One-Minute Fluency Measures: Mixed Messages in Assessment and Instruction

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More and more school districts are adopting one-minute fluency assessments. Although valid and reliable, they may lead astray our understanding of struggling readers' reading development and instructional needs.

One-minute fluency measures are becoming prevalent, largely due to federal policies and initiatives such as the National Reading Panel's recommendation that "teachers should assess fluency regularly" (National Institute of Child Health and Human Development, 2000, p. 3-4), and the reauthorization of the Individuals with Disabilities Education Act (IDEA), which mandates that states must permit a Response to Intervention (RTI) approach to identify students with specific learning disabilities, a subcategory of which is reading fluency skills. One-minute fluency measures do reliably identify students who are at risk for reading difficulty. However, they may not map onto current definitions of fluency. Because of this, they may generate misunderstanding about students' fluency, which, in turn, may lead to inappropriate instruction. Therefore, it is important to define reading fluency, determine which components are assessed in one-minute measures, and take note of what might be missing.

Reading Fluency

The Literacy Dictionary (Harris & Hodges, 1995) defines fluency as "freedom from word-identification problems that might hinder comprehension...; automaticity" and a fluent reader as "any person who reads smoothly, without hesitation, and with comprehension" (p. 85). In this definition, fluency consists of four components: accuracy ("freedom from word-identification problems"), rate or speed ("automaticity," "without hesitation"), prosody ("smoothly"), and comprehension. This definition suggests that accuracy, rate, and prosody are vehicles to comprehension, so let's look at these more closely.

Accuracy

If students are to comprehend what they read, they must accurately identify the majority of words in a text. Misreading critical words, or a large percentage of words, can derail comprehension. Consider this example of Kenny's (all names used are pseudonyms), a seventh grader's, reading and think-aloud response for "The Mannerism" (de Maupassant, 1989; stricken words are the actual text, words in parentheses are Kenny's substitutions):

> Text: *With my own hands I laid her in the coffin, and I went with it to the cemetery ~~where~~ (with) it was placed in the family vault. At my request, she was ~~buried~~ (burned) wearing all her jewelry—bracelets, necklaces, rings—and wearing a party dress.* (p. 58)
>
> Kenny: "Well, like she, well, she died from this disease and he wants her to be burned and he's probably gonna, I don't know, maybe he's probably gonna try to kill himself or something 'cause he can't take it."
>
> Text: *The ~~apparition~~ (appression) spoke again. 'Don't be afraid, father. I was not dead. Somebody came to steal my rings, and to get them they cut off one of my fingers'.* (p. 61)
>
> Kenny: "Well, she said she's not dead, but they burned her or something."

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Although Kenny's accuracy is within the instructional level (96%) for this text, his misreading of one crucial word ("burned" for *buried*) disrupts his understanding of the story. Even when we may think a miscue is not significant within the greater context of a story, such as mispronouncing someone's name, it can wreak havoc on comprehension. Kenny's retelling of "The Mannerism" suggested that his mispronunciation of a character's name caused him to create a misrepresentation of this text. He read,

> My old servant, ~~Prosper~~ (Prospector), who had helped me lay Juliette in her coffin.... (p. 60)

In this story, the servant, whose name is Prosper, cut off the girl's finger to steal her rings. Because Kenny read the servant's name as "Prospector," his retelling included a new character—a prospector who dug up the girl's grave to cut off her finger.

Rate

Rate includes both automaticity and speed of reading. Automaticity means getting words off the page quickly and effortlessly, without conscious attention. This is important because readers have limited attention available for complex tasks. If they need to use attention to get words off the page, they will have less attention available to devote to comprehension (LaBerge & Samuels, 1974; Stahl & Kuhn, 2002).

Reading speed similarly relates to comprehension. Although speed does require balancing components other than word recognition (e.g., phrasing, syntax, punctuation, prosody), automaticity is a significant contributor to speed. One reason we can read with acceptable speed is that we can get the words off the page without a great deal of effort, leaving more attention to devote to understanding. Although reading rate does not ensure comprehension (we have all come across students who read accurately and relatively quickly, but do not understand what they read), there is much research suggesting that higher rate is related to higher levels of comprehension (see among others Chard, Vaughn, & Tyler, 2002; Rasinski, 1989).

Prosody

Prosody refers to a reader's ability to read smoothly, with appropriate phrasing and expression. Prosody includes the expressive qualities of tone, inflection, and rhythm that make reading sound like oral language, speech, drama, or music. Prosody also includes phrasing or parsing text into appropriate segments. Readers use appropriate prosody through their understanding of the context of the text, and by using a variety of text cues such as signal words (cried, screamed, asked), typeface (That's *really* weird.), punctuation (He is here? He is here. He is here!), and syntax (Her office is / across the hall / on the left.).

The relationship between prosody and comprehension is unclear. Prosody may be the cause of comprehension (a reader understands what she's reading because she uses appropriate prosody) or the result of comprehension (a reader can use appropriate prosody because she understands what she's reading). Some researchers argue that there is a reciprocal relationship between the two (Kuhn, 2009). In a recent study of first and second graders, Miller and Schwanenflugel (2008) found inappropriate pauses negatively related to comprehension, but the study was not designed to offer further explanation. Although we may not understand the exact nature of the relationship between reading with appropriate prosody and understanding what one reads, it is clear that such a relationship exists (Miller & Schwanenflugel, 2008; Pinnell et al., 1995). From a practical standpoint, consider this fourth grader's reading of a passage about Tomie dePaola from the *Qualitative Reading Inventory* (Leslie & Caldwell, 2006):

> Tomie dePaola has illustrated over/ 200 books. He has also authored /over 100 of those/ he has/ illustrated. Tomie was born in 19/ 34 in Connecticut, one/ of four/ children. Tomie's mother read to him as a young boy.

Although this student may understand the piece, I would be confused about how many books dePaola has written versus illustrated.

(Mis)Matching Definition and Assessment

Assessment choices should be based on our understanding of the construct being assessed. If we subscribe to the *Literacy Dictionary*'s (Harris & Hodges, 1995) definition of fluency as containing the four components of accuracy, speed, prosody, and comprehension, when assessing fluency we would

naturally assess accuracy, speed, prosody, and comprehension. Yet this is not current practice, perhaps because there is not one universally agreed-upon definition of fluency. Kuhn and Stahl (2003) wrote, "There seems to be a consensus [in research literature] regarding the primary components of fluency: (a) accuracy in decoding, (b) automaticity in word recognition, and (c) the appropriate use of prosodic features such as stress, pitch, and appropriate text phrasing" (p. 5). Meyer and Felton (1999) similarly described fluency as "the ability to read connected text rapidly, smoothly, effortlessly, and automatically with little conscious attention to the mechanics of reading such as decoding" (p. 284). If we adopt this reduced view—accuracy, rate, and prosody—as our working definition of fluency, our assessment of fluency should incorporate accuracy, rate, and prosody. Yet even this is not current practice.

Although we should choose assessments based on a solid understanding of the construct we want to assess, the opposite can happen.

Torgesen (2000) argued that, although fluency is a complicated construct, we can only reliably measure two components, accuracy and rate, and in fact, many commercial assessments of fluency are assessments of accuracy and rate. Popular assessments such as AIMSweb *Standard Reading Assessment Passages* (Edformation, 2002) and the Oral Reading Fluency subtest (ORF) of the *Dynamic Indicators of Basic Early Literacy Skills* (DIBELS; Good & Kaminski, 2002) provide grade-level passages that the student reads for one minute as the teacher records the student's rate in words per minute (WPM; the number of words the student read in one minute), or rate and accuracy in words correct per minute (WCPM; the number of words the student read minus the number of errors the student made). Thus, we have now narrowed fluency to accuracy and rate.

Although we should choose assessments based on a solid understanding of the construct we want to assess, the opposite can happen. Widespread use of specific assessments can ultimately define the construct being assessed. What the measure assesses becomes the definition of the construct. This may be the case with reading fluency. The prevalence of one-minute fluency measures, which assess only two components of fluency, accuracy and rate, has the potential to reduce fluency and redefine it as accuracy and rate. As Samuels (2007) stated,

> One criticism I have of the DIBELS tests is that, despite their labels, they are not valid tests of the construct of fluency as it is widely understood and defined. They only assess accuracy and speed.... By attaching the term fluency to their tests, they create the false assumption that that is what the tests measure. (p. 564)

Fluency: A Deeper View

Although common assessment practice narrows fluency to rate and accuracy, our understanding of fluency should be broadened, rather than narrowed. Pikulski and Chard (2005) discussed a "deep" view of fluency, where the development of accuracy, rate, prosody and, ultimately, comprehension is the result of a long line of component processes.

A deep view suggests that fluency begins well before a student is able to show that he or she can read connected text and extends far beyond what a student demonstrates in one minute. Fluent readers must develop accuracy (correctness) and automaticity (speed) with many small parts of the reading process—identifying letter sounds, using strategies for accurately decoding new words, identifying high-frequency words, and accessing word meanings (Wolf & Katzir-Cohen, 2001). Initially, then, readers are not fluent. Beginning readers read word-by-word, trying to coordinate all that is involved in figuring out the text. However, as children gain more experience with letters and words, they begin to identify them automatically, without consciously thinking about them. Automatizing letters, words, and strategies allows readers to move from word-by-word reading to grouping words together meaningfully and more quickly (Miller & Schwanenflugel, 2008).

Although Pikulski and Chard (2005) expanded fluency to include the many subprocesses that lead to accuracy, rate, prosody, and ultimately comprehension, their explanation does not explicitly capture another important aspect of fluent reading—endurance. I define endurance as the ability to continue reading with appropriate accuracy, rate, prosody, and comprehension over an extended period of time. Endurance can be a significant stumbling block for many struggling readers. Yet endurance is rarely mentioned in fluency research or practice literature, or in reading research or practice literature.

Most research on the relationship between fluency and endurance comes from behavioral science and special education (Binder, 1996; Kubina, 2005), and suggests that endurance is a byproduct of accuracy and rate. When one increases the accuracy and rate with which one can perform a task, one is able to increase the length of time one can perform the task. Endurance is a necessary component of an even deeper view of fluency. In essence, it implies that *because* a reader has skill and control of the processes and subprocesses of reading, the reader can channel these to read and understand a variety of texts of a variety of lengths for a variety of purposes.

Comparing One-Minute Measures to a Deeper View of Fluency

One-minute fluency measures capture a reduced view of fluency—accuracy and rate—rather than a deeper view. I am not suggesting that one-minute measures are inappropriate, or that they do not accomplish their purpose. Measures such as AIMSweb and DIBELS are valid and reliable curriculum-based measures (CBM); that is, they measure how students are faring with respect to grade-level criteria (Deno, 1985). When used for their intended purpose, they are quick and provide useful information. Unfortunately, they are not always used in the way in which they were intended, perhaps due to the accountability pressures schools and teachers face.

In one district in which I work, students are placed into reading groups based on the results of one-minute assessments, which is not in keeping with the assessments' intent. Additionally, accountability pressure can confuse the measure with instruction. As Tierney and Thome (2006) pointed out, "DIBELS fails to separate outcomes from means. Accordingly, what DIBELS measures and what teachers teach become the same" (p. 52). If the outcome is increasing one-minute WCPM scores, more and more practice reading short pieces of connected text quickly and accurately will creep into the curriculum, which not only fails to capture the kinds of reading students do but paints a distorted picture of what reading is. Because continuous monitoring of fluency through accuracy and rate measures does not provide rich information, it may lead to inappropriate instructional decisions for students most in need of fluency instruction. These are issues of consequential validity (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 1999)—indirect or unintended consequences of using an assessment on the overall educational program.

What We Don't Know From One-Minute Measures

One-minute measures help us identify students who cannot read accurately and quickly. This is useful information. Yet to focus instruction, we need additional information. Most important, we need to understand why students are dysfluent and the effects of time on students' reading.

Why Students Are Dysfluent

Because the goal of one-minute fluency measures is the quick and reliable assessment of oral reading accuracy and rate, administration procedures are streamlined. The number of errors and the speed of reading are the targets. Teachers strike out words the student misreads, count up the number of words read in one minute, and subtract the number of errors from the number of words read. This is all that is needed to identify *whether* a reader is up to expectations for accuracy and speed. It is not all that is needed to identify *why* a reader may not be achieving expectations, which is the critical issue in instruction for struggling readers. One-minute measures do provide a vehicle for understanding how students approach text—graded passages. Listening to a student read is a powerful way to gain critical information about his or her reading. Minimally, writing in miscues (errors) helps the teacher understand how the student is using lower level skills, such as alphabetic knowledge and word patterns, and which skills the student needs to develop. Yet some one-minute screens actually preclude this type of administration. Assessments that use handheld technologies may only allow strike-through recordings, losing critical information to help teachers understand how students are coordinating the many aspects of fluency.

The Effects of Time

Struggling readers may have reasonable rate and accuracy for limited periods of time. They can, in a

one-minute snapshot, allocate their cognitive attention and resources to accuracy and speed—those components captured in one-minute screens—and to comprehension, which is not typically assessed in one-minute snapshots. Yet these students may not be able to maintain this reading over time. They lack endurance. Other students may struggle tremendously within the first minute, yet over time improve their accuracy and speed due to increased understanding of the context of the piece (cf. Jenkins, Fuchs, van den Broek, Espin, & Deno, 2003). Neither profile is captured in one-minute measures.

Let us take as examples of the effects of time students who attend an after-school literacy support program that I direct. Anna, Becky, and Peter are second graders who, despite reading intervention, read at a first-grade level. Jackie is a third grader who reads at a first-grade level, probably due to sporadic attendance in first and second grades. Jeffrey is also a third grader who, in first and second grades, was behind in the fall and caught up by the spring. Lily, Adam, and Miriam are fifth graders who read instructionally at a fourth-grade level, according to other assessments given. Because none of these students reads on grade level, a one-minute CBM benchmark easily captured their fluency difficulties. However, one-minute measures are also meant as progress monitoring tools. Monitoring struggling readers through grade-level text simply shows that they continue to be "deficient." Therefore, many districts monitor with grade-level prompts at specific points in the year, and use prompts at students' instructional reading level as weekly or monthly checks. In this way, teachers can see students' progress in moving toward grade-level text. However, even with instructional-level text, one-minute may not represent struggling readers' actual accuracy and rate over time.

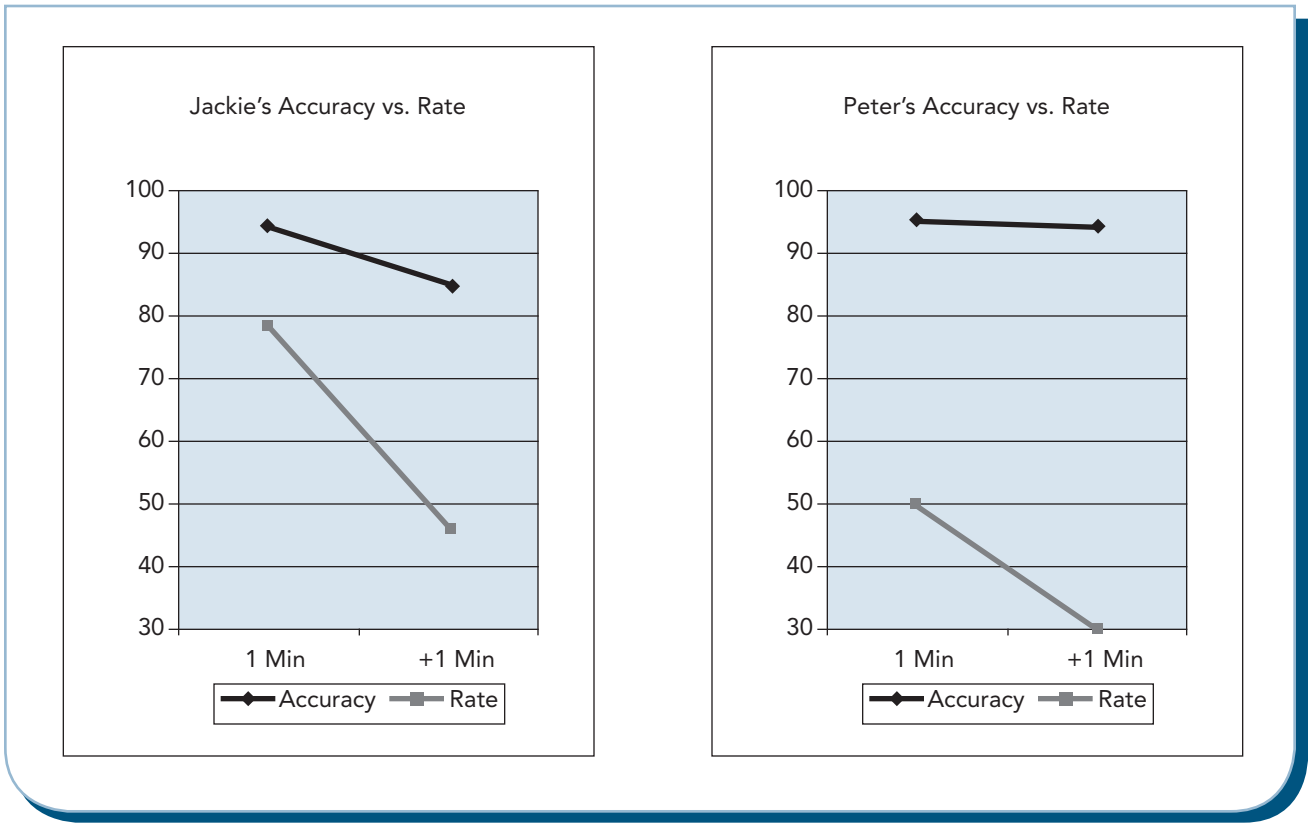
As shown in Table 1, these students in the after-school program all met the benchmark for their instructional level given a one-minute progress-monitoring assessment. Thus, they could be considered "fluent" at their instructional level. An implication of this might be that they are ready for an increase in text difficulty. Is that the appropriate next step? A closer look at Table 1 shows that none of the students maintains this level of fluency over time. Becky, Peter, Jeffrey, and Lily do not meet the same benchmark when reading for more than one minute, suggesting that, even at their instructional level, they are not truly fluent. Additionally, the relationship between accuracy and rate, something we may not see in reports of WCPM, is different for different students. For example, Jackie's accuracy and rate decline over time, whereas Peter maintains accuracy over time, but decreases rate (see Figure 1).

Understanding *that* these readers have not truly developed fluency at their instructional level—despite the positive results of this one-minute measure—is critical to developing appropriate instruction, as is understanding *why* they have not yet developed fluency. Even within these limited examples of eight students, we can see differences that would warrant different

Table 1
Examples of Struggling Readers' Reading Accuracy and Rate for One Minute and Whole Passage

Student	Grade placement	Instructional level	Recommended rate (WCPM)	WCPM: 1 minute	WCPM: > 1 minute
Anna	2	1	30–60 (Spring)	55	56
Becky	2	1	30–60 (Spring)	43	21
Peter	2	1	30–60 (Spring)	48	29
Jackie	3	1	30–60 (Spring)	73	33
Jeffrey	3	2	70–100 (Spring)	71	41
Lily	5	4	70–110 (Fall)	90	67
Adam	5	4	70–110 (Fall)	93	85
Miriam	5	4	70–110 (Fall)	102	84

Figure 1
Examples of Differences in Accuracy and Rate Over Time



instruction. Because Jackie's accuracy declines over time, she may need to solidify her word reading and decoding skills, whereas Peter, whose rate declines, may need to develop endurance.

Deeper Approaches to Fluency Assessment

Fluency is far more than accuracy and rate. Therefore, we need to take care with assessment practices and the language we use to describe them to ensure that we truly understand the information we gain and how it represents fluency. First and foremost, we should call assessments what they are. Rather than say AIMSweb and DIBELS are "fluency" assessments, we should say that they are assessments of accuracy and rate. They are what they are, and calling them what they are may avoid some of the misinterpretations that can arise from their results. Additional suggestions for deeper fluency assessment are as follows:

- Get the most from one-minute measures
- Include fluency with other assessments
- Tie assessment to instruction
- Assess endurance

Get the Most From One-Minute Measures

Teachers who are mandated to use a one-minute accuracy and rate measure can obtain reliable information for typical and struggling readers. For typical readers, the administration procedures are appropriate as is, because they will quickly demonstrate that these readers are not at risk. For struggling readers, the teacher could gain the information required by the assessment, and information to inform instruction. First, the teacher should record students' miscues, rather than use a slash-through method of marking errors. This will provide the number of errors made, in keeping with the assessment requirements, and

information about the lower-level skills that ultimately lead to fluency. Second, although the AIMSweb Training Workbook (Shinn & Shinn, 2002) states, "In the interest of time, don't let [students] finish the story" (p. 12), to gain information about endurance, the teacher could have students read the entire passage. The teacher can place a slash (/) in her copy of the text at the students' one-minute mark. That way, the teacher has a reliable rate for one-minute, as per the assessment requirements, and obtains the overall rate for the passage to assess endurance.

Include Fluency With Other Assessments

With good information about appropriate reading rate and accuracy, such as the recently developed oral reading fluency norms by Hasbrouck and Tindal (2006; see Table 2), and prosody, such as the Oral Reading Fluency Scale of the National Assessment of Educational Progress (NAEP, 1995; see Table 3), rather than adopt a separate fluency assessment, teachers can incorporate fluency assessment into any existing oral reading assessment. The 25th–75th percentile range of the oral reading fluency norms, and Levels 3 and 4 of the NAEP scale, would indicate acceptable fluency.

Tie Assessment to Instruction

In an RTI approach, continual monitoring is essential. However, because instruction, rather than assessment, is the key to improving fluency, progress monitoring should be tied to instruction, rather than divorced from it. Some fluency intervention programs currently used in schools monitor accuracy and rate as a matter of course, so there is no need to use another measure of accuracy and rate. Other research-based fluency instruction techniques, such as repeated reading, also include accuracy and rate assessments. In a repeated reading program, students' reading of a text is timed at the beginning of the week, then again at the end of the week after the student has practiced rereading the text throughout the week. These pre- and postreading rates can be used to document one kind of progress in accuracy and rate—progress with practice. Of course, generalization to other texts is critical, but any new text at that same grade level can be used to document generalization. Because many teachers monitor students'

Table 2
Oral Reading Fluency Norms

Grade	Percentile	Fall WCPM	Winter WCPM	Spring WCPM
1	50th		23	53
	25th–75th		12–47	28–82
2	50th	51	72	89
	25th–75th	25–79	42–100	61–117
3	50th	71	92	107
	25th–75th	44–99	62–120	78–137
4	50th	94	112	123
	25th–75th	68–119	87–139	98–152
5	50th	110	127	139
	25th–75th	85–139	99–156	109–168
6	50th	127	140	150
	25th–75th	98–153	111–167	122–177
7	50th	128	136	150
	25th–75th	102–156	109–165	123–177
8	50th	133	146	151
	25th–75th	106–161	115–173	124–177

Note. From Hasbrouck and Tindal (2006).

Table 3
National Assessment of Educational Progress (NAEP) Oral Reading Fluency Scale

Fluency level	Description
4	Reads primarily in larger, meaningful phrase groups. Although some regressions, repetitions, and deviations from text may be present, these do not appear to detract from the overall structure of the story. Preservation of the author's syntax is consistent. Some or most of the story is read with expressive interpretation.
3	Reads primarily in three- or four-word phrase groups. Some smaller groupings may be present. However, the majority of phrasing seems appropriate and preserves the syntax of the author. Little or no expressive interpretation is present.
2	Reads primarily in two-word phrases with some three- or four-word groupings. Some word-by-word reading may be present. Word groupings may seem awkward and unrelated to larger context of sentence or passage.
1	Reads primarily word-by-word. Occasional two-word or three-word phrases may occur—but these are infrequent and/or they do not preserve meaningful syntax.

Note. From Pinnell et al. (1995).

accuracy through running records, they can add rate and prosody to that assessment.

Assess Endurance

To understand what readers do over an extended period of reading, it is a good idea to have students read longer texts (text that take 4–5 minutes to complete). Most one-minute measures consist of short passages (250–300 words at grade 2 and up). At the second-grade level this length would provide sufficient reading to gauge endurance, as it would take a fluent second grader approximately four minutes to read a 250-word passage. As a rule of thumb, each grade would need 100 additional words for a sufficient length to judge endurance (third graders would need approximately 350 words, fourth graders 450 words, and so on). If teachers need access to longer, graded texts, some informal reading inventories, such as the *Qualitative Reading Inventory* (Leslie & Caldwell, 2006), provide graded passages of varying lengths.

Instructing Fluency and Endurance

The overall goal of literacy instruction should be to help students flexibly use their literacy skills to accomplish a variety of literacy tasks for a variety of purposes. Flexibility necessitates fluency, and many reading tasks also necessitate endurance. Therefore, we need to be cognizant of both fluency and endurance in our instruction. If we understand that endurance is a byproduct of accuracy and rate, gaining fluency (accuracy, rate, prosody, and comprehension) will come before gaining endurance, and after gaining accuracy and automaticity in lower level processes. This has several implications for instruction. Of course, first and foremost is using assessment to gain the information necessary to design instruction, along with communication among those who work with struggling readers to ensure appropriate assessment and instruction.

Some suggestions for instructing the techniques for fluency and endurance are as follows:

- Increase automaticity
- Decrease readability levels
- Read interesting texts
- Increase reading volume
- Increase expectations
- Reread books
- Engage parents and caregivers

Increase Automaticity

Fluency is assessed in connected text; therefore, fluency instruction is often targeted toward connected text. Yet considering a deep view of fluency, students' difficulties with fluency may stem from difficulties with lower level—beneath the paragraph—skills such as word reading, decoding, and letter–sound correspondence. If this is the case, instruction should target these skills. Good assessment will provide information about students' word recognition and decoding accuracy as well as automaticity. If accuracy is problematic, instruction may target decoding and word recognition accuracy in isolation. If students have good accuracy in lower level skills, but have not established automaticity, instruction may include word and phrase reading to assist students in automatizing common elements of reading.

Decrease Readability Levels

We know that accuracy and automaticity pave the way for fluency by using less cognitive attention, and that endurance comes as a result of accuracy and automaticity. These imply that the level of text matters for developing fluency and endurance (see Hiebert & Fisher, 2005). To increase fluency to the point of endurance, students need to spend time reading texts they can read *fluently* (accuracy, rate, prosody, and comprehension). Allington (2009) called this "high success reading," and suggested that it promotes not only fluency, but motivation.

Read Interesting Texts

Interest affects reading (Guthrie, Wigfield, Metsala, & Cox, 1999). Many struggling readers are not interested in reading books teachers recommend. Finding interesting text is not easy, but everyone is interested in *something*. For struggling readers, that something is often factual information. Having a variety of accessible texts (books, magazines, brochures, Internet), in terms of readability as well as availability, is critical for engaging students in reading.

Increase Reading Volume

If the texts struggling readers read are high success and interesting, we can increase students' reading volume, and increasing reading volume is related to fluency (Kuhn et al., 2006), and, I would argue, to endurance. Although many struggling readers need instruction in lower level skills, research suggests that intervention programs that include high success volume reading lead to reading achievement (Mathes et al., 2005).

Increase Expectations

Many struggling readers avoid reading, often for very good reasons. The cognitive effort and attention they need to expend coordinating the multiple processes involved in reading simply exhausts them. Although legitimate, this can contribute to reading avoidance. Breaking this mindset and increasing fluency and endurance for connected text first rests with lowering the text level, then with gradually increasing the expectations. Teachers can do this by setting an expectation for the number of pages to be read or some other "must do" assignment and gradually extending it over time.

Reread Books

As we know from repeated reading research (Kuhn & Stahl, 2003), rereading assists with fluency. Because it assists with fluency, it can also assist with endurance. However, repeated reading instruction is typically done with short texts (200–300 words), so it will only help with endurance to that point. To use rereading to help with endurance, encourage students to reread longer texts, including books. What I have found helpful for students in the after-school program is for them to revisit books they read the previous year or heard read through teacher read-alouds. The students already have the background knowledge to understand the texts, and with a year's more literacy development, they read them with improved accuracy, rate, and prosody. Thus, they read for longer periods of time and are typically surprised and proud when they finish the book much sooner than they expected.

Engage Parents and Caregivers

Parents often have trouble either engaging reluctant readers in reading or choosing appropriate texts, particularly when the texts their children can read seem much easier than texts other students their age are reading. Recently, a teacher shared with me that she gave a seventh-grade struggling reader *Love That Dog* (Creech, 2001), written in short verse, to read for fluency. His parents refused to allow him to read it

and took her to task for having their son read "baby books." Explain to parents the importance of reading easy texts at home, while assuring them that their children *do* read more difficult texts in school. One recommendation to help parents encourage their children to read, and at the same time avoid the parent–child reading wars that can occur in the homes of reluctant readers, is for parents to provide their children a wide choice of reading and allow them to read in bed at night. Staying up later is a good motivator, and if the books are easy enough and interesting enough, children usually comply.

Moving Beyond One-Minute Measures

One-minute accuracy and rate measures are reliable when used for their stated purpose—identifying which students may struggle with reading. However, because they are called "fluency" measures, they can lead astray our understanding of struggling readers' reading fluency. Fluency is more than accuracy and rate. Improving fluency begins with understanding dysfluency, which can begin with one-minute measures, but must extend to deeper fluency assessment. Through understanding *that* readers struggle and *why* they struggle, we can design appropriate instruction to support students' developing fluency.

References

Allington, R.L. (2009). *What really matters in response to intervention*. Boston: Allyn & Bacon.

American Educational Research Association, American Psychological Association, & National Council on Measurement in Education. (1999). *Standards for educational and psychological testing*. Washington, DC: American Educational Research Association.

Binder, C. (1996). Behavioral fluency: Evolution of a new paradigm. *The Behavior Analyst*, *19*(2), 163–197.

Chard, D.J., Vaughn, S., & Tyler, B.J. (2002). A synthesis of research on effective interventions for building reading fluency with elementary students with learning disabilities. *Journal of Learning Disabilities*, *35*(5), 386–407. doi:10.1177/00222194020350050101

de Maupassant, G. (1989). The Mannerism. In *The dark side: Tales of terror and the supernatural* (pp. 58–62). New York: Carroll and Graf.

Deno, S.L. (1985). Curriculum based measurement: The emerging alternative. *Exceptional Children*, *52*(3), 219–232.

Edformation. (2002). *AIMSweb standard reading assessment passages*. Eden Prairie, MN: Edformation.

Good, R., & Kaminski, R., (Eds.). (2002). *Dynamic indicators of basic early literacy skills* (6th ed.). Eugene, OR: Institute for the Development of Educational Achievement. Retrieved September 15, 2007, from dibels.uoregon.edu/

Guthrie, J.T., Wigfield, A., Metsala, J.L., & Cox, K.E. (1999). Motivational and cognitive predictors of text comprehension and reading amount. *Scientific Studies of Reading*, *3*(3), 231–256. doi:10.1207/s1532799xssr0303_3

Harris, T.L., & Hodges, R.E. (1995). *The literacy dictionary: The vocabulary of reading and writing*. Newark, DE: International Reading Association.

Hasbrouck, J., & Tindal, G.A. (2006). Oral reading fluency norms: A valuable assessment tool for reading teachers. *The Reading Teacher*, *59*(7), 636–644. doi:10.1598/RT.59.7.3

Hiebert, E.H., & Fisher, C.W. (2005). A review of the National Reading Panel's studies on fluency: The role of text. *The Elementary School Journal*, *105*(5), 443–460. doi:10.1086/431888

Jenkins, J.R., Fuchs, L.S., van den Broek, P., Espin, C., & Deno, S.L. (2003). Accuracy and fluency in list and context reading of skilled and RD groups: Absolute and relative performance levels. *Learning Disabilities Research & Practice*, *18*(4), 237–245. doi:10.1111/1540-5826.00078

Kubina, R.M., Jr. (2005). Developing reading fluency through a systematic practice procedure. *Reading & Writing Quarterly*, *21*(2), 185–192. doi:10.1080/10573560590915987

Kuhn, M.R. (2009). *The hows and whys of fluency instruction*. Boston: Allyn & Bacon.

Kuhn, M.R., Schwanenflugel, P.J., Morris, R.D., Morrow, L.M., Woo, D.G., Meisinger, E.B., et al. (2006). Teaching children to become fluent and automatic readers. *Journal of Literacy Research*, *38*(4), 357–387. doi:10.1207/s15548430jlr3804_1

Kuhn, M.R., & Stahl, S.A. (2003). Fluency: A review of developmental and remedial practices. *Journal of Educational Psychology*, *95*(1), 3–21. doi:10.1037/0022-0663.95.1.3

LaBerge, D., & Samuels, S.J. (1974). Toward a theory of automatic information processing in reading. *Cognitive Psychology*, *6*(2), 293–323. doi:10.1016/0010-0285(74)90015-2

Leslie, L., & Caldwell, J. (2006). *Qualitative reading inventory-4*. New York: Addison-Wesley Longman.

Mathes, P.G., Denton, C.A., Fletcher, J.M., Anthony, J.L., Francis, D.J., & Schatschneider, C. (2005). The effects of theoretically different instruction and student characteristics on the skills of struggling readers. *Reading Research Quarterly*, *40*(2), 148–182. doi:10.1598/RRQ.40.2.2

Meyer, M.S., & Felton, R.H. (1999). Repeated reading to enhance fluency: Old approaches and new directions. *Annals of Dyslexia*, *49*(1), 283–306. doi:10.1007/s11881-999-0027-8

Miller, J., & Schwanenflugel, P.J. (2008). A longitudinal study of the development of reading prosody as a dimension of oral reading fluency in early elementary school children. *Reading Research Quarterly*, *43*(4), 336–354. doi:10.1598/RRQ.43.4.2

National Assessment of Educational Progress. (1995). Oral Reading Fluency Scale. In G. Pinnell, J. Pikulski, K. Wixson, J. Campbell, P. Gough, & A. Beatty (Eds.), *Listening to children read aloud* (p. 15). Washington, DC: U.S. Department of Education, National Center for Education Statistics.

National Institute of Child Health and Human Development. (2000). *Report of the National Reading Panel. Teaching children to read: an evidence-based assessment of the scientific research literature on reading and its implications for reading instruction: Reports of the subgroups* (NIH Publication No. 00-4754). Washington, DC: U.S. Government Printing Office.

Pikulski, J.J., & Chard, D.J. (2005). Fluency: Bridge between decoding and reading comprehension. *The Reading Teacher*, *58*(6), 510–519. doi:10.1598/RT.58.6.2

Pinnell, G., Pikulski, J., Wixson, K., Campbell, J., Gough, P., & Beatty, A. (1995). *Listening to children read aloud*. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Rasinski, T. (1989). Fluency for everyone: Incorporating fluency instruction in the classroom. *The Reading Teacher*, *42*(9), 690–693.

Samuels, S.J. (2007). The DIBELS tests: Is speed of barking at print what we really mean by reading fluency? *Reading Research Quarterly*, *42*(4), 563–566.

Shinn, M.R., & Shinn, M.M. (2002). *AIMSweb training workbook: Administration and scoring of reading curriculum-based measurement (R-CBM) for use in general outcome measurement*. Eden Prairie, MN: Edformation. Retrieved December 7, 2008, from www.aimsweb.com/uploads/pdfs/scoring_rcbm.pdf

Stahl, S., & Kuhn, M. (2002). Making it sound like language: Developing fluency. *The Reading Teacher*, *55*(6), 582–584.

Tierney, R.J., & Thome, C. (2006). Is DIBELS leading us down the wrong path? In K.S. Goodman (Ed.), *The truth about DIBELS: What it is, what it does* (pp. 50–59). Portsmouth, NH: Heinemann.

Torgesen, J.K. (2000). Individual differences in response to early interventions in reading: The lingering problem of treatment resisters. *Learning Disabilities Research & Practice*, *15*(1), 55–64. doi:10.1207/SLDRP1501_6

Wolf, M., & Katzir-Cohen, T. (2001). Reading fluency and its intervention. *Scientific Studies of Reading*, *5*(3), 211–239. doi:10.1207/S1532799XSSR0503_2

Literature Cited

Creech, S. (2001). *Love that dog*. New York: HarperCollins.

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