

PUTTING FLUENCY ON A FITNESS PLAN

Building Fluency's Meaning-Making Muscles

Barclay Marcell

Has our concept of fluency become a bit “flabby”? Let’s put fluency on a fitness plan by beefing up its multidimensional features: rate, expression, accuracy, and learning!

Eight-year-old Amelia (all names are pseudonyms) is struggling to read aloud a passage about shuffleboard. I sit opposite her, stopwatch in hand, straining to hear her starts and stops through the pictureless page. I’m writing down sound-outs, punctuation overrides, and sporadic self-corrections. Occasionally, Amelia attempts to scoop a two-word phrase, only to return to a word-by-word chop. Then abruptly, mid-paragraph, she stops. “Hmm... I don’t get this. I better go back.” She looks at me, beaming.



The stopwatch indicates 10 seconds left. Ten *vital* seconds. “Oh, honey. That’s a wonderful idea. But let’s just keep reading. Remember, do your best.” Naturally, Amelia stares at

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me, tilting her head the way my puppy does when trying to interpret a command. And rightly so. Moments ago, didn’t I just explicitly teach how to stop and check for understanding? Didn’t I just model rereading and coding text as a means of becoming an active reader and maintaining comprehension? I repeat the assessment directions. Amelia’s head tilts even more.

I want to tell her the truth—that this is *not* real reading, that every Friday when I hand her a nondescript passage and reach for my stopwatch, there will be no fix-up strategies. The fact is I want Amelia to read “fast and right.” This is vernacular for reading with adequate rate and accuracy—the only graphable features in oral reading. These scores will be reported at Amelia’s problem-solving meeting, where a psychologist will determine her rate of progress.

Progress toward *what*, one might ask. The data points on Amelia’s graph speak for themselves. Her rate of improvement needs to be 2.25 words per week, projecting her to reach 90 correct words per minute (cwpm) by the end of second grade. The slope of her goal-line is steep, beginning with a September score of 18. For Amelia, it might as well be an ascent up Mt. Everest—a daunting but nonetheless mandatory trek. That is because, according to our cut-score chart, a second grader reading 90 cwpm

has a 90% chance of meeting standards on the state assessment. In short, the stakes are high with regard to Amelia and her shuffleboard text, where for all I know she is visualizing a hockey game.

Hence my dismay at her strategy usage. It seems in one corner of my mouth I espouse strategies that promote metacognitive text experiences; in the other, I stare at declining, digital numbers that end with a beep and a data point. And the unfortunate outcome is that by fourth grade, Amelia may have heard a stopwatch beep so many times that she thinks reading is a graphable event; worse yet, she may become that monotoned race-reader who skids through words, grasping a gist at best.

These are what Johns (2007) termed the “possible unintended consequences” of 1-minute fluency measurements. He cautioned that, “some students will conclude that important reading takes place in one-minute bursts” (p. 18). Rasinski and Hamman (2010) recently noted that the 50th national percentile numbers for rate have increased between the years of 2004 and 2009—likely the result of a decade-long instructional emphasis on *speed*. Interestingly, this upward rate movement, they added, has *not* translated into significant gains in overall reading performance (Rasinski & Hamman, 2010).

It would appear that the attention given to fluency’s quantifiable features—rate and accuracy—has usurped prosody and comprehension. As Samuels (2007) queried, “Is speed of barking at print what we mean by reading fluency?” (p. 564). He cited the example of an English speaker reading Spanish sentences, articulating words with speed and accuracy. If this person is *not* bilingual, however, would we say that he is *fluent* in Spanish? It seems self-evident that fluency entails comprehension. Yet, according to Rasinski

Pause and Ponder

- Consider the methodology for fluency instruction that is currently practiced in your district for Response to Intervention-oriented interventions. Does it effectively address the multidimensional aspects of fluency according to the acronym *REAL* (rate, expression, accuracy, learning)? How could you improve its implementation, in terms of increasing student awareness regarding fluency and comprehension, while at the same time advocating that students read “fast and right”?
- What are the benefits of using packaged fluency programs? What are the possible drawbacks?
- Discuss your view regarding the relationship between fluency and comprehension. Should there be an instructional hierarchy? Does one have to precede the other and, if so, to what extent?
- How would you respond to Pearson’s comment regarding Dynamic Indicators of Basic Early Literacy Skills and its negative ramifications for teachers and for students? Do you think the current focus on rate and accuracy is actually resulting in an increase in what the industry has termed, “Word-Callers” (i.e., fluent readers who do not attend to meaning)?
- Are there any “barkers of print” in your own classroom? What are some strategic interventions you can employ to focus on prosody and comprehension?

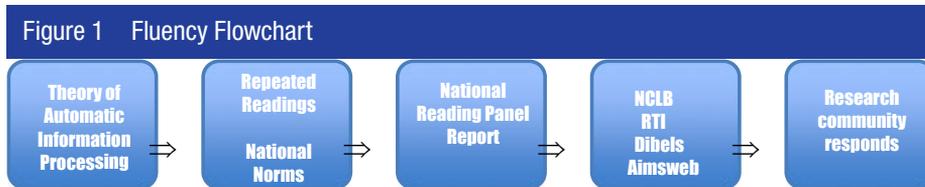
and Hamman (2010), "Reading fluency has become a speed reading contest... divorced from the essence of reading—comprehension" (p. 26). Why, then, are we shelving fluency's most salient feature? What message am I giving Amelia when I dissuade her from applying strategies, albeit in a narrow assessment setting?

What follows is a summary of what may be termed the rise and fall of fluency. It is also an appeal to rebuild fluency's "muscle" by highlighting comprehension and prosody. Finally, this article calls for the proverbial pendulum to resist knocking the baby out with the bath water. Measurements of automaticity *should* remain on the assessment table. Stopwatches *can* coexist with strategy usage.

A Fluency Flowchart

Not long ago, fluency was considered the overlooked reading component. This all changed, however, when the National Reading Panel Report christened it as one of the five pillars in reading (National Institute of Child Health and Human Development, 2000). Thereafter, its popularity went "viral," propelled by federal mandates requiring quantifiable accountability. In the last decade, stopwatches have been clicking in tune with universal screening measurements, progress monitoring kits, and scripted programs. From 2005 to 2009, fluency was named a "what's hot" topic, according to Cassidy's annual poll of literacy leaders (Cassidy & Cassidy, 2010).

Concurrently, however, some in the research community began questioning the efficacy of fluency measurements and instructional practices (Goodman, 2006; Riedel, 2007; Valencia et al., 2010). This backlash became apparent when Cassidy's 2010 poll of literacy leaders unceremoniously relegated fluency to the "what's not



hot and should not be hot" category (Cassidy & Cassidy, 2010). How, then, did this key reading component go out of favor in such a precipitous manner? The flowchart in Figure 1 summarizes fluency's stint on the reading stage.

Fluency's fifteen minutes of fame is rooted in the landmark work of LaBerge and Samuels (1974). Their theory of Automatic Information Processing suggests that when a beginning reader has to focus on decoding print, he does not have the cognitive capacity available for higher order processing. Automaticity in decoding must be secure in order for deeper brain functioning to occur. Samuels compared the act of reading with participation in sports or music wherein skills must be practiced repetitively to the point of automaticity. Once automaticity is attained, the reader, the athlete, the musician can focus on strategic elements. With regard to text management, this entails deepening comprehension (LaBerge & Samuels, 1974; Samuels, 1979).

In 1979, Samuels published his seminal work concerning repeated readings. He discovered that when students read the same passage multiple times, their rate and accuracy levels increased. Interestingly, as students performed this exercise over time, using multiple texts, their initial scores using "cold" (unread) passages also improved. Thus *repeated reading* was born as an instructional means for improving automaticity. Samuels's methodology has stood the test of time, with its effectiveness having been documented with diverse student populations (Samuels, 1979; Vadasy, 2008).

It should be noted, however, that a significant caveat regarding this effectiveness was reported on in 1985 by Rashotte and Torgeson. Their study raised the stipulation that the gains in speed from one cold passage to another was in fact contingent on the number of shared words encountered in each. Their findings suggested that if passages did not have alignment regarding word similarities, then repeated readings was no better for increasing speed than the practice of "wide" reading—that is, one-time readings of unrelated passages. The researchers did concede, however, that the process of repeatedly reading the same passage could be motivational to students. In fact, they reported that half of the learning disabled students in their study wanted to continue with the sessions even after the study was complete (Rashotte & Torgeson, 1985). It would appear, thus, that caveats aside, repeated reading as an instructional strategy was here to stay. It was not long before words-per-minute norms were developed and for-profit companies started boarding the lucrative fluency bandwagon.

In 1992, Hasbrouck and Tindal presented their oral reading fluency (ORF) norms citing cwpm numbers correlated with the 25th, 50th, and 75th percentiles. Their data represented a compilation of scores from districts who were implementing curriculum-based measurements (CBMs) for reading fluency. In 2006, Hasbrouck and Tindal expanded these percentiles to incorporate a larger population over a wider geographical area, specifying

cwpm numbers associated with the 10th up to the 90th percentiles. Their 2006 presentation reiterated the link between fluency and comprehension, particularly with regard to struggling readers (Hasbrouck & Tindal, 2006). It was not long before instructional programs emerged, offering ways of using repeated reading in classrooms and computer labs.

The impetus for this instructional shift seems to have stemmed from an alignment of factors, all calling for increased accountability. Just as the National Reading Panel of 2000 was hailing fluency as an “essential aspect of reading,” the federal No Child Left Behind (NCLB) Act of 2001 was mandating that schools demonstrate Adequate Yearly Progress via quantifiable means. On the heels of NCLB came the reauthorization of the Individuals with Disabilities Education Act, whereby Response to Intervention (RTI) was introduced. This initiative sparked the use of screening measurements and progress monitoring accountability for the purpose of (1) identifying struggling students, (2) developing interventions to close the achievement gap, and (3) using problem-solving methodology for data analysis. How would these data be documented and visually represented? Two companies vied for market share in data acquisition and analysis. Out of the University of Oregon, the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) gained immediate prominence, offering downloadable probes, graphs, and norms (Good & Kaminski, 2002). Concurrently, AIMSweb Progress Monitoring and RTI System (AIMSweb, 2010) presented a similar product line for both reading and math.

The Fluency Debate

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might say that fluency was painted into a corner. Although the National Reading Panel had defined fluency as “the ability to read a text quickly, accurately, and with proper expression” (National Institute of Child Health and Human Development, 2000, pp. 3–5), this third attribute was not being considered when entering data points onto a colorful graph. And the inclusion of a comprehension measure, fluency’s *raison d’être*, was largely being ignored as 1-minute timed measurements took precedence. A debate of sorts ensued on the pages of the reading research journals. And a question was posed: Are students receiving a “mixed message” regarding fluency (Deeney, 2010)?

Researchers in the CBM camp maintained that cwpm numbers do indeed predict reading competence (Hasbrouck & Tindal, 2006). They based this determination on findings that the correlation between fluency (rate and accuracy) and measures of reading comprehension was approximately 0.80 (Fuchs, Fuchs, Hosp, & Jenkins, 2001; Good, Simmons, & Kame’enui, 2001; Valencia et al., 2010). In an adjacent camp, however, this finding was challenged, and questions were raised regarding the validity of rate and accuracy measurements in identifying at-risk readers.

In 2010, researchers at the University of Washington cited studies that found the relationship between fluency and comprehension to be more in the range of 0.4 to 0.5 (Kranzler, Brownell, & Miller, 1998; Valencia et al., 2010; Wiley & Deno, 2005). Concerns were also

raised regarding the use of 1-minute readings for the purpose of assessment. Oral reading rate levels were found to dissipate after the initial 1-minute measurement, perhaps because of the level of stamina required (Daane, Campbell, Grigg, Goodman, & Orange, 2005; Valencia et al., 2010). In addition to these concerns, some researchers argued that a developmental aspect should be considered when examining the correlation between fluency and comprehension. They suggested that the link is more significant with younger readers who are focused on word recognition, but less relevant with older students whose mental capacity is focused on comprehension (Fuchs et al., 2001; Hosp & Fuchs, 2005; Jenkins & Jewell, 1993; Paris, Carpenter, Paris, & Hamilton, 2005; Pikulski, 2006; Samuels, 2006; Valencia et al., 2010; Wiley & Deno, 2005).

The fluency debate at times took on a passionate tone. In his foreword to *The Truth About DIBELS* (Goodman, 2006), Pearson (2006) wrote,

I have decided to join that group of scholars and teachers and parents who are convinced that DIBELS is the worst thing to happen to the teaching of reading since the development of flash cards. I take this extreme position for a single reason—DIBELS shapes instruction in ways that are bad for students and bad for teachers. (p. v)

A Fluency Fitness Plan

Where, then, is the middle ground? To regain its “hot” status, clearly, fluency assessment and instruction need a makeover. What follows are

suggestions for beefing up this essential reading component by dispensing with a junk food diet that has consisted of anemic assessments and instruction.

Exercise #1: The Four Attributes of Fluency Get a Workout—Together

Samuels (2007) made the case that fluency involves simultaneous decoding and comprehending. Rasinski and Hamman (2010) defined fluency as “reading at an appropriate rate in meaningful phrases, with prosody and comprehension” (p. 26). Both definitions highlight the synergistic means by which the facets of fluency interact. It follows then that fluency’s fitness plan must first entail the explicit naming of these features—in a way that is memorable for students *and* teachers, those sitting on *both* sides of the kidney table. To this end, a simple acronym could represent a revised vernacular for reading competency:

- R = Rate
- E = Expression
- A = Accuracy
- L = Learning

Taking this one step further, a student-friendly rubric could be developed, similar to that shown in Figure 2, to draw attention to specific areas of needed improvement that pertain to *each* of fluency’s sub-skills.

Exercise #2: Make Peace With ORF Measurements

Hasbrouck (2010) recently cautioned against the faulty administration of ORF assessments. She decried the fact that fluency screeners have prompted undue attention on *speed*. It remains her view, however, that these measurements, correctly administered, should prompt a student’s “best” reading and

take into account two fundamental aspects of fluency—rate and accuracy. ORF measurements can sift out readers who are overly focused on print features versus those who are automatic, thereby providing an *indication* of reading competency. This process is likened to a doctor taking a patient’s temperature prior to a physical examination (Hasbrouck & Tindal, 2006).

Most would concede the usefulness of screening devices for taking a reading temperature. However, to gain more bang for the assessment buck, the process could also incorporate a

comprehension probe. After the requisite shuffleboard passage is read for the 1-minute allotment, for example, the teacher could easily ask the student to continue reading, untimed. This extended reading would serve two purposes. On the one hand, the teacher could tally the initial score and note the integration of strategies via an error analysis. And, more importantly, the student could have the opportunity for authentic reading without having to brace himself for the inevitable beep. To put it simply, this is a win-win reading scenario.

Figure 2 REAL Student-Friendly Rubric

Name: _____ Date: _____ Text: _____ Level: _____

I am a REAL Reader!

R ate

Not too fast; not too slow; I read ___ words in 1 minute, which is at or higher than the target of ____.

I had some starts and stops, but not too many. I read ___ words per minute which is not too far below the target of ____.

Lots of sound-outs; I had to go back and reread a lot. I read ___ words per minute which is well below the target of ____.

My RATE Goal:

E xpression

My voice went up and down. I scooped 2–4 words together. I obeyed the punctuation. I could read to a class of kindergartners and they wouldn't fall asleep!

My voice sometimes went up and down. I sometimes scooped words together. I obeyed most of the punctuation. A few kindergartners might snooze during my read-aloud.

I read word-by-word, like a robot. My voice was flat. I did not stop at some periods. Kindergartners would be totally bored listening to me.

My EXPRESSION Goal:

A ccuracy

99% – 100%; I only made one or two miscues and they were the smart kind, not the silly kind. I can read this text independently.

95% – 98%; I made some miscues and I corrected *most* of them, especially the silly ones. I may need some help with this, though.

94% and below; I guessed at some words and did not use my strategies all the time. If something sounded weird, I just kept going. I need more help with this.

My ACCURACY Goal:

L earning

I totally get it! Ask me anything. I could take a quiz. I could make up my own quiz!

I sort of get it. I could tell you what it was mainly about. I might miss some details though. I'm probably not ready for a quiz.

I was just reading the words without really thinking about the topic. I'm not sure what I learned or what just happened.

My LEARNING Goal:

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The assessor gains information that can actually inform instruction (i.e., which coding system is being used), and the student engages in a “real” reading experience.

Afterwards, the assessor can solicit a brief retelling and then debrief the student regarding the four oral reading facets. The REAL student-friendly rubric (Figure 2) can be used to summarize areas of strength and areas of needed improvement. This exercise would underscore the fact that the process is *not* about speed, as the stopwatch would

suggest. In terms of the fitness analogy, the inclusion of a comprehension probe in this manner will put some meaning-making muscle into what some might call a flabby assessment.

Exercise #3: Revisit Repeated Reading

It has been suggested that the instructional value of repeated reading could be strengthened by incorporating corrective feedback regarding the multidimensional aspects of fluency (Meyer & Felton, 1999). For this

purpose, an example of an all-encompassing graph is displayed (Figure 3). Herein, fluency's neglected “muscle groups”—expression and comprehension—are noted alongside rate and accuracy. The teacher could discuss with the student the fact that, with additional readings, not only should rate and accuracy improve, but also the level of comprehension. According to this graph, with each rereading, the student should climb the ladder of Bloom's Taxonomy, as prompted by the teacher. The focus should

Figure 3 Example of an All-Encompassing Graph

Rate				Learning			Accuracy			
Target = _____				Deepening Understanding			Monitoring Miscues			
Correct Words Per Minute 60 x Total Words Read Correctly divided by total # seconds	1st Reading	2nd Reading	3rd Reading	1st Reading <i>Remember Knowledge</i>	2nd Reading <i>Understand Comprehension</i>	3rd Reading <i>Evaluate Response</i>	1st Reading	2nd Reading	3rd Reading	%-age
	170						Student identifies what was most interesting and tells why.			
160										99
150										98
140										97
130										96
120										95
110					Student identifies the author's purpose.	Student evaluates the title. Is it appropriate? Why or why not?				94
100										93
90										92
80										91
70										90
60				Student names the main idea.						89
50					Student paraphrases main events or key facts.	Student states who the author probably intended to read this.				88
40										87
30				Student names a supporting detail.						86
20										85 and below

<p>Expression on reading #2:</p> <input type="checkbox"/> Word by word; flat tone <input type="checkbox"/> 2-word phrasing; occasional intonation <input type="checkbox"/> 3 to 4-word phrasing; punctuation adhered to; frequent intonation <input type="checkbox"/> Appropriate phrasing throughout; voice “sounds like talking”	<p>Additional Comments:</p>
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<p>Passage Title/Level: _____ Name of Student: _____ Date (s): _____</p>
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thus evolve from “Did I beat my last score?” to “Wow, I get it now!” Even a passage on shuffleboard may gain clarity as the reader employs fix-up strategies with subsequent rereadings. (This is, after all, why adults revisit certain movies. Remember the 2001 film *A Beautiful Mind* or the more recent 2010 movie *Inception*? It is during the second viewing of movies such as these that the typical audience member begins to synthesize and analyze story events.)

To further beef up repeated reading, some researchers suggest that strategy *instruction* play a role in repeated reading exercises (Alber-Morgan, 2006). They propose that an initial prediction be solicited to promote active reading (albeit with a passage on shuffleboard). After that, a student should check background knowledge and set a purpose for reading by generating a question that begins, “I’m wondering...” During reading, additional questions would be posed and visualizations engaged. After reading, a

synopsis of main ideas would be generated. Marcell (2007) presented a visual reminder in the form of a traffic light checklist that may be useful in guiding the student in strategy usage, even in the context of a repeated reading exercise.

Exercise #4: Use Poetry, Readers Theatre

The repeated reading instructional strategy need not consist solely of multiple exposures to published fluency passages, known for their stilted verbiage. A more engaging alternative involves the use of poetry and Readers Theatre, which have been shown to increase student motivation, while adding a measure of authenticity and purpose (Faver, 2008; Hudson, Lane, & Pullen, 2005). Many teachers in fact report that poetry performances and Readers Theatre productions have prompted significant improvement in rate and accuracy, as well as the use of prosody. Regarding this latter aspect of fluency, Pinnell and Scharer (2003) made the following observation:

When good readers process print out loud, the way they sound provides a window into how they are constructing meaning. They pause to set off parenthetical expressions, use falling tones at periods, let their voices rise for questions, and get slightly louder for emphasis at exclamation points. (p. 144)

Other researchers have drawn a similar conclusion—namely, that prosody is linked to comprehension (Kuhn & Stahl, 2003; Valencia et al., 2010). Although it should be noted that the level to which prosody is incorporated cannot be quantified in the same manner as rate and accuracy, most would agree that it’s a hallmark of a comprehending reader. We have all squelched a yawn while listening to a monotoned third grader drone through words, overriding punctuation. That fast-but-flat student may

be sacrificing engagement for speed; comprehension for a higher wpm score.

To rid our classrooms of these drones, perhaps then it’s time to shelve the shuffleboard text and take out the poetry compilations of a Shel Silverstein or a Bruce Lansky. Maybe Frog and Toad’s misadventure with ice cream could be transformed into a Readers Theatre that, by definition, has to be practiced repeatedly. Often a beginning reader whose repertoire has been limited to short, predictable stories from the Level D book basket will “rise to the occasion” of a higher readability text when it’s presented in a Readers Theatre format. How? He is propelled across the reading levels motivated by sheer excitement—the kind that a passage on shuffleboard cannot begin to summon.

Putting the Heat Back Into Fluency

These simplistic suggestions will hardly bring consensus to the fluency debate. However, making a few adjustments in *how* we present fluency to our students just might rekindle what is truly hot about this reading component—namely, comprehension.

The day Amelia unflinchingly read aloud the little wpm numbers on the right margin of my fluency passage was the day I knew a change was warranted. My message is now clear. I will commend Amelia for her metacognition and strategy usage, even as I click my stopwatch (a newly purchased one that features a vibrator mode). My assessment table will mirror my instructional table. In both settings, I will consider *all* aspects of oral reading.

For I now realize that fluency is but a stage name. Rate and Accuracy may be at the microphone, but the true voice is Comprehension.

That’s real reading.

TAKE ACTION!

1. Work with your problem-solving team to develop a student-friendly rubric for fluency that takes into account its multidimensional features. Is there an acronym more suitable than the one suggested in this article? How can this rubric be used across the grade levels to broaden the definition of fluency?
2. Incorporate the repeated-reading graph, or one like it, within small intervention groups.
3. When assessing rate and accuracy, solicit a prediction at the onset and a retelling at the end. After the assessment, include a debriefing regarding the four aspects of fluency.
4. When modeling fluent reading, be sure to include comprehension think-alouds.

REFERENCES

- AIMSweb. (2010). *AIMSweb Progress Monitoring and RTI System*. Retrieved February 27, 2011, from www.aimsweb.com/measures-2/reading-cbm
- Alber-Morgan, S. (2006). Ten ways to enhance the effectiveness of repeated readings. *Journal of Early and Intensive Behavior Intervention, 3*(3), 273–279.
- Cassidy, J., & Cassidy, D. (2010). What's hot for 2010. *Reading Today, 26*(4), 1–9.
- Daane, M.C., Campbell, J.R., Grigg, W.S., Goodman, M.J., & Orange, A. (2005). *Fourth grade students reading aloud: NAEP 2002 special study of oral reading* (NCES 2006–469). Washington, DC: National Center for Educational Statistics, U.S. Department of Education, Institute of Education Sciences.
- Deeney, T. (2010). One-minute fluency measures: mixed messages in assessment and instruction. *The Reading Teacher, 63*(6), 440–450. doi:10.1598/RT.63.6.1
- Faver, S. (2008). Repeated reading of poetry can enhance reading fluency. *The Reading Teacher, 62*(4), 350–352. doi:10.1598/RT.62.4.8
- Fuchs, L.S., Fuchs, D., Hosp, M.K., & Jenkins, J.R. (2001). Oral reading fluency as an indicator of reading competence: A theoretical, empirical, and historical analysis. *Scientific Studies of Reading, 5*(3), 239–256. doi:10.1207/S1532799XSSR0503_3
- Good, R.H., & Kaminski, R.A. (Eds.). (2002). *Dynamic indicators of basic early literacy skills* (6th ed.). Eugene, OR: Institute for the Development of Educational Achievement. Retrieved February 27, 2011, from dibels.uoregon.edu
- Good, R.H., Simmons, D.C., & Kame'enui, E.J. (2001). The importance and decision-making utility of a continuum of fluency-based indicators of foundational reading skills for third-grade high stakes outcomes. *Scientific Studies of Reading, 5*(3), 257–288. doi:10.1207/S1532799XSSR0503_4
- Goodman, K.S. (2006). A critical review of DIBELS. In Goodman, K.S. (Ed.), *The truth about DIBELS: What it is, what it does* (pp. 1–39). Portsmouth, NH: Heinemann.
- Hasbrouck, J. (2010). Take care with oral reading fluency assessments. *Reading Today, 28*(2), 22.
- Hasbrouck, J., & Tindal, G.A. (2006). Oral reading fluency norms: A valuable assessment tool for reading teachers. *The Reading Teacher Journal, 59*(7), 636–644. doi:10.1598/RT.59.7.3
- Hasbrouck, J.E., & Tindal, G.A. (1992). Curriculum-based oral reading fluency norms for students in grades 2–5. *Teaching Exceptional Children, 24*(3), 41–44.
- Hosp, M.K., & Fuchs, L.S. (2005). Using CBM as an indicator of decoding, word reading, and Comprehension: Do the relations change with grade? *School Psychology Review, 34*(1), 9–26.
- Hudson, R., Lane, H., & Pullen, P. (2005). Reading fluency assessment and instruction: What, why, and how? *The Reading Teacher, 58*(8), 702–714. doi:10.1598/RT.58.8.1
- Jenkins, J.R., & Jewell, M. (1993). Examining the validity of two measures for formative Teaching: Reading aloud and maze. *Exceptional Children, 59*(5), 421–432.
- Johns, J. (2007). Monitoring progress in fluency: Possible unintended consequences. *Reading Today, 26*(6), 18.
- Kranzler, J.H., Brownell, M.T., & Miller, M.D. (1998). The construct validity of curriculum-based measurement of reading: An empirical test of a plausible rival hypothesis. *Journal of School Psychology, 36*(4), 399–415. doi:10.1016/S0022-4405(98)00018-1
- 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. (1974). Toward a theory of automatic information processing in reading. *Cognitive Psychology, 6*(2), 293–323. doi:10.1016/0010-0285(74)90015-2
- Marcell, B. (2007). Traffic light reading: Fostering the independent usage of comprehension strategies with informational text. *The Reading Teacher, 60*(8), 778–781. doi:10.1598/RT.60.8.8
- Meyer, M., & Felton, R. (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
- 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.
- Paris, S.G., Carpenter, R.D., Paris, A.H., & Hamilton, E.E. (2005). Spurious and genuine correlates of children's reading comprehension. In S.G. Paris & S.A. Stahl (Eds.), *Children's reading comprehension and assessment* (pp. 131–160). Mahwah, NJ: Erlbaum.
- Pearson, P.D. (2006). Foreword. In K.S. Goodman, (Ed.), *The truth about DIBELS: What it is, what it does* (p. v). Portsmouth, NH: Heinemann.
- Pikulski, J.J. (2006). Fluency: A developmental and language perspective. In S.J. Samuels & A.W. Farstrup (Eds.), *What research has to say about fluency instruction* (pp. 70–93). Newark, DE: International Reading Association.
- Pinnell, G.S., & Scharer, P.L. (2003). *Teaching for comprehension in reading, grades k-2*. New York: Scholastic.
- Rashotte, C., & Torgesen, J.K. (1985). Repeated reading and reading fluency in learning disabled children. *Reading Research Quarterly, 20*(2), 180–188. doi:10.1598/RRQ.20.2.4
- Rasinski, T., & Hamman, P. (2010). Fluency: Why it is “not hot”. *Reading Today, 28*(1), 26.
- Riedel, B. (2007). The relation between DIBELS, reading comprehension, and vocabulary in urban first-grade students. *Reading Research Quarterly, 42*(4), 546–567. doi:10.1598/RRQ.42.4.5
- Samuels, S. (1979). The method of repeated reading. *The Reading Teacher Journal, 32*(4), 403–408.
- Samuels, S. (2007). The DIBELS tests: Is speed of barking at print what we mean by reading fluency? *Reading Research Quarterly, 42*(4), 563–566.
- Samuels, S.J. (2006). Toward a model of reading fluency. In S.J. Samuels & A.E. Farstrup (Eds.), *What research has to say about fluency instruction* (pp. 24–46). Newark, DE: International Reading Association.
- Vadasy, P., & Sanders, E. (2008). Benefits of repeated reading intervention for low-achieving fourth- and fifth-grade students. *Remedial and Special Education, 29*(4), 235–249. doi:10.1177/0741932507312013
- Valencia, S., Smith, A., Reece, A., Li, M., Wixson, K., & Newman, H. (2010). Oral reading fluency assessment: Issues of construct, criterion, and consequential validity. *Reading Research Quarterly, 45*(3), 270–291. doi:10.1598/RRQ.45.3.1
- Wiley, H.I., & Deno, S.L. (2005). Oral reading and maze measures as predictors of success for English learners on a state standards assessment. *Remedial and Special Education, 26*(4), 207–214. doi:10.1177/07419325050260040301

MORE TO EXPLORE

ReadWriteThink.org Lesson Plan

- “History Comes Alive: Developing Fluency and Comprehension Using Social Studies” by Veronica Montes

IRA Books

- *Creating Strategic Readers: Techniques for Developing Competency in Phonemic Awareness, Phonics, Fluency, Vocabulary, and Comprehension* (2nd ed.) by Valerie Ellery
- *Essential Readings on Fluency* edited by Timothy Rasinski
- *What Research Has to Say About Fluency Instruction* edited by S. Jay Samuels & Alan E. Farstrup

IRA Journal Articles

- “Fluency: Bridge Between Decoding and Reading Comprehension” by John J. Pikulski and David J. Chard, *The Reading Teacher*, March 2005
- “Fostering Flexibility and Comprehension in Elementary Students” by Kelly B. Cartwright, *The Reading Teacher*, April 2006

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