetti, 1977; Samuels, 1988). Because the ability to retain information tends to decay over time, it is harder for less fluent readers to relate information presented earlier to material being currently read, especially as they work their way through a long text (Daneman & Carpenter, 1980; Samuels, 1988). Faster readers are more likely to access information presented earlier because the information has had less time to decay.

At one time or another, most of us have experienced problems with accessing information read earlier. For example, imagine Joe, who is lying in his hammock on a nice summer's day, reading a mystery novel for pleasure. While reading he is interrupted when a neighbor's dog unexpectedly arrives and begins barking. Joe, being a good neighbor, marks his place, puts his book down, and spends the next 20 minutes chasing the neighbor's dog. After finally securing the dog and returning it to his neighbor, Joe settles back into his hammock, opens the book to his mark, and begins reading exactly where he left off. Unfortunately, what he is reading makes little sense anymore. Joe does not even know with whom the main character is talking. These comprehension problems are caused by an inability to relate what he is currently reading to what he previously read. Joe remedies this problem by scanning back about four paragraphs and finding where this new person was introduced. As he rereads these paragraphs (getting a running start, so to speak), it comes back to him and the material once again makes sense. Now Joe can comprehend the material he is currently reading because he has accessed material presented earlier. Because he can now understand what he is reading, he once again begins to enjoy reading his novel. In a similar vein, the student who has poor reading fluency will experience interruptions in the flow of the text as he or she tries to decipher what is on the page. Like Joe, this student will have difficulty relating what is being read to what was previously read.

Fluent Readers Are More Likely to Choose to Read

Those who read accurately but slowly may be less likely to choose to read than those who read fluently (Skinner, 1998). One factor that influences what a person chooses to do is how rewarding the experience is. In general, when faced with a choice between two or more activities, with all other factors held constant, people are more likely to choose to engage in the activity that is most rewarding (Neef, Mace, Shea, & Shade, 1992).

To understand how reward strength is affected by reading speed of fluency consider two students (Fred and Dave) whose data are summarized in Table 6.2. Both Fred and Dave can read and comprehend the same 1,000-word passage that is designed to be funny. Fred reads 100 words per minute and Dave, whose reading fluency is less developed, reads 50 words per minute. For both students, reading the passage results in 10 chuckles and one roaring belly laugh at the end of the passage. Because he reads faster, Fred's rate of chuckles is 1 per minute, while Dave's rate of chuckles is half of Fred's, 1 chuckle per 2 minutes. Assuming that chuckles represent moderate rewards, Dave's rate of rewards for choosing to read the passage is half of Fred's, which suggests that Fred is much more likely to choose to read. To gain an understanding of how much more likely Fred is to choose to read, consider how much more likely you would be to choose one job over another if you received the same pay and benefits for 20 hours, as opposed to 40 hours per week.

Reward quality and delay also influence reward strength. If all else is equal, we behave so as to access rewards quicker (in an hour as opposed to a week), and high-quality rewards (e.g., 10-dollar bill) are preferable to lower-quality rewards (e.g., 5-dollar bill). In our example, belly laughs represent higher-quality rewards than chuckles. As Table 6.2 indicates, Fred gains access to this higher-quality reward in 10 minutes, while Dave's access is more delayed (i.e., 20 minutes). Thus, assuming both Fred and Dave understand the entire passage and access the same rewards for reading the passage, Fred's rate of moderate rewards

TABLE 6.2. Effects of Reading Speed on Chuckles and Belly Laughs, Assuming 100% Passage Comprehension

	Fred (fluent)	Dave (dysfluent)
Reading speed	100 words per minute	50 words per minute
Time to read the same 1,000-word passage	10 minutes	20 minutes
Chuckles per passage (moderate-quality reward)	10	10
Chuckles per minute of reading	1	0.5
Time required to read per chuckle	1 minute	2 minutes
Belly laughs	1	1
Belly laughs per minute	0.1	0.05
Sustained reading time needed to produce a belly laugh	10 minutes	20 minutes

(chuckles) for passage reading is double that of Dave's rate of rewards, and Fred accesses the higher-quality reward (belly laugh) in half the time that it takes Dave to experience a belly laugh. Thus, Fred may be more likely to choose to read than Dave because the reward strength is worth the effort.

For Table 6.2, we assumed that both Fred and Dave comprehended the entire passage. Researchers have repeatedly shown, however, that fluent readers tend to have higher levels of comprehension than dysfluent readers (Reschly et al., 2009). Table 6.3 describes how this may impact rates of reinforcement. Note that because Dave only comprehends half of the passage, his belly laughs are reduced to 5, which in turn means his rate of reinforcement is now one-fourth of Fred's, as he experiences 1 chuckle per 4 minutes of reading. To understand the importance of this, consider that on a comprehension exam, Fred would receive a letter grade of A and perhaps accompanying rewards (e.g., praise) for 10 minutes of work, while Dave would receive a letter grade of F for 20 minutes of work. Thus, it would come as no surprise that Fred would choose to read, while Dave may not.

Whereas strong readers may enjoy a beautifully written piece of work (e.g., finding that the flow of the language was "intoxicating"), slow readers may not be able to appreciate such well-written work because they cannot read rapidly enough to catch the nuances. For example, a beautifully written sentence may be difficult to appreciate when each word must be sounded out laboriously. Dysfluent readers may expend so much energy on decoding and comprehension that they are incapable of understanding subtle nuances that make reading a rewarding experience for others. Again, when he chooses to read, Fred receives access to rewards that Dave may not.

To make our points about choice and rewards, we have focused on belly laughs and chuckles. We read for other purposes as well, like to gain information (so we can pass an exam, operate our new 60-inch flat screen television, or learn new strategies and procedures

TABLE 6.3. Effects of Reading Speed on Chuckles and Belly Laughs, Assuming 100% Passage Comprehension for Fred (Fluent) and Only 50% Comprehension for Dave (Dysfluent)

	Fred (Fluent)	Dave (Dysfluent)
Reading speed	100 word per minute	50 words per minute
Time to read the same 1,000-word passage	10 minutes	20 minutes
Chuckles per passage (moderate-quality reward)	10	5
Chuckles per minute of reading	1	0.25
Time required to read per chuckle	1 minute	4 minutes
Belly laughs	1	1
Belly laughs per minute	0.1	0.05
Sustained reading time needed to produce a belly laugh	10 minutes	20 minutes

for doing our jobs). Being more likely to choose to read will increase the probability that Fred passes his exams and advances in his job. He may also be able to put together his new gas grill without blowing something up, and with less frustration (e.g., few cusses per minute).

Fluent Reading Is Less Effortful

When given the choice of two behaviors with equivalent rewards (quality, delay, and rate), we are more likely to choose the behavior that requires less effort (Friman & Poling, 1995). Because it is difficult to measure effort, especially cognitive effort (e.g., effort required to read a 1,000-word passage), researchers often measure time required to complete a task. Our prior analysis in Table 6.2 suggests that Dave, while obtaining the same rewards (10 chuckles and 1 belly laugh), had to expend twice as much effort to access these rewards. To understand how important relative effort is, consider asking a child which lawn he or she would like to mow for the same reward (e.g., $40)—a quarter-acre lawn or a full-acre lawn—or consider your own reactions to someone doubling your work hours and assignments for no increase in pay.

Slow readers may be less likely to choose to read than rapid readers because of the sheer effort involved when a skill is not proficiently employed. The effort slow readers must expend to comprehend written materials may make it less likely that they will choose to read assigned materials when there are alternative means of obtaining the information (Mace, Neef, Shade, & Mauro, 1996). For example, a dysfluent reader may be less likely to choose to read material that was assigned for homework and instead, rely on class lectures to assist him or her in comprehending it, willingly settling for a lower grade. Even when they are not expected to learn information from texts, slow readers are less likely to choose to read for pleasure because the amount of enjoyment they receive from reading may not be worth the high levels of effort that is required for them to read (Skinner, 1998).

Fluency-Induced Spirals

It is impossible to force someone to engage in cognitively demanding activities, including and perhaps especially reading. Rather, students must choose to read. Perhaps the most important thing to remember about choosing to read is that it enhances reading skills. Thus, those who choose to read become better readers. Unfortunately, as described above, better readers may be more likely to choose to read because it is more rewarding and requires less effort (Skinner, 1998; Stanovich, 1986). Consequently, educators have to remember that one size does not fit all with respect to choosing to read. Merely offering a little praise may influence strong readers to choose to read; however, the dysfluent readers in need of additional practice may require additional support (e.g., stronger reinforcement, higher rates of interaction with others, praise from others, being allowed to choose what to read) in order to influence them to choose to read (Skinner, Skinner, & Burton, 2009). Otherwise, weaker readers may get caught in a downward spiral in which weaker skills reduce the probability of choosing to read, thus hindering skill development, making it even less likely that they will choose to read harder material.

ASSESSING READING FLUENCY USING CURRICULUM-BASED MEASUREMENT

As noted earlier, reading fluency can be assessed simply by having a student read a passage and recording correctly read words and errors during the first minute of reading. Curriculum-based measurement (CBM) for oral reading fluency (CBM-ORF) is a standardized format for assessing reading fluency; it is so named because performance measures are generally based on curricular materials. Strong reliability and validity data support the use of CBM for decision making about students' reading proficiency (Reschly et al., 2009; Shinn, 1989). Oral reading fluency is a sensitive indicator of growth and instructional effects (Fuchs, Fuchs, Hamlett, Walz, & Germann, 1993). Another advantage of CBM is that it is a low-budget and easy method for collecting high-quality information prior to and during interventions. Finally, there is a wide variety of materials available on the Internet to support your use of CBM. So, very little time needs to be invested in preparing material, just some thought about where you will choose your passages. In this section, we briefly explain how to obtain assessment materials, how to administer CBM-ORF, and how to interpret the results.

Curriculum-Based Measurement Oral Reading Fluency Assessment Materials

CBM-ORF materials can be accessed and downloaded on the Internet from the following websites: AIMSweb (*www.aimsweb.com*), DIBELS (*https://dibels.uoregon.edu*), and easyCBM (*www.easycbm.com*). Each website requires an account, which provides access to the materials (usually as .pdf files), further training, and can even manage your data and provide you with data-evaluation reports (e.g., making normative comparisons to national samples or local samples). If you do not already have an account, we encourage you to examine all three CBM-ORF resources to see which one appears to be the best fit for your needs. All of them are readily incorporated into RTI programs, producing a variety of reports about individuals and groups of students.

In some cases, people may want to use their own set of assessment passages (e.g., from a commercially published basal reading series). This can be done at *www.interventioncentral.org*. Click the CBM Warehouse tab and then click the link to Oral Reading Fluency Probes to reach the CBM Passage Generator page. Passages can be copied or typed in. Readability indices can be selected to obtain an estimate of the passage's grade-level difficulty. (Be careful, though, because these readability estimates are notoriously unreliable.) The CBM Passage Generator creates downloadable .pdf copies of the passage and includes both an examiner copy (which includes a cumulative tally of the number of words per line of text in the right margin) and a student copy (contains no cumulative tally of words). Individuals wanting to create their own passages will probably want to use the basal reading series that is being used for instruction with the student to be assessed. It is important to carefully select appropriate passages. Poems, plays, and material with a lot of dialogue, headings, and subheadings do not lend themselves to continuous, fluent reading, and are therefore not

suitable for CBM-ORF assessments. Instead, texts with continuous paragraphs should be selected. Also, many current reading series are constructed to expose students to a variety of cultures and therefore include a variety of foreign words and names. At least some students may not have had previous exposure to many of these words, and their decoding skills may not be helpful to them. Therefore, these passages should be excluded when selecting and developing passages. Finally, passages should not contain anything other than text (e.g., artwork or pictures), because these can either distract the student or provide additional clues that inflate their CBM-ORF score. It is best to keep the passage to one page. We recommend a passage length of 150 words with a clear, visible font size and type (e.g., 14-point Times New Roman).

Creating your own passages is obviously a lot more work, and may not really improve your results. Using the curriculum in which the student is being instructed is technically more "curriculum based," but the goal of instruction is to improve student reading beyond the passages in which they are being instructed. Immediate performance improvements in the curriculum may be encouraging but do not guarantee that the student is generalizing newly acquired skills appropriately. Ideally, an effective intervention should impact a student's reading fluency in all passages of equal difficulty level. If intervention effects are observed in independent passages over time (i.e., equal in difficulty level but not directly taught to the reader), you can be much more confident about the effectiveness of the intervention. That's why we recommend that you use one of the commercially available products. They are not perfect by any means (for reasons stated below), but routine progress monitoring will give a better estimate of generalized growth in oral reading fluency over time.

CBM websites like AIMSweb and DIBELS have two types of materials: benchmarking and progress monitoring passages. Benchmarking passages are used for schoolwide screenings and initial assessments of students. As noted in Chapter 3, screening data can be used to evaluate the core curriculum and can also be used to identify students in need of further intervention. The benchmarking passages are useful for making normative comparisons, either to national norms or schoolwide norms, both evaluations that these websites allow you to perform. Progress monitoring passages are for ongoing assessments over time, which is why there is a larger number of them. These passages constitute your assessment "pool" of materials. For a CBM assessment, you will need either three benchmarking passages or three progress monitoring passages, depending on your purposes. We suggest that you conduct the assessment first at the level at which the student is being instructed. This will provide an indication of how well the student is functioning at that level. Be sure to bring both examiner and student copies. You will also need a stopwatch and the standardized instructions, which appear in Figure 6.1. Practicing the administration and scoring procedures is critical to accuracy, so a time investment is needed to learn how to administer and score reading fluency assessments. With initial assessments, we strongly recommend checking your scoring against other people's scoring before considering the results "official." If you obtain a high level of agreement, you can trust the results as being trustworthy. Each passage is scored for correctly read words and errors per minute. After all three passages are administered and scored, you should select the median (middle) score for correctly read words and the median for errors as the score for the session. Using the median corrects for

SPECIFIC DIRECTIONS FOR READING

Setting of Data Collection

The reading measures must be administered to students individually. Prepare two copies of each passage: a numbered copy for examiner use and an unnumbered copy for the student to read. You will need a stopwatch to keep track of time.

Directions

Say to the student: **When I say "start," begin reading aloud at the top of this page. Read across the page.** Demonstrate by pointing. **Try to read each word. If you come to a word you don't know, I'll tell it to you. Be sure to do your best reading. Are there any questions?**

Say **Start.**

Start your stopwatch when the student reads the first words and follow along on your copy of the story, marking the words that are read incorrectly. If the student stops or struggles with a word for 3 seconds, tell him or her the word and mark it as incorrect.

Place a bracket ( ]) after the last word read when 1 minute elapses. Have the student stop reading when it is convenient (e.g., at the end of the sentence) and thank him or her.

Count the number of words read correctly and incorrectly.

Scoring

The most important piece of information is the number of words read correctly. Reading fluency is a combination of speed and accuracy.

1. *Words read correctly*. Words read correctly are those words that are pronounced correctly, given the reading context.
   a. The word *read* must be pronounced *reed*, not as *red*, when the context is present or future tense (e.g., "He will read the book").
   b. Repetitions are not counted as incorrect.
   c. Self-corrections within 3 seconds are counted as correctly read words.
2. *Words read incorrectly*. The following types of errors are counted: (a) mispronunciations, (b) substitutions, and (c) omissions. In addition, words not read within 3 seconds are counted as errors.
   a. *Mispronunciations* are words that are misread: *dog* for *dig*.
   b. *Substitutions* are words that are substituted for the stimulus word; this is often inferred by a one-to-one correspondence between word order: *dog* for *cat*.
   c. *Omissions* are words skipped or not read; if a student skips an entire line, it is counted as one error only.
3. *Three-second rule*. If a student is struggling to pronounce a word or hesitates for 3 seconds, the student is told the word, and it is counted as an error.

FIGURE 6.1. Directions for CBM-ORF. The original directions indicate that each word should be counted as an error. However, this practice has changed since the first publication of the Shinn (1989) text. Adapted from Shinn (1989, pp. 239–240). Copyright 1989 by The Guilford Press. Adapted by permission.

outliers due to a poor passage, overfamiliarity with a passage or terms in a passage, or other types of error that might occur. Results can be recorded on a worksheet like the one found on *interventioncentral.org*. You can find a great worksheet by clicking the CBM tab and looking for the list of CBM forms. It is downloadable as a .pdf file. You will also find manuals with additional administration and scoring information on this page.

The big question at this point is What do the results mean? CBM-ORF data can be used to answer two questions: (1) Does the student's score indicate good or poor oral reading flu-

ency, and (2) Is the student making progress? The first question has to do with identifying whether there is a problem in the first place, and the second question addresses the issue of intervention effectiveness. Thus, each is discussed in turn. By using the Reports function on AIMSweb or DIBELS, you will be able to answer the first question by making comparisons with other students. If your school or district uses these services, you can compare a referred student with other students in your school or district. You can also make comparisons with national norms through these services. To provide you with additional information, we have pulled together data and recommendations from several reports in the literature (see Table 6.4). There are three sets of recommendations for instructional or expected fluency levels. (Howell & Nolet, 2000, refer to their guidelines as expected fluency rates.) The second part of the table describes average fluency rates that have been obtained at various times in the Minneapolis, Minnesota school district. Specifically, the rates reported by Hasbrouck and Tindal (1992) are based on data collected on between 7,000 and 9,000 students. The actual scores are the medians for the 50th to the 75th percentiles. The rates reported by Marston and Magnusson (1988) are based on 2,720 students for each testing period (resulting in a total standardization sample of 8,160 students) in Minneapolis. (The numbers in parentheses are standard deviations. All numbers in the first two parts of the table were rounded to the nearest whole number.) A comparison of these figures reveals a relatively high degree of correspondence between fluency rates. Of course, they are based on students in the same geographical area. However, our experience with developing local norms and comparing these figures with others that have appeared in the literature suggests that these fluency rates are robust and give a good, general indication of the level at which the average student is reading.

For the following reasons, we suggest that you use these instructional placement recommendations and average fluency rates as guidelines only for what to expect. By triangulating information across sources and with increasing experience and perhaps local norms (Shinn, 1989), you will be able to judge good from poor performance. We advise against using this information as the basis of making hard-and-fast rules about student placement levels. Consider that when designing interventions, consultants tend to have little power over the level at which students are being taught. Teachers are often resistant to moving a child down in the curriculum because it would create yet more reading groups. Therefore, as a consultant, the best you may be able to do is to assist in developing an intervention at the current level at which the student is being taught. Besides, there is no guarantee that an intervention in the student's current instructional level is going to be any less effective than an intervention at a lower instructional level.

To address the question about student progress, a good rule of thumb is that the more frequently assessments are conducted, the more quickly you can arrive at a decision about the effectiveness of the intervention. To make a reliable decision, you must have sufficient data points. Good and Shinn (1990) found that 10 data points were adequate. By collecting data twice weekly, you get 10 data points in 5 weeks, when a decision can be made (Shinn & Hubbard, 1992). An example of a long-term growth assessment can be found in Figure 6.2. To conduct these assessments, you should choose passages randomly from the pool of progress monitoring passages (three per assessment), replacing the passages each time an assessment is done.

TABLE 6.4. Instructional Placement Recommendations, Average Fluency Rates, and Average CRW per Minute Increase per Week in ORF

Study	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
Instructional placement recommendations						
Fuchs & Deno (1982)	30–49 CRW 3–7 errors	30–49 CRW 3–7 errors	30–49 CRW 3–7 errors	50–99 CRW 3–7 errors	50–99 CRW 3–7 errors	50–99 CRW 3–7 errors
Howell & Nolet (2000)	30–50 CRW < 4 errors	70–100 CRW < 8 errors	110–140 CRW < 8 errors	> 140 CRW < 8 errors	> 140 CRW < 8 errors	> 140 CRW < 8 errors
Shapiro (2004)	40–60 CRW < 5 errors	40–60 CRW < 5 errors	70–100 CRW < 7 errors	70–100 CRW < 7 errors	70–100 CRW < 7 errors	70–100 CRW < 7 errors

Average fluency rates

	Fall	Win.	Spr.	Fall	Win.	Spr.	Fall	Win.	Spr.	Fall	Win.	Spr.	Fall	Win.	Spr.	Fall	Win.	Spr.
Hasbrouck & Tindal (1992)				53– 82	78– 106	94– 124	79– 107	92– 123	114– 142	99– 125	112– 133	118– 143	105– 126	118– 143	128– 151			
Marston & Magnusson (1988)	19 (36)	52 (50)	71 (39)	51 (41)	73 (44)	82 (39)	88 (40)	107 (41)	115 (38)	105 (42)	115 (41)	118 (43)	118 (40)	129 (43)	134 (40)	115 (39)	120 (37)	131 (39)

Average words per minute increase per week (slope)

Deno et al. (2001)	1.80 (.15)	1.66 (.09)	1.18 (.10)	1.11 (.05)	0.58 (.05)	0.66 (.04)
Fuchs et al. (1993)	2.10 (.80)	1.43 (.69)	1.08 (.52)	0.84 (.30)	0.49 (.28)	0.32 (.33)
Marston & Tindal (1995)	2–3	2–3	1.5–2.5	1.5–2.5	1.5–2.5	1.5–2.5

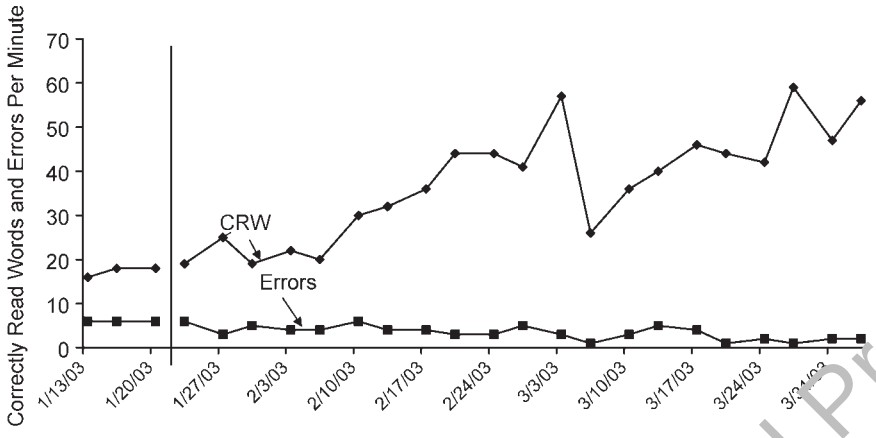

FIGURE 6.2. Example of long-term growth assessment for reading intervention.

When these data are used for progress monitoring purposes (question 2), it raises an additional question about how much growth a student should make. Table 6.4 contains estimates of growth in correctly read words (CRW) per minute per week in typical samples of students from three different reports (slopes of improvement). Deno, Fuchs, Marston, and Shin (2001) obtained performance increases of about 1.80 CRW per minute per week for the first graders in their sample. (The numbers in parentheses are standard errors.) You will see that students tend to make greater increases in fluency in the earlier grades than in the later grades. You will also note that there are some significant discrepancies across reports, and that there are no absolutes in this area either. Deno et al. (2001) also looked at seven reading intervention studies of students with learning disabilities. All of the studies reported significant growth in reading performance. Across these studies, the average weekly CRW per minute growth rate for the second- through sixth-grade participants was 1.39 CRW per minute per week. These figures may prove helpful to you in gauging the progress of students who are receiving reading interventions.

CBM-ORF is indeed a very good measure of reading proficiency and it measures an important skill. However, as with all assessments, it is not perfect, and error creeps in. For one, ensuring that passages are of equal difficulty level (an assumption of this type of assessment) is not easily done (Poncy, McCallum, & Skinner, 2011; Skinner, McCleary, Poncy, Cates, & Skolits, 2013). Readability formulas—a commonly used method for comparing passage difficulty levels—are notoriously unreliable. In fact, in some instances, the average standard error of measurement can amount to almost one full year of growth (Christ & Ardoin, 2009; Francis et al., 2008; Poncy, Skinner, & Axtell, 2005). This amount of error makes it difficult to validly evaluate the effects of interventions (Christ & Silberglitt, 2007; Christ, Zopluoglu, Long, & Monaghen, 2012; Christ, Zopluoglu, Monaghen, & Van Norman, 2013). Some change in oral reading fluency scores may be caused by poor or inconsistent administration and scoring procedures (Christ, 2006), but nonequivalent passages appear to account for more error than anything else (Poncy et al., 2005). Researchers have tried to enhance passage equivalence through a variety of procedures, and found that devel-

oping equivalent probes remains challenging (Christ & Ardoin, 2009; Christ et al., 2012). Until researchers determine how to reduce the error associated with oral reading fluency measures, caution should be exercised when interpreting oral reading fluency results based on only a few assessments. While increases in oral reading fluency may be an indication of improved reading skills, they may also be caused by measurement error.

CBM-ORF results can also be influenced by other extraneous factors that should be kept in mind. For example, asking students to read fast (as opposed to asking them to read to the best of their abilities) can increase oral reading fluency (Colón & Kranzler, 2006; Forbes, Maurer, Taylor, & Skinner, 2013). Merely showing students the stopwatch during oral reading fluency assessments has also increased oral reading fluency scores (Derr-Minneci & Shapiro, 1992). These increases were not just statistically significant; they ranged from one half to an entire grade level. Thus, increases in oral reading fluency may not always reflect improvements in other general or specific reading skills. They may occur as a result of the situation in which the student is being assessed.

Some educators have expressed concern that oral reading fluency is merely a measure of word calling and therefore unimportant relative to the goals of reading assessment. A series of investigations examined whether this was a legitimate criticism (Ciancio et al., 2013; Hale, Skinner, Wilhoit, Ciancio, & Morrow, 2012; Skinner, Williams, et al., 2009; Williams et al., 2011). In these studies, oral reading fluency and some other brief reading rate measures (e.g., reading comprehension rate, Maze fluency) were conceptualized as measures of oral reading speed. When assessment results were converted to rate by incorporating some measure of accuracy—including words read accurately (oral reading fluency), correctly selected words (Maze fluency), and correctly selected answers to comprehension questions (reading comprehension rate)—the investigators consistently found that the pure measure of reading speed embedded with oral reading fluency and similar measures accounted for much of the variance in broad reading skill development. What this means is that when people criticize oral reading fluency for being a measure of word calling or barking, it is critical to remind them that oral reading fluency is also a measure of reading speed. This answer seems to satisfy many educators who focus on enhancing students' fluency with basic academic skills. Underlying this criticism is often a concern about using oral reading fluency as a substitute for comprehension measures. In some instances, enhancing oral reading fluency scores may enhance comprehension scores, however, in other instances, comprehension deficits may have to be addressed with other procedures. For example, if students have limited vocabularies but strong oral reading skills, enhancing oral reading fluency scores are unlikely to address comprehension deficits, but enhancing vocabulary may improve comprehension (see Chapter 7).

Before we turn to oral reading fluency interventions, we want to issue a final note of caution about interpreting the results. Oral reading fluency deficits cannot be enhanced overnight. Rather, effective interventions typically require hard work (effort) and sustained and frequent applications of intervention procedures over a period of time. No matter how strong and appropriate CBM-ORF is as a measure of the student who concerns you, you should not expect to find improvements in general reading skills until empirically validated

interventions have been applied over a long enough period of time to allow them to be effective (Christ et al., 2013). In other words, oral reading fluency interventions take time to work. Although it is good to gather data more frequently (it produces a more reliable trend), it is important to be sure you do not react too quickly to the results. Effects will take time.

EMPIRICALLY VALIDATED READING INTERVENTIONS

Although there may be many names for the different types of available reading interventions, they are easier to sift through when you understand that they are all variations on a small number of themes. After someone makes a procedural change, the intervention gets a new name and is described as a "new and improved" strategy. We present a manageable number of interventions that represent the fundamental principles that impact student learning. You may come across other intervention strategies in the literature, but we are confident that if you compare them with the ones presented in Table 6.5, you will see that they differ only in the degree to which they emphasize different components. One strategy might have more acquisition components, whereas another contains more fluency-building ingredients. Although we have adopted the popular names from the literature for the interventions listed in Table 6.5 and discuss them briefly below, we stress their features relative to the instructional hierarchy described in Chapter 2, so that you know when an intervention is likely to be more appropriate, that is, according to whether the student is having difficulty with accuracy, fluency, or generalization.

Repeated Readings

The procedure of repeated readings is presented first because it is the intervention that will work with the largest number of students. In this procedure the student reads the same passage multiple times. The student gets a lot of practice time and the procedure is simple. Repeated reading is perhaps the purest form of the "practice makes perfect" model of enhancing reading fluency. Various studies have shown that repeated reading is an effective procedure for enhancing reading fluency in general education students as well as students with disabilities (e.g., Blum & Koskinen, 1991; Dowhower, 1989; Samuels, 1979; Sindelar, Monda, O'Shea, 1990). This strategy is perhaps the best fluency builder, thanks to all the practice time it affords, and can help to correct situations in which there is a lack of sufficient practice, which may be the greatest weakness of many reading curricula. One weakness of repeated readings is that it is not appropriate when a student's accuracy is poor. If a student makes a lot of errors, repeated readings without other strategies that include modeling, prompting, and error correction might make things worse! Students could end up practicing errors. That said, it should be the core intervention strategy for virtually all reading fluency problems. For the student whose accuracy is poor, you should add other strategies (e.g., listening while reading and error correction) to make the practice more productive.

TABLE 6.5. Overview of Basic Reading Interventions

Type of intervention	Purpose of intervention: Acquisition	Purpose of intervention: Fluency	Generalization	Appropriate uses	Limitations
Repeated readings	✓		• To reading words in context • Potentially to other texts with the same words	• Probably the most effective intervention with the most students, because it provides many opportunities to respond.	• Does not correct errors, so students may practice errors if an error correction component is not used. • Lacks an acquisition component for reading new words. However, students who are beyond acquisition and who have decoding skills may improve on some words "spontaneously" (i.e., without explicit modeling). • May be boring for some students if there is no performance feedback and contingent positive social attention for improvements.
	Procedures 1. Present a text to the student and explain that you will have him or her practice reading the passage to help him or her get better at reading. 2. Have the student read the passage aloud three or four times, or have the student read the passage aloud for a preset amount of time (e.g., 2 or 3 minutes) three or four times.				
Phrase drill error correction	✓		• This is a very strong error correction procedure, because students practice error words in connected text. Students are more likely to generalize correct reading of words when phrase drill is used than when error correction procedures do not have students practice words in context.	• This error correction procedure addresses errors effectively and encourages students to read each and every word correctly.	• This error correction is a bit more complex procedurally than other error correction procedures, and it takes more time.
	Procedures 1. Have the student read a text while you underline or highlight error words. 2. When the student has finished reading the text, show him or her your copy with the underlined/highlighted words. 3. Read the error word correctly to the student (model). 4. Have the student read the phrase/sentence containing the error word aloud three times. 5. If a sentence contains more than one error word, model correct reading of all error words in the sentence first and then have the student read the phrase/sentence three times.				

(continued)

TABLE 6.5. *(continued)*

Type of intervention	Purpose of intervention: Acquisition	Purpose of intervention: Fluency	Generalization	Appropriate uses	Limitations
Performance feedback	✓		• May provide motivating conditions that help the student to want to read faster in the presence of the teacher/tutor, leading to generalized increases in reading when the teacher/tutor asks the student to read aloud.	• If the condition is motivating for the student, he or she takes an interest in trying to read faster.	• Students may mistake the purpose of reading as one of just trying to read faster. It is critical to stress the importance of reading words correctly and that this intervention component may help to make other reading easier, but will not, in itself, increase comprehension.
	Procedures 1. Present the text to the student and explain that you will give feedback on how quickly and accurately he or she reads the passage. 2. Begin timing of the student when he or she says the first word. If the first word is pronounced incorrectly, correct the student and begin timing with the next word. 3. When the student has finished reading the text, give the student the following information: (a) how many words were read in the first minute, or (b) how much time it took to finish the story, and (c) how many errors he or she made.				
Listening while reading	✓	✓	• Accurate and fluent reading of connected text is modeled for the student, increasing the chances that the student will be better able to read connected text containing similar words.	• This is a strong intervention for students who have high error rates and read slowly.	• Students may not pay attention or practice reading subvocally while the teacher/tutor is reading the story aloud. For this reason, students generally get fewer opportunities to respond.
	Procedures 1. Present the text to the student and tell him or her that you will read the story aloud to help the student learn how to read the words. Tell the student to follow along with his or her finger. 2. Read the text at a comfortable reading rate while monitoring the student's tracking correctly with his or her finger. 3. Have the student read the passage aloud to you.				
Strategic incremental rehearsal flashcard method	✓		• May produce generalized responding of isolated word reading, but will probably be less effective for text reading if the student does not practice newly acquired words	• When students are not responding to interventions in connected text (i.e., error rate is high and accuracy is poor), isolating words	• It is not a particularly strong strategy for producing generalized increases in reading fluency. • The procedures require practice and may be

(continued)

TABLE 6.5. *(continued)*

Type of intervention	Purpose of intervention: Acquisition	Purpose of intervention: Fluency	Generalization	Appropriate uses	Limitations
			in text through other intervention components.	might help them to acquire more words. • Students get a lot of practice opportunities, and the task tends *not* to produce frustration because teaching of unknown words occurs in the context of many known words. Also, it gives the teacher/tutor ample opportunity to praise students and give positive feedback on performance.	confusing initially for teachers/consultants unfamiliar with them.

Procedures

1. Identify a pool of words the student cannot read ("unknowns"). This can be done either by having a student read texts and identifying error words, or by presenting words on flashcards from commonly used word lists and having the student say the words aloud, putting "corrects" and "incorrects" in separate piles. Set the "corrects" aside.
2. Present the first word from the pool of unknown words, read it to the student (modeling the correct response), and have the student read the word aloud.
3. Present the second word, read it to the student (modeling the correct response), and have the student read the word aloud.
4. Repeat steps 2 and 3 once.
5. Present each word once again for the student to read them aloud (without the model) and, if the student does not give the correct response in 2 seconds, read it to the student (prompt delay procedure). Repeat this step until the student can say the words without a delayed modeling prompt (i.e., within 2 seconds of presenting the word).
6. Now present a new word, read it to the student (modeling the correct response), and have the student read the word aloud.
7. Present the previously taught words (n = 2, items from steps 2-5) in random order.
8. Shuffle all three words and present them in random order, using the prompt delay procedure. If the student does not read a word correctly in 2 seconds, say the word, and have the student say the word aloud.
9. When the student responds correctly to all three words without the delayed modeling of the word, present a new word, read it to the student (modeling the correct response), and have the student read the word aloud.
10. Repeat this procedure for the remainder of the instructional session, "folding in" a new word each time the student is able to read all the other words without a delayed modeling prompt.
11. In new sessions, begin with previously instructed words to build fluency and continue to add words by folding them in when the student reads all previously instructed words correctly.

Although at first glance repeated readings may appear to be monotonous, our experience is that students generally like the intervention and are compliant with the procedure. One reason is that they usually get a lot of positive adult attention and encouragement for any improvement. (Be sure to praise the student for each improvement.) Students see themselves improve within passages and, because good effects are generally obtained, across passages. They see reading becoming easier and less effortful. We do, however, recommend strongly that you include a performance feedback component, such as telling a student how many words he or she read correctly in comparison to a previous reading. Students are more likely to be motivated by this kind of feedback. Again, because there is no acquisition component for words the student has not yet learned to read, we recommend that you include an error correction procedure, such as a phrase drill (see page 109) to bring the errors down across readings and reduce the risk of having students practice errors repeatedly. Finally, it is important to have students read aloud rather than silently, because students who are asked to read silently may not reread the passage (Chard et al., 2002; Hale et al., 2005). Furthermore, the student's reading performance can be measured across readings and monitored when the reading is done orally. These data can be used to monitor progress, provide fluency feedback, and encourage students to continue reading.

Figure 6.3 is a graph of performance feedback that can be used to enhance students' willingness to engage in repeated readings. A student's daily reading performance, wherein the student rereads the same passage three times each day, is displayed in bar graph form. The first shaded bar for each session represents the first student reading; the dark bar that follows represents the second student reading; and the white bar, the third reading for that day. The pattern of improvement shown in Figure 6.3 is fairly typical: Student performance almost always improves with each rereading. This improvement should be communicated to students, and they should be praised and reinforced for it. We have frequently found one

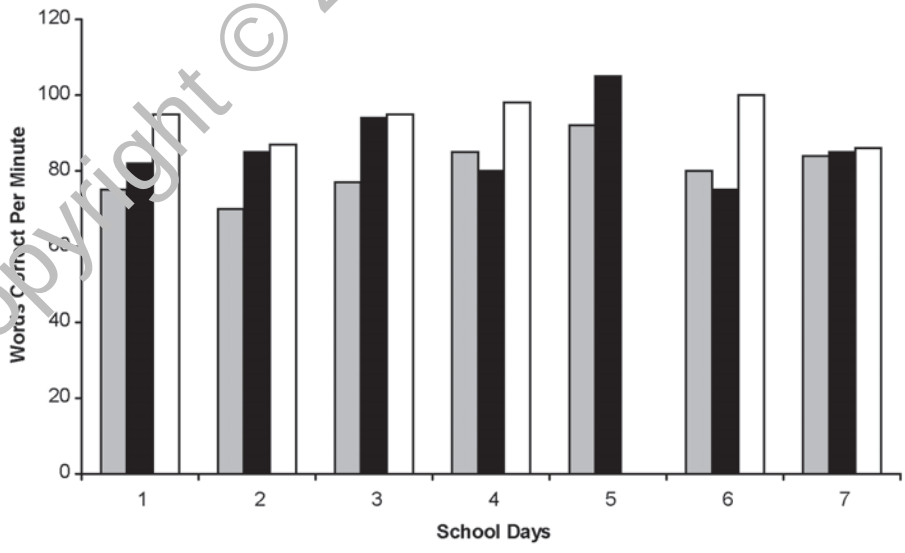

FIGURE 6.3. Example of repeated readings performance data.

of the easiest ways to positively reinforce improved performance is to give students written feedback (e.g., like the bar graph). Students typically love to share a graphic display like this with others (parents, teachers, the principal) who in turn provide praise. (This, by the way, is why Mom's refrigerator is perennially covered with artwork and other schoolwork!)

Generalized improvement in other texts may be observed because the student is practicing correct and rapid word reading in connected text. However, in one investigation that directly manipulated the amount of word overlap between what was taught and what was assessed, repeated readings did not produce such generalized increases (Rashotte & Torgesen, 1985). Yet, there have been instances in which generalization to noninstructed texts with high word overlap has been found with repeated readings (Daly, Martens, Dool, & Hintze, 1998; Daly & Murdoch, 2000). The bottom line is that there are no guarantees that generalized improvements will be observed. Studies that have yielded generalization increases (e.g., Daly, Martens, Kilmer, & Massie, 1996) have usually used multicomponent interventions (i.e., more than one strategy at a time). We suspect that the degree of generalization achieved with a particular student will be a function of his or her baseline skills prior to intervention and the strength of the intervention. Students whose problems are less severe and for whom attention and feedback are reinforcing are more likely to improve across passages with repeated readings.

Generalized student progress can be measured, to some degree, by assessing his or her reading improvement on previously unread passages. This can be done by assessing improved rates of words correct per minute during the first reading. The initial reading data (first shaded bar from each assessment) presented in the bar graphs of Figure 6.3 are presented as a line graph in Figure 6.4. These data show a less stable but increasing trend in the student's reading progress (reading rate on novel passages).

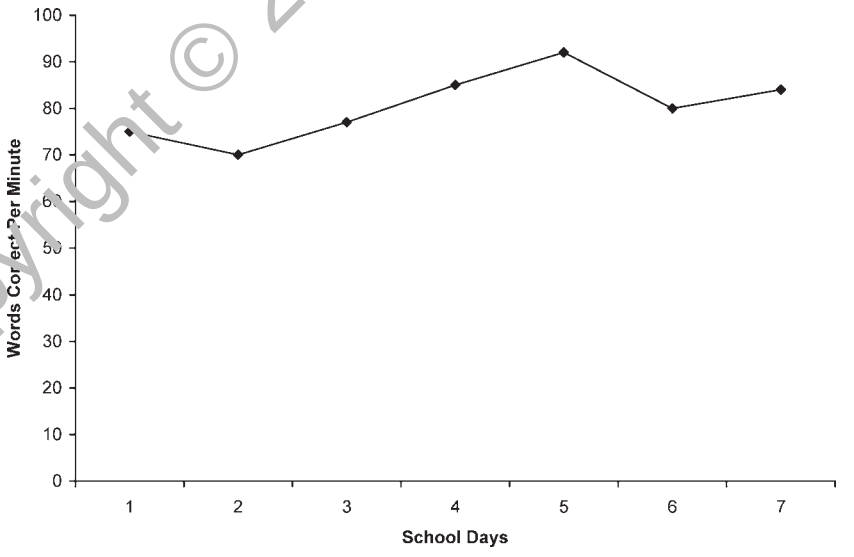

FIGURE 6.4. Example of a progress monitoring graph: repeated readings data.

Phrase Drill Error Correction

Reading errors reflect an accuracy problem. Error words should be treated as unlearned words, even if the student can get the word right from time to time. Unlearned words are words that have not been acquired. In response to errors, educators generally model correct reading of the word (an acquisition strategy), prompt a response from the student (practice), and provide feedback immediately for every response (an acquisition strategy). Feedback generally comes in the form of praise for a correct response (e.g., "Correct!") or correction (e.g., "No, the word is _____, say it again"). Intervention strategies that train students in the context of connected text (as opposed to training word reading in isolation) increase the likelihood of correct reading in texts (generalization; Daly, Lentz, et al., 1996; Daly & Martens, 1994). Phrase drill is superior to other error correction strategies (O'Shea, Munson, & O'Shea, 1984) for this very reason—it makes the student practice correct reading of the word in connected text (the context for reading). To use phrase drill it is necessary to have the student read an instructional passage at least once. Adding phrase drill to repeated readings makes for a very powerful intervention. When combining repeated readings and phrase drill for an individual student, we suggest that you do the phrase drill procedure after you have the student read the passage once. That way, the student practices correct reading of the words during the phrase drill procedure and also practices correct reading during the following two or three student passage readings that complete the repeated readings portion of the intervention strategy. Improving accuracy through error correction will make subsequent practice (and thus fluency training) more beneficial.

Performance Feedback

Performance feedback is primarily a motivational strategy that doesn't really teach students anything, except that it is important to read faster than they are currently reading, strictly a fluency-building issue. Many students like to try to beat their last score, and performance feedback might be rewarding, in itself. Using praise and encouraging statements may have even more rewarding value. If the teacher or tutor works with the student to graph his or her performance, the student can visually see increases and even gets a little math lesson as a part of the package! Results can be graphed for each reading of a passage (Figure 6.3) or for the first reading and the last reading (to make it simpler). Students are likely to see performance increases on a daily basis (i.e., from the first to last reading) and across sessions over time (as their initial reading performance increases). This tangible improvement is generally rewarding for those responsible for the intervention as well, as they get a visual representation of the student's performance over time. (There's nothing like hard data!) Performance feedback (Eckert, Ardoin, Daly, & Martens, 2002) works particularly well with repeated readings.

Performance feedback can be strengthened further through the use of rewards. Performance increases can be tied to access to privileges (e.g., extra free time, being line leader, reduced work load, having lunch with the teacher, not having lunch with the teacher), tangibles (e.g., selecting an object or toy from a treasure chest, much like at the dentist's office),

and social praise from significant individuals (e.g., showing the student's reading score to the principal). In one study, performance feedback and access to tangible rewards were used to influence middle school students with behavioral disorders to choose which type of instruction they would receive (Daly, Garbacz, Olson, Persampieri, & Ni, 2006). The students had no obligation to choose to practice or do anything before they could try to go for a reward. Although reward criteria were different for students according to their skill level, the participants almost always chose the procedure in which experimenters had them practice, correct their errors, and model reading for them (on occasion). Performance increases in reading fluency across passages were found. In this study, performance feedback was critical to indicating to the students whether their practice was helping them and for determining whether they met their goals.

Modeling: Listening While Reading

Listening while reading (LWR) is another effective and simple procedure for enhancing oral reading. (This procedure also has been referred to as listening previewing [Rose, 1984b] and assisted reading [Hoskisson & Krohm, 1974].) Because LWR includes modeling by the teacher or tutor, it strengthens a student's reading accuracy. Modeling is a demonstration of how to perform a skill—reading words in this case. Effective modeling correct reading of words increases the chances the student will then read the words correctly when called upon to do so. During LWR, students first are instructed to read along silently as another reads aloud. The student then rereads the same passage aloud. LWR has been shown to enhance oral reading in students who have both intellectual and learning disabilities (Daly & Martens, 1994; Rose, 1984a, 1984b, 1984c). LWR has been used to enhance students' speed of accurate reading across passages and word lists (Freeman & McLaughlin, 1984; Skinner, Cooper, & Cole, 1997). The effect of LWR on fluency is probably more indirect and not as strong as those of repeated readings. The modeling component (i.e., reading to the student) is designed to help the student get the words right during subsequent practice (i.e., the student-reading portion of the procedure). However, the procedure provides fast-paced practice, and it may be the practice that strengthens learning.

Findings from several studies suggest that during LWR interventions, it is critical that the rate of oral presentation be slow enough so that the students who are following along have sufficient time to read silently, attempt to read, and use the model reading as accuracy feedback for the printed material (Skinner et al., 1993; Skinner, Cooper, et al., 1997; Skinner & Shapiro, 1989; see also Skinner, Logan, Robinson, & Robinson, 1997, for a review). It is best if oral readers do not read much faster than the students' current reading rate. Fluent readers who intentionally reduce their reading rates should avoid reading in a clipped, word-by-word fashion. Instead, they should read according to the rhythm of the material, pausing appropriately for punctuation marks and using inflection. The greatest problem we have found with this approach is that students may not pay full attention and therefore may derive limited benefits from the modeling. We expected the modeling to make it a strong procedure, but we have seen many students who do better with the repeated readings intervention than with the LWR intervention. Of course, the issue needs to be resolved

on a case-by-case basis, and there are no strong predictors of how a student will do with the interventions, short of trying them both and seeing how he or she responds to each.

Teaching Words in Isolation

In general, students progress more when they practice reading connected texts, which is the natural context in which words appear. So, as noted above, the intervention strategies that train word reading in connected texts are more likely to promote generalization across texts. In some cases, however, the connected text creates too much "busyness" for a student to be able to learn individual words. Indeed, in some instances, teaching in context may create more confusion (Howell & Nolet, 2000). When this is the case, it may be useful to teach a student to read words in isolation. Taped words is generally appropriate when a student's word-reading accuracy is poor. Isolating the word individually and modeling correct reading of the words may be a necessary step before text reading will improve.

Taped Words

Taped-words procedures were developed by Freeman and McLaughlin (1984) and are used to teach isolated word reading. The procedure used involved printing a list of words in columns (e.g., 80 words, 2 columns of 40) and making an audio recording of the word lists being read very rapidly (e.g., 80 words per minute). The recording speed was thought to be critical because students may have modeled both accurate reading and reading speed. Students are then instructed to read the word list along with the tape. Researchers have found evidence that these procedures enhance word list reading accuracy and fluency in students with learning disabilities, intellectual disabilities, emotional/behavioral disorders, and ELs (e.g., Bliss, Skinner, & Adams, 2006; Freeman & McLaughlin, 1984; Shapiro & McCurdy, 1989; Sterling, Robinson, & Skinner, 1997).

To determine if students achieved the modeled reading rates after intervention, researchers slowed the rate of presentation (e.g., one word every 5 seconds) and compared learning across procedures. These studies suggest that students do not achieve the modeled reading rates, as word-list reading fluency improvements were similar when words were presented every second versus every 5 seconds (Skinner, Johnson, Larkin, Lessley, & Glowacki, 1995; Skinner & Shapiro, 1989; Skinner, Smith, & McLean, 1994). However, something interesting happened when words were presented at a slower rate (e.g., every 3–5 seconds): although students were still instructed to "read with the tape," when words were presented at a slower rate, many students began to attempt to read words before the tape. Additionally, they appeared to use the recording as feedback regarding the accuracy of their reading. For example, one student would read the word before the tape and then say "yes" when he heard the recording. In these instances, students had turned the tape-words intervention into something that resembled a flashcard intervention, which encouraged others to purposefully apply similar procedures to enhance basic math and reading skills (Bliss et al., 2006; McCallum, Evans, Friedrich, & Long, 2011; McCallum, Skinner, & Hutchins, 2004; Taylor, Skinner, McCallum, Poncy, & Orsega, 2013).

Flashcards

With taped words, students were required to read lists of words printed horizontally down a page. One concern with such procedures is that students may lose their place and mislearn words. One way to address this concern is to present only one word at a time with flashcards. Flashcard procedures have been shown to be very effective at increasing sight-word reading in students with disabilities (Browder & Xin, 1998). Like taped words, flashcards first build word-reading accuracy. However, because of the heavy practice component it also builds word-reading fluency. Although flashcard sight-word instruction may seem like a very simple procedure, there are many decisions to be made when applying flashcard instruction.

A typical flashcard trial involves presenting the flashcard, providing some time for the student to respond, and then providing feedback on the response. If we start with this simple procedure, we are immediately faced with several considerations. First, we must consider how much time we should give the student to respond. This discussion may be dependent upon the specific word and other instructional strategies currently being applied. For example, consider two words (*chart* and *queue).* Because the word *chart* is a phonetically regular word, a student who is receiving phonemic instruction should probably be given a response interval that provides enough time for him or her to apply his or her phonetic skills and attempts to read this word. However, providing the same student with time to attempt to read phonetically irregular words may increase the probability that the student reads the word incorrectly and, thus, frustrate the student as he or she attempts to apply skills he or she has been previously taught but which do not apply in this case. Therefore, we may want to provide 3–5 seconds for students to attempt to read *chart*, but only 1 second for the student to read *queue* (Bliss et al., 2006; Haw et al., 2011, 2012).

Staying with the above examples, we can now address the type of feedback we provide. Under both conditions, when a student reads the word correctly, immediate feedback should be provided. In some instances merely saying, "Correct!" is enough. In other instances, when teachers want to encourage the application of recently acquired phonemic skills, they may want to add labeled praise by saying, "Correct, nice job sounding out the word!" When errors are made on regular words, feedback may include some phonetic instruction (e.g., "The *ch* makes the /ch/ sound"). For irregular words, feedback should be quick, dispassionate, and corrective (e.g., "No, the word is *queue*"). In both cases, when errors are made students should repeat the word following the feedback. This repetition ensures that the last response they made was correct and increases the number of accurate responses students make with each session, a procedure that may enhance sight-word learning in students with disabilities (Belfiore, Skinner, & Ferkis, 1995; Ferkis, Belfiore, & Skinner, 1997).

When teaching irregular words to a student in a one-on-one context, another strategy may be to apply progressive time delay. With this procedure, you might show the flashcard and say the word simultaneously, with the student repeating the word as you continue to display the word. After finishing this procedure with a word set (say, five words), you would shuffle the flashcards and repeat this procedure, now giving the students 1 second to read each word before you say it. The next time through the set, you might allow 2 seconds

before you read the word aloud. Eventually, you will find that students begin to say the word before you do. One of the primary advantages to this procedure is that students tend to make few errors because during early trials the correct word is provided before they can say it. They are also more likely to read the word correctly in subsequent trials because they have enough time; the earlier trials caused learning. Progressive time delay can also go in the other direction. With regular words, we may want to provide 5 seconds for students to respond on initial trials so that students have time to apply their phonemic skills. When the set of flashcards is repeated, reducing response intervals may encourage greater automaticity (Bliss et al., 2006; McCallum et al., 2004).

Researchers have also investigated computer-based flashcard instruction and found that it was effective for students with significant reading skill (Hilton-Mounger, Hopkins, Skinner, & McCane-Bowling, 2011; Kodak, Fisher, Clements, & Bouxsein, 2011; Yaw et al., 2011). The obvious advantage of computer-based flashcard instruction is that teachers do not need to monitor students individually. The disadvantage is that computers cannot adjust their procedures or feedback based on student responding. For example, a computer may not be able to observe a student attempting to apply phonemic skills and allow a bit more time for responding. Another disadvantage is related to computer-delivered feedback. In theory, voice recognition software should allow for the computer to immediately evaluate a student's sight-word reading. In practice, we have found that in too many instances, these evaluations are flawed, particularly when students have articulation problems, heavy accents, and/or speak softly.

Fortunately, it is fairly easy to develop a computer-based flashcard intervention that does not require programming or code. A method for creating flashcard items in PowerPoint is described in Figure 6.5 (based on Hopkins, Hilton, & Skinner, 2011). Prior to the session, the student should be instructed to read words aloud as soon as they appear on the screen. When a student starts the PowerPoint slides, a word first appears on the screen. He or she should attempt to read it. Next, an audio recording of the word plays after a slight delay (e.g., after 5 seconds), providing the student with feedback on his or her accuracy and a model for correct reading. The word remains on the screen for a brief moment (e.g., 1.5 seconds) to provide the student time to repeat the word in front of the word display. After the word disappears, a new word appears and the process is repeated. We recommend that you have the student practice the same words at least twice in a single session.

Researchers have manipulated response intervals (how long student have to respond before the recording is played). Learning across different response intervals (1-second, 3-second, and 5-second intervals) was similar (Black, Forbes, Yaw, & Skinner, 2013; Yaw, 2013). However, because the briefer intervals reduced instructional time, students learned at a much more rapid rate during the 1-second computer-based flashcard procedures. Also, students appeared to prefer shorter (1-second) response intervals (Yaw et al., 2012). Consequently, while it may be tempting to develop procedures that allow plenty of time for students to respond, these delays may reduce learning because they reduce the overall number of word presentations over time. Additionally, some research suggests that long delays may reduce student attention and learning (Hawkins, Skinner, & Oliver, 2005).

Materials:

Computer, Microsoft PowerPoint

Selecting Unknown Words:

Words can be presented on a computer or on handwritten index cards. Several criteria have been used. We recommended initially presenting all words for 2 seconds without assistance to determine whether the student can read the word or not. Any words not read correctly within 2 seconds should be considered unknown and included in the pool of words targeted for instruction.

Preparing PowerPoint Slides:

1. Open PowerPoint and create the first slide "Start"; when the student clicks, the intervention will begin.
2. Create target-word slides. Press and hold the *CTRL* key, then press the *M* key. When a new slide appears with two text boxes, eliminate the bottom text box by clicking it and then pressing the delete key. Click the remaining text box, drag it to the middle of the screen, and type the target word. This first slide can serve as a template for all additional slides.
3. Create recordings for each slide. If your computer does not have an internal microphone, plug one into the audio jack. Go to the *Insert* menu, and select *Sound* or *Movie/Sound* and a dialog box will appear with the following options: PLAY, STOP, and RECORD. To make a recording, click RECORD and say the word immediately, click STOP, and then click OK. **Do not select automatic play.** When a *speaker* symbol appears on the PowerPoint, drag it to the bottom of the slide. You may double click the speaker to check the recording.
4. Slide intervals. Five-second intervals are recommended: 3 seconds to read each word plus 0.5 seconds for the recorded response plus 1.5 seconds to allow the student to repeat the word. To set these intervals, click the *Animations* menu and, under the advanced slide options, deselect *Mouse Click* and select *Automatically after* and then type in 5 seconds.
5. Audio recording intervals. In our example, we wanted to allow the student 3 seconds to read the word; therefore, after the word appears on the screen, we want to set a 3-second auditory delay. To do so, select the *speaker* symbol, right click and select *Custom Animation*, and click *Add Effect*, then *Sound Action,* and finally *Play*. To set the response interval or delay between the word and the recording being played, right click the new *Sound Animation* icon and select *Timing.* When the *Play Sound* dialog box appears, use the dropdown button beside *Start* and select *With Previous.* Type in *3* beside *delay* and then click *OK*.

Making Additional Slides:

You now have your first template slide. You can test it by viewing the slideshow. Next, create new slides by copying these slides. Once you have a pool of slides, they should be saved under a template file. This file can then be used to create new word pools (different words for different students), randomly sequenced words, and repeating words lists (repeat each list of 15 words four times instead of two times). As words are learned, they can be deleted and replaced with new words. It is also possible to use the slides to create computer-based assessments that involve each slide being presented for 2 seconds.

FIGURE 6.5. Creating flashcards. Based on Hopkins, Hilton, and Skinner (2011).

Other researchers have suggested that students will learn more from flashcard instruction if 70% or more of the words are known. Despite two meta-analytic studies that suggest such procedures work (Burns, 2004; Burns, Zaslofsky, Kanive, & Parker, 2012), we do not advocate using such procedures because they can take so much additional time. In fact, researchers who measured how much learning occurs per minute of instructional time found evidence that including too many known words reduced, as opposed to enhanced, learning rates (Forbes, Maurer, et al., 2013; Joseph, Eveleigh, Konrad, Neef, & Volpe, 2012; Joseph & Nist, 2006). The flashcard interventions used in these studies almost universally neglected to include prompting strategies like modeling and delayed modeling prompts.

Kupzyk, Daly, and Andersen (2011) added modeling and a prompt delay procedure (modeling after 2 seconds) to a method called incremental rehearsal. By including acquisition strategies, Kupzyk et al. (2011) were able to use all unknown items in their flashcard condition (now called "strategic incremental rehearsal"), which made the instructional sessions more efficient and produced faster word acquisition and better maintenance than the traditional incremental rehearsal flashcard procedure. This strategy is described in Table 6.5. Strategic incremental rehearsal is efficient because the instruction only needs to target unknown reading words and includes heavy doses of prompting to be sure students can give correct responses to unknown words right away.

Generalization is a concern with computer-based flashcard procedures. There is evidence to suggest that learning to read words on the computer can generalize to reading handwritten index cards (Yaw et al., 2012), typed sentences (Joseph & Nist, 2006), and typed passages (Cazzell et al., under review). However, generalization across formats did not always occur. Furthermore, being able to read a word aloud does not guarantee that students will know the meaning. Be careful to not assume that students will be able to read instructed words in texts. We suggest you have them practice the words in connected text after learning how to read them in isolation.

THE CONTEXT FOR READING INTERVENTION: PUTTING THE COMPONENTS TOGETHER

You now have some ideas and some steps to follow for creating reading interventions. The problem is figuring out which strategies are most appropriate for each student. Psychology has had a long love affair with attempting to predict successful interventions. Unfortunately, the practice went way beyond the data, and researchers and practitioners alike forgot to check the outcomes before coming up with complicated processes for prescribing interventions (Kavale & Forness, 1999). There are no sure ways to predict which strategy or combination of strategies is going to work. You simply have to choose them and try them. That's why long-term progress monitoring is so critical to this whole enterprise. Each case is essentially a new experiment, and there will be differences in circumstances both within and across cases. What is highly effective for one child might not be effective for another child, and what works at one time with a child might not work as well at another time. Therefore, we acknowledge that the best we can do is give you some guidelines that may save you time in the long run. It is your responsibility to monitor the intervention carefully and make adjustments, as necessary.

The best way to improve students' reading is by making them read! You may be thinking that this is an overly obvious suggestion. However, one of the characteristics of poor classroom instruction is a lack of active student responding (i.e., student reading in this case). Often, students who are having difficulty learning to read spend less rather than more time reading in the classroom. Intervention sessions should be characterized by a lot of active student responding. Students should spend most of the time reading something. Students who are not actively reading aloud during instruction should be engaging in activities

that prepare them to read aloud (e.g., following a model of good reading so that the passage becomes easier to read). Such sessions should not be too long; students are likely to become fatigued and frustrated if sessions last more than about 20 minutes, in general. Of course, some students won't be able to sustain attention even that long. You will need to monitor each child carefully.

We also suggest that you attempt to integrate intervention procedures with current ongoing instruction as much as possible. For instance, repeated readings can be handled by a tutor or willing parent before or after a child reads a story in reading group. Folding-in words can be taken from reading passages, and so forth. View these intervention strategies as ways to supplement what is currently happening in the classroom. There are exceptions to this rule, however. We have seen examples where a teacher is willing to revise classroom instruction procedures altogether because he or she recognizes that more children will benefit. In this case, ongoing instruction is changed to fit the chosen intervention strategies. Perhaps, for example, the teacher is willing to do repeated readings with the reading group through a choral reading exercise (i.e., all students reading aloud together). Another situation arises when a student's skill level is significantly below the current instructional level—for example, a third-grade student receiving second-grade instruction but still showing significant deficits in phoneme segmenting abilities or phonics skills. The intervention should probably target these prerequisite skills. You may want to work with the teacher to see if he or she can modify work demands (e.g., seatwork) so that the student is working on material that is at a more appropriate level.

Another approach to strengthening instruction is to supplement the instruction delivered by the teacher with an intervention that is carried out with the aid of technology, by the student (self-managed intervention), a peer, someone at home, or another adult (e.g., a volunteer tutor or an available paraprofessional; Lentz, Allen, & Ehrhardt, 1996). If a peer or a volunteer is trained to do repeated readings, LWR, or error correction with the target student, tutoring sessions can occur before the student arrives in reading group, making him or her more capable of benefiting from the instruction the teacher is delivering. Alternately, the teacher can assign passages or words to be reviewed through one or more of the interventions outlined in Table 6.6 after instruction for practice and more in-depth error correction. Teachers need not bear all the burden of instructional interventions. Utilizing available resources wisely can help to improve the impact of the teacher's instruction.

TABLE 6.6. Prioritizing Intervention Components

Student's skill level	Increasing intensity →				
Fluency	RR	PF	PD		
Acquisition	RR	PF	PD	LWR	SIR
Phonics acquisition	RR	PF	PD	LWR	PWI

Note. RR, repeated readings; PF, performance feedback; PD, phrase drill; LWR, listening while reading; SIR, sequential incremental rehearsal; PWI, phonics words taught in isolation.

Prioritizing Intervention Strategies

When choosing which intervention to use, you need to balance effectiveness with cost efficiency (in terms of time and resources). In many cases, a simpler intervention is a good starting point. Avoid making recommendations to a teacher for interventions that are cumbersome and difficult to manage—unless, of course, they are absolutely necessary. If a simpler intervention does not work, then try a more complex one (which might involve nothing more than adding intervention components, as opposed to changing the intervention entirely). That said, the ground rule is: Start with a simpler intervention that is likely to be effective most of the time. The intervention of repeated readings fits this requirement well. Repeated readings often is the strongest fluency-building intervention of those discussed in this chapter. The other strategies support or enhance the efficacy of repeated readings.

If you start with just having the student read aloud as one would do with repeated readings, you can observe his or her patterns and gauge his or her instructional needs. Are errors high and the fluency rate low? If so, the student's accuracy is poor and strategies like modeling, error correction, and practice in isolation might be necessary. Are errors low, but reading is still slow? If so, the student's fluency is poor and he or she would benefit most from practice (e.g., repeated readings) and motivational strategies like performance feedback and maybe even an explicit reward program. Table 6.5 presents our recommendations for how you might prioritize the choice of additional intervention strategies. You will want to vary intervention components depending on the student's skill level. If a student is at more of an acquisition level than a fluency level, then there are additional steps you probably should take. A more significant problem occurs when a student is struggling with basic phonics and having difficulty reading even the simplest texts. The table characterizes this skill level as "phonics acquisition." An intervention plan is presented in the next section for this special case. Another factor to consider is the intensity of the intervention—that is, how much time can (and should) be put into individual reading sessions. The more intense the problem (e.g., there is a very large discrepancy with peer levels), the more intense the intervention should be. Because there are no sure predictors of intervention effectiveness, it is generally safe to start with a lower-intensity intervention and modify it if it doesn't work, rather than starting with a very intense intervention that may have some unnecessary steps. Intervention components are presented in Table 6.6 in terms of recommended levels of increasing intensity.

As you consider how much time, effort, and complexity intervention strategies are likely to add to an intervention session, you may discover that some of them really don't cost much. For example, performance feedback is easily added to repeated readings at very little cost in terms of time and effort—and there may be a big payoff for the student if he or she finds the improvements rewarding or if it leads to other rewards (e.g., the tutor praising the child). Although we highly recommend this strategy, a glaring weakness of it is that sometimes students end up practicing their errors. Therefore, although phrase drill is a bit more involved in terms of the time it adds to the intervention and the need for more careful supervision, it may be a worthwhile and important addition to an intervention comprising repeated readings plus performance feedback.

If the student is really struggling or has a low fluency rate, you probably want to add some acquisition components. LWR is a relatively simple addition to an intervention plan and is easier to do than folding in. We suggest that you add LWR first. If the student continues to have difficulty mastering some words, then start doing the sequential incremental rehearsal flashcard procedure. You may go through some or all of these interventions and discover that the student is not responding, or you may figure out early in the process that the student hasn't mastered basic phonics skills. In that case, you might want to try something different (a recommendation is presented in the next section). Before these types of problems are addressed, we draw your attention to Worksheet 6.1 at the end of this chapter, which can help you select an intervention package. You can use this form to record critical information about the case and to guide your selection of various intervention components. Figure 6.6 shows a sample worksheet that has been filled in for Malinda, a third-grade student. In this example, Malinda is presumed to have a fluency problem, and repeated readings and performance feedback are selected as interventions.

When You Can't Go Lower in the Curricular Basal Series

Figure 6.7 presents an intervention that can be used when a student is learning basic phonics skills. Although this protocol targets short-vowel sounds, it can be modified for any other type of phonic skill (e.g., long-vowel words). Just change the rule in steps 1 and 2 of Part I (the phonics lesson) to reflect the skill being taught. A variation of this intervention was used by Daly, Martens, et al. (1996) to produce generalized increases in reading fluency for high-contact-overlap passages. The intervention has been changed to include a phrase drill component and performance feedback, which were not a part of the original study. The basic sequence of instruction was configured to reflect strong instructional design principles (Grossen & Carnine, 1991). The phonics skill is taught in isolation first, with opportunities to apply and practice the skill in the context of connected text. Throughout the session the student receives modeling, practice, error correction, and performance feedback. This intervention may prove particularly useful when there is no systematic teaching of phonics in the classroom.

Classwide Peer Tutoring

Repeated readings and LWR are effective procedures for enhancing reading fluency. These procedures are likely to be more effective when (1) students are reading from material that is not too difficult, (2) feedback and reinforcement are provided for improved performance, and (3) procedures are implemented frequently so that students have many opportunities to respond. One program that incorporates all of these components is classwide peer tutoring (CWPT). CWPT is a group intervention that can increase the skills of many students at one time and is therefore an efficient intervention, if it is acceptable to the teacher.

CWPT programs have been developed for reading, mathematics, spelling, and content areas (Greenwood, Delquadri, & Carta, 1997). These programs are designed to enhance student skill development by eliciting high rates of active academic responding in all stu-

Student Name: *Malinda* Date: *1/30*

Grade: *3rd*

Step 1. Identify student needs.

Baseline student data:

Two assessments in fourth-grade basal reader; median CRW = 50, errors = 3 (1/28/13); median CRW = 46, errors = 5 (1/30/13). Teacher notes Malinda often appears unmotivated to read.

Suggest that student is struggling with:

(Fluency) Acquisition Phonics acquisition

Step 2. Select intervention strategies.

What is the simplest yet potentially appropriate package to begin with?

Skill level	Increasing intensity →				
Fluency	(RR)	(PF)	(PD)		
Acquisition	RR	PF	PD	LWR	SIR
Phonics acquisition	RR	PF	PD	LWR	PWI

Note. RR, repeated readings; PF, performance feedback; PD, phrase drill; LWR, listening while reading; SIR, strategic incremental rehearsal; PWI, phonics words taught in isolation.

Malinda needs practice and may increase motivation with performance feedback. Error rate is high and needs to be reduced.

Step 3. General considerations.

How can the selected intervention procedures fit with current instruction, or vice versa?

Mom has agreed to supervise her at night and conduct PD after first reading. Malinda and Mom will graph the results together. They will practice upcoming stories in the curriculum. That way, she will come to reading group well prepared.

FIGURE 6.6. Example of a completed worksheet for selecting an intervention package for Malinda.

dents within a classroom setting (Greenwood, Delquadri, & Hall, 1984). The program uses peers to supervise and provide feedback for responding, a game-like format in which rates of accurate oral reading are reinforced, and weekly progress evaluations that can be used to make educational decisions for individual students.

CWPT has been shown to increase academic engaged time and reading fluency in both general education students and students with disabilities (Kamps, Barbetta, Leonard, & Delquadri, 1994; Otis-Wilborn, 1984). The program is also associated with lower dropout rates, increases in performance on standardized achievement test scores, and reduced spe-

Overview:

1. Teach a phonics lesson.
2. Train phonics words in isolation: model plus prompt responses.
3. Have students practice phonics words in passage: model, repeated readings, error correction, performance feedback.

Materials Needed:

Instructions for administration
Instructional word list
Phonics passage
Stopwatch
Pen or pencil

Procedures:

Part I: Phonics Lesson

1. Say, "TODAY WE ARE GOING TO LEARN WORDS THAT CONTAIN THE [STATE LETTER SOUND] SOUND."
2. Present the word list to the student and say, "THESE WORDS ALL CONTAIN THE [STATE LETTER SOUND] SOUND BECAUSE . . . THE VOWEL STANDS BY ITSELF IN THE WORD AND IS SHORT."
3. Say, "I WILL READ THE WORDS TO YOU. I WANT YOU TO POINT TO THE WORDS AS I SAY THEM AND SAY THEM TO YOURSELF."
4. Read the words out loud to the student, as the student points to the words.
5. After reading the list to the student, say, "NOW I WANT YOU TO READ THE WORDS TO ME. IF YOU ARE NOT SURE OF A WORD, I WILL HELP YOU."
6. Tell the student to begin reading at the top of the list.
7. If the student does not read a word within 3 seconds, say the word for the student and have the student repeat the word (saying "Repeat after me!" if the student does not repeat the word spontaneously).
8. Have the student read the entire list, while you correct errors each time they occur.

Part II: Listening while Reading

1. Present the instructional passage to the student, saying, "THIS IS A STORY WITH A LOT OF WORDS THAT HAVE THE [STATE LETTER SOUND] SOUND. I WILL READ THE STORY TO YOU. PLEASE FOLLOW ALONG WITH YOUR FINGER, READING THE WORDS TO YOURSELF AS I SAY THEM. THE STORY IS CALLED. . . ."
2. Read the entire story at a comfortable reading rate, being sure that the student is following along with his or her finger.

Part III: Student Reading, with Error Correction and Performance Feedback Provided

1. Have the student reread the passage, saying, "NOW IT'S YOUR TURN TO READ THE PASSAGE. PLEASE BEGIN READING HERE [POINT TO THE BEGINNING] AND TRY TO READ EACH WORD. IF YOU COME TO A WORD YOU DON'T KNOW, I'LL TELL IT TO YOU. WHEN YOU ARE DONE, I WILL TELL YOU HOW QUICKLY AND ACCURATELY YOU READ THE PASSAGE."
2. Begin timing the student when he or she says the first word. If the first word is pronounced incorrectly, correct the student and begin timing with the next word. Underline or highlight error words as the student reads aloud.
3. If the student hesitates for more than 3 seconds, point to the word in the student's copy of the story, say the word, and underline the word.
4. When the student has finished reading the text, tell him or her either (a) how many words he or she read in the first minute or (b) how much time it took to finish the story and (c) how many errors he or she made.
5. Next, show the student your copy of the passage, with its underlined/highlighted words. Read each error word correctly to the student (modeling). Have the student read the phrase/sentence containing the error word aloud three times. [If a sentence contains more than one error word, model correct reading of all error words first and then have the student read the phrase/sentence three times.]
6. Have the student read the passage two more times. (That is, repeat steps 2 and 3 two more times. Omit underlining of error words.)

FIGURE 6.7. An intervention plan for students with poor accuracy and poor phonics skills (short-vowel words).

cial education placement rates (Greenwood, 1991a, 1991b; Greenwood et al., 1984; Harper, Maheady, Mallette, & Karnes, 1999). A protocol for CWPT is presented in Table 6.7. Further information about implementing CWPT can be obtained at *interventioncentral.org* (see also Chapter 2).

The CWPT program has several advantages over more traditional oral reading programs. In a class containing 15 students, a teacher may call students to a specific area of the room, have them sit in a circle, and take turns reading aloud (small-group round-robin reading). With all the time required for transition, students may be reading aloud and receiving feedback, reinforcement, and error correction for only 1 minute (often less). However, by using peers to provide this feedback, students can engage in such behavior for 10–15 minutes in the same time period.

A second component to this program is that rewards, in the form of points, are delivered contingent upon rate of accurate responding. Additionally, in the game-type format, an unknown number of points is needed to win the game each day, and the mystery is highly motivating. All students are encouraged to do their best, of course. Fluent readers can help their team win by reading even more rapidly and accurately. Those with reading skill deficits can also contribute to their team's success by doing their best, which may make the activity more rewarding for them. Team compositions are changed frequently. Thus all students have an opportunity to be on a winning team.

The program incorporates both repeated reading and LWR. Although dyads read and reread the same material, the material can be varied across groups of students with regard to difficulty and length. Length is of particular interest. For slower readers, passage length can be reduced so that while the tutee reads aloud, he or she has the opportunity to reread

TABLE 6.7. Classwide Peer-Tutoring Procedures

1. Use CBM data to determine students' highest instructional level.
2. Divide class into two teams each week.
3. Within each team assign students to dyads based on CBM results; students in each dyad should be reading from the same material.
4. Each student takes a turn reading aloud to team members for a fixed amount of time (10–15 minutes). As one student reads aloud (tutee), the other student (tutor) follows along, awarding points for correctly read sentences and immediately correcting errors (e.g., skipped line, mispronunciation).
5. If a student finishes the selected passage before the allotted time expires, he or she begins to reread the passage.
6. As students are reading, the teacher moves around the room giving bonus points for implementing procedures accurately and reading words that students are unable to decode.
7. After time is up, students switch roles and repeat the procedure.
8. Points are totaled.
9. Individual student points and team points are publicly posted; winning teams are announced each day, often followed by a round of applause.
10. This procedure is typically implemented 4 days per week; on the fifth day progress data are collected by having students read aloud for 1 minute (CBM procedures).

the material several times. This strategy should boost these students' total points and may improve their reading skills. Furthermore, CWPT provides an excellent format for LWR because students reading at the same instructional level read the material silently while serving as tutors. Thus, the tutee may not be reading too fast or too slow, but at just the right speed to enhance the reading skills of the tutor who is following along and scoring.

When first implemented, CWPT is likely to require additional time as students learn the system. Additionally, classrooms are likely to get noisier, and some students may cheat (inflate points) or argue among one another. However, teachers who implement this program consistently find that they are able to adapt to the noise level and address these other concerns.

A final issue concerns the public posting of students' performances. Posting the low points of dysfluent readers is not recommended because it may encourage peers to compare their individual performances (i.e., points earned). Such comparisons are unlikely to be favorable to dysfluent readers. Instead, educators should post each team's performance with a focus on improvement.

CONCLUSIONS

This chapter gives an overview of the importance of, measurement of, and interventions for oral reading fluency. The intervention and measurement strategies are presented with guidelines for use, when appropriate. It is essential, however, that you adapt these methods to your local needs. Students have different fluency levels before intervention, and schools have different priorities and ways of organizing intervention efforts. The ultimate test of the utility of these interventions is whether they produce measurable increases in performance. With ongoing assessment, you will be able to determine whether the methods you are employing are meeting that standard. When the data suggest that something is not working, procedures should be revised until an effective plan is developed. It is worth repeating here that long-term monitoring of progress is the best test of the effectiveness of any intervention plan.

Students with reading skill deficits may approach all reading activities cautiously because of their history of failure. When working with these students, it is helpful to approach all activities with an upbeat attitude. Do not dwell on or punish errors or mistakes. Instead, attempt to keep scheduled activities moving along rapidly. When the student's performance improves, do provide feedback along with praise. Remember, students who associate reading activities with success and other positive experiences may be more likely to choose to read, as opposed to avoiding reading activities. The more frequently students choose to read, the greater their fluency is likely to become. As students become more fluent readers, they are more likely to choose to read in the future. This upward spiral is the goal of all procedures designed to enhance fluency.

WORKSHEET 6.1

Selecting an Intervention Package

Student Name: _____ Date: _____

Grade: _____

Step 1. Identify student needs.

Baseline student data:

_____

_____

_____

_____

Suggest that student is struggling with:

Fluency Acquisition Phonics acquisition

Step 2. Select intervention strategies.

What is the simplest yet potentially appropriate package to begin with?

Skill level	Increasing intensity →				
Fluency	RR	PF	PD		
Acquisition	RR	PF	PD	LWR	SIR
Phonics acquisition	RR	PF	PD	LWR	PWI

Note. RR, repeated readings; PF, performance feedback; PD, phrase drill; LWR, listening while reading; SIR, strategic incremental rehearsal; PWI, phonics words taught in isolation.

Step 3. General considerations.

How can the selected intervention procedures fit with current instruction, or vice versa?

_____

_____

_____

_____

When will the intervention be carried out and for how long each time? (Student should be reading actively during most of the session. Sessions should probably last no longer than 20 minutes.)

_____

_____

_____

_____