

Intervention in School and Clinic

<http://isc.sagepub.com/>

Assessment as a Strategy to Increase Oral Reading Fluency

Maria S. Murray, Kristen A. Munger and Sheila M. Clonan

Intervention in School and Clinic 2012 47: 144 originally published online 7 October 2011

DOI: 10.1177/1053451211423812

The online version of this article can be found at:

<http://isc.sagepub.com/content/47/3/144>

Published by:

Hammill Institute on Disabilities



and



<http://www.sagepublications.com>

Additional services and information for *Intervention in School and Clinic* can be found at:

Email Alerts: <http://isc.sagepub.com/cgi/alerts>

Subscriptions: <http://isc.sagepub.com/subscriptions>

Reprints: <http://www.sagepub.com/journalsReprints.nav>

Permissions: <http://www.sagepub.com/journalsPermissions.nav>

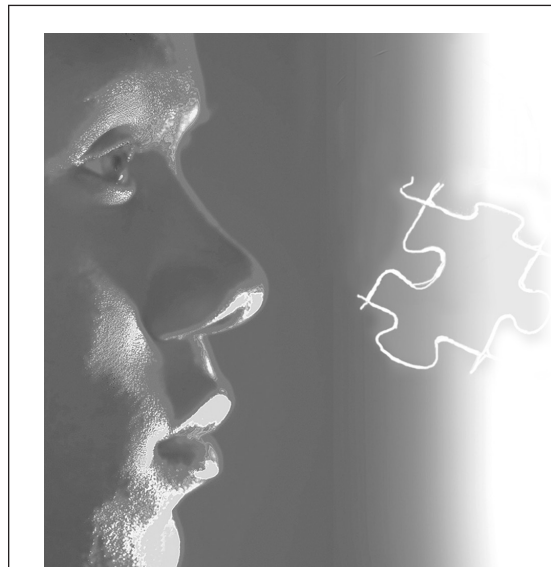
>> [Version of Record](#) - Dec 13, 2011

[Proof](#) - Oct 7, 2011

[What is This?](#)

Assessment as a Strategy to Increase Oral Reading Fluency

Maria S. Murray¹, Kristen A. Munger¹, and Sheila M. Clonan²



Abstract

For students with reading disabilities who experience difficulties with oral reading fluency, school-based interventions frequently focus on increasing speed through interventions such as repeated readings of texts. Students may not respond adequately to such “fluency only” interventions if the underlying skills that lead to fluent reading are overlooked. This article serves to bridge a theory-to-practice gap by highlighting the use of assessment as a strategy to achieve more effective reading fluency outcomes. A case example illustrates how more appropriate and thorough assessment practices can identify underlying difficulties that manifest as slowed oral reading rates. An intervention that systematically addresses the word reading difficulties often associated with a lack of oral reading fluency is described, demonstrating how considerable improvements in oral reading fluency can be achieved.

Keywords

intervention, oral reading fluency, reading, word recognition

Reading fluency data are increasingly being collected in schools, especially for students with reading disabilities, even though these data may have limited usefulness to inform instruction (Deeney, 2010). The data are valid in alerting educators that students’ fluency may not be developing as expected; however, they are not useful in determining the possible sources of underlying problems. Like a thermometer detects a fever but does not reveal its cause, a reading fluency measure detects the presence of reading difficulties but does

not reveal the source (Eldredge, 2005; Hasbrouck & Tindal, 2006). Nonetheless, many educators have come to believe

¹State University of New York at Oswego, Oswego, NY, USA

²Colgate University, Hamilton, NY, USA

Corresponding Author:

Maria S. Murray, State University of New York at Oswego, Curriculum and Instruction Department, Wilber Hall, Oswego, NY 13126 (e-mail: maria.murray@oswego.edu).

that *fast reading* is the main goal in fluency assessment and intervention (Rasinski, 2009). A common course of action then becomes the automatic implementation of interventions focusing on faster reading (e.g., repeated readings of leveled texts). Instead, additional assessments are often needed to determine possible underlying reasons for a slow oral reading rate, so that subsequent interventions are more likely to be effective.

Mesmer and Mesmer (2008) provided a short vignette illustrating the importance of thorough assessment in designing effective interventions as part of a response to intervention model. In the vignette, a student's reading rate was found to be slow, and an intervention was implemented that included activities geared toward increasing his fluency, such as "modeling of fluent reading, repeated readings, error correction, comprehension questions, and self-monitoring" (p. 285). The intervention was not effective; the student's difficulties were not resolved until the team recognized that his lack of oral reading fluency was a symptom of an underlying problem and a decoding intervention was added.

This example demonstrates the weak link between research and practice that often exists in fluency interventions (Denton, Fletcher, Anthony, & Francis, 2006; Pikulski & Chard, 2005). Although some students do benefit from fluency interventions that are focused on increasing reading rate, there are many who require further assessments to reveal why they are not reading fluently. For these students, simply addressing a reading fluency problem without considering its source wastes valuable intervention time. Similar to Mesmer and Mesmer (2008), this article features a real-life example; however, the focus of this article is to illustrate how a thorough initial assessment by a preservice teacher in a clinic setting informed an intervention that led to extraordinary gains in a student's reading fluency, word recognition, and comprehension.

Fluency: Definitions and Assessment

Oral reading fluency has gone from being a topic that was considered neglected (Allington, 1983) to one that has gotten a lot of researchers' and educators' attention. A decade after the report of the National Reading Panel (2000), research-based fluency intervention practices (e.g., repeated oral reading, paired reading, partner reading, readers theatre) have been widely researched. The same holds true for the assessment of fluency—with the most popular assessment method being timed reading of brief passages. The widespread use of these timed passages may have contributed to the nearly automatic application of fluency interventions to help students read more rapidly instead of careful analyses of the possible underlying causes of nonfluent reading (Deeney, 2010).

Many interventions may focus primarily on increasing students' reading rate because of how fluency is typically defined. Definitions of reading fluency commonly include the words *rate* or *rapid*, but they also include *word reading accuracy*, *prosody*, and *comprehension*. Pikulski and Chard's (2005) definition includes all of these: "Fluency is manifested in accurate, rapid, expressive oral reading and is applied during, and makes possible, silent reading comprehension" (p. 510). Many definitions acknowledge that fluent reading requires two tasks that must be performed at the same time—decoding and comprehension. They further emphasize that the aspects of speed and prosody are indicators that fluent reading is taking place (Samuels, 2006).

When Word Reading Accuracy Is Overlooked

It is not uncommon in practice to see a misconstrued interpretation of fluency assessments and interventions, in which the focus is solely on increasing reading rate (Rasinski, 2009; Rasinski & Hamman, 2010). A valid and often unaddressed question is, What if the students' reading rate is slowed because they are not able to read the words accurately and effortlessly? In addition, how can assessments serve as a strategy to guide interventions that will more accurately and efficiently address students' reading disabilities? These questions may seem obvious, but often students' word recognition difficulties are overlooked. Although it has been documented that for a small subset of students, fluency difficulties are unrelated to word reading difficulties (Juel, Griffith, & Gough, 1986; Nation & Snowling, 1997), this article is concerned with students whose fluency difficulties are rooted in inaccurate and laborious reading of words. This focus and the accompanying case example are critical because despite the large knowledge base that has been in place for many years regarding the links between word reading and fluency, there is still not widespread application of this research-based knowledge in practice (Denton, Vaughn, & Fletcher, 2003).

The Clinic

To illustrate how an intervention aimed at improving the accurate, effortless reading of words and text can improve fluency (and comprehension), an example case is provided. This example highlights the value of using assessments in looking closely for the underlying cause or causes of nonfluent reading when designing an effective intervention. It is taken from reading clinic experiences associated with school–university partnerships in which graduate-level practicum students (tutors) are paired with children who, according to their teachers, experience problems with reading. Virtually all of the students referred to the clinics demonstrate difficulties with reading fluency (i.e., slow, labored,

Table 1. Skills Assessed and Examples of Measures Used in Clinics

Skill assessed	Example measures
Letter–sound correspondences	List of 21 consonants, 5 vowels (long and short), digraphs, vowel teams, r-controlled vowels
Word recognition	<i>Fry Word Reading List</i> (Fry & Kress, 2006); <i>Ekwall/Shanker Reading Inventory</i> (Shanker & Ekwall, 2000)
Decoding	<i>Road to Reading Levels Assessment</i> (Blachman & Tangel, 2008) <i>GE Test of Coding Skills</i> (Gallistel & Ellis, 2005) <i>Quick Phonics Screener</i> (Hasbrouck, 2006)
Oral reading fluency	<i>Dynamic Indicators of Basic Early Literacy Skills</i> (Good & Kaminski, 2002)
Reading comprehension	<i>Ekwall/Shanker Reading Inventory</i> (Shanker & Ekwall, 2000)

monotone reading). The underlying causes as to why students display fluency difficulties are not provided since the only assessment information supplied by the schools was oral reading fluency data (e.g., *Dynamic Indicators of Basic Early Literacy Skills* [DIBELS]; Good & Kaminski, 2002). Therefore, the possible sources of the students' difficulties require investigation before designing and implementing interventions during the semester. Through the use of more specific assessments, the tutors come to understand the connection between word reading difficulties and slowed or poor fluency as well as how to develop targeted and effective interventions.

For one semester twice a week, tutors met one-on-one with students who were experiencing reading difficulties. Initially, graduate students spent time with their tutees establishing rapport and administering preassessments. These assessments were widely used and specifically chosen to measure several important foundational aspects of reading development. Table 1 provides an example of some of the assessments used in the clinics. This variety of assessments is informative since students can have needs in several different areas of reading.

For the students referred to the clinics, it is critical to note that a lack of accuracy and a lack of automaticity are consistently found in multiple aspects of reading, including vowel sounds, vowel teams, high-frequency words, and nonsense word reading. This lack of accuracy and automaticity exists not only for students in early elementary school but also for older students who tend to have trouble reading multisyllabic words as a result of difficulties with these discrete fundamental skills (Archer, Gleason, & Vachon, 2003; Moats, 2005). Interventions that provide practice in building automaticity of individual sounds, along with practice reading these sounds in whole words, have been shown to benefit fluency in reading connected text as well as with comprehension (Moats, 2001; Spencer & Manis, 2010).

Devan's Story

Devan was in second grade when he was referred to the tutoring clinic by his classroom teacher because he was not making adequate progress in reading, nor was he responding

to the fluency intervention implemented by his school (see Note 1). During the academic intervention services provided by his school, Devan read leveled texts with guided support in a small group of five students. It was believed that repeated practice reading these texts would improve Devan's reading rate as well as his comprehension. The intervention services did not involve instruction in letter sounds or word analysis, and no assessments of his alphabetic knowledge or word reading ability had been done.

In the clinic, Devan's tutor was a preservice teacher named Nina. After an initial meeting with Devan, Nina discovered that he exhibited avoidance behaviors toward reading. He commented that he did not enjoy reading because of his inability to read stories, "even easy ones." Certainly, tutoring lasting just 12 weeks would not be able to solve the sum total of Devan's struggles with literacy, but the goal was for Nina's intervention to start him on the path to more accurate and effortless reading so that his fluency, comprehension skills, and confidence would improve.

Devan's Assessment Information

The first (and only) assessment evidence of Devan's reading difficulty was provided by the school's reading specialist in the form of his fall DIBELS Oral Reading Fluency (ORF) benchmark score. DIBELS ORF benchmarks are typically administered three times per year (i.e., fall, winter, and spring) and involve students reading 1-min timed passages to receive a score indicating correctly read words per minute. The scores from each administration are helpful in monitoring student progress toward grade-based benchmarks. Devan's fall score revealed that he was at serious risk of not meeting future benchmark goals. His reading rate in September of second grade was only 11 correct words per minute (10th percentile), when in the fall of second grade, reading 44 words per minute is needed to increase the likelihood of meeting future benchmarks (Good & Kaminski, 2002).

Nina began her assessment in January by giving Devan the winter DIBELS ORF probes because she wanted to gather updated baseline data and because she knew that reading rate is important since it predicts reading comprehension

(Riedel, 2007). The resulting winter benchmark score was 21 words correct per minute, which meant Devan remained at the 10th percentile. In the winter of second grade, reading 68 correct words per minute is needed to increase the likelihood of meeting future benchmarks. Devan's rate of growth from September to January averaged fewer than one word per week (0.6 words). This rate of growth corresponded with the average weekly growth expected of a student whose fluency rate is at the 10th percentile, but it would not be sufficient for him to meet the end-of-year second grade benchmark goal of 90 words per minute (see Hasbrouck & Tindal, 2006, for oral reading fluency norms and average weekly improvement data). For Devan to be able to read at grade level, it was urgent that his rate of progress accelerate beyond the typical growth for students at his grade and reading levels. It should be noted that Nina observed that Devan was not only reading text slowly but also reading many of the words inaccurately.

The DIBELS ORF assessment confirmed that Devan was not able to read with the fluency expected of a second grade student, but it did not reveal why. To identify any foundational skills Devan may have been missing, Nina administered some of the literacy assessments listed in Table 1. On the informal letter-sound assessment, Devan knew the sounds of all consonants and long vowels. He could not provide the sounds of two of the five short vowels, nor could he provide the sounds of two of the six digraphs (e.g., *sh*, *ck*). He knew no vowel team sounds in isolation (e.g., *oi*, *oa*, *ee*). On the *Ekwall/Shanker Reading Inventory* word reading list (Shanker & Ekwall, 2000), Devan read only 50% of the second-grade-level words correctly. On the *Road to Reading Levels Assessment* (Blachman & Tangel, 2008), Devan's decoding was scattered. He showed mastery (80%) of the "silent-e" patterns (e.g., *home*); however, he correctly read only 75% of closed syllable words (e.g., *sun*), 65% of closed syllable words with blends (e.g., *slip*), and 65% of vowel team words (e.g., *rain*). On the *Ekwall/Shanker* preprimer and first-grade-level reading passages, Devan correctly answered all comprehension questions, so it appeared that when he was able to read the words in the passages, he was also able to comprehend the meaning. The second grade comprehension questions were not administered because Devan could read only a few words of the passage.

Although Nina was initially tempted to teach some fluency and comprehension strategies to Devan, her alphabet and decoding assessments revealed a root cause of his problems that such strategies instruction alone would not fully address. Devan could not read the words. Laborious and inaccurate word reading was impairing his fluency. In general, students are less likely to comprehend what they read when they cannot recognize a sufficient number of words to bring meaning to texts (Snow, Burns, & Griffin, 1998). If Nina chose to teach Devan only fluency or comprehension strategies when he could not read the words, difficulties with word reading would continue to impair his fluency and

comprehension. As Torgesen and Hudson (2006) pointed out, "[I]nefficiency in identifying single words is the most important factor in accounting for individual differences in text-reading fluency in samples of students with reading disabilities" (p. 148). Nina's intervention needed to address this underlying problem and provide increased opportunities for Devan to accurately practice reading unknown words.

Understanding that the roots of reading fluency difficulties are complex, and armed with some enlightening assessment information showing that Devan clearly lacked skills necessary for accurate and efficient word recognition, Nina knew she had to use her limited time with Devan to intervene where there would be maximum benefit, that is, focusing on helping him both accurately and effortlessly recognize words. Simply practicing reading texts (which had been the focus of the intervention provided by his school) would not in itself improve his word reading accuracy and decoding skills, and thus his oral reading fluency and reading comprehension would continue to lag behind that of his peers. From a complete set of assessment results and observations, Nina had the essential information to design an appropriate intervention program.

The Intervention

Although we are not advocating the use of any one particular program in clinics or classrooms, the intervention chosen for Devan was adapted from *Road to Reading: A Program for Preventing and Remediating Reading Difficulties* (Blachman & Tangel, 2008). It was selected because of evidence of its effectiveness and the fact that it has been used in both individual tutoring and classroom settings with successful outcomes in teaching students to decode (Blachman et al., 2004; Blachman, Tangel, Ball, Black, & McGraw, 1999). Like the *Wilson Reading System* (Wilson, 1996), the program provides systematic phonics instruction as its levels are sequenced according to the six syllable patterns (see Table 2). Teaching the six syllable patterns in the English language provides a highly efficient way for students to decode approximately 86% of the words they encounter. According to Moats (2010), English is a predictable, rule-based spelling system by which, using only phoneme-grapheme correspondence rules, 50% of English words can be decoded with no errors and 36% with one error. Only 14% of English words are considered *irregular*.

Nina began Devan's intervention at the level with which he had difficulty on the *Road to Reading* (Blachman & Tangel, 2008) decoding levels assessment—closed syllables with blends (e.g., *clam*, *sent*). She reinforced skills he knew such as closed syllables without blends and silent-e syllables (e.g., *cob*, *lime*, *pan/cake*). Lessons were taught at each level until 80% mastery was reached before proceeding to the next level. A five-step lesson plan based on previous prevention studies by Blachman et al. (1999) and Blachman et al.

Table 2. The Six Syllable Patterns

Syllable pattern	Syllable pattern elements and examples
1. Closed	One vowel, followed by one or more consonants. The vowel says its short sound. Examples: in, shops, den/tist
2. Silent-e	One vowel, followed by one consonant, followed by the letter e. The e is silent, and the vowel says its long sound. Examples: game, shine, in/vite
3. Open	One vowel at the end of the syllable. The vowel says its long sound. Examples: hi, re/bate, vi/o/lin
4. Vowel team	Two vowels that make one sound. Examples: claim, coin, oat/meal
5. R-controlled	One vowel, followed by r. Together they make one sound. Examples: star, fork, turn/stile
6. Consonant + le	One consonant followed by le. It makes its own syllable and is always at the end of a word. Examples: sniff/fle, nee/dle, pur/ple, ta/ble

(2004) was used. These five steps are not scripted, so Nina had the freedom to make instructional decisions specifically based on Devan's needs.

Devan's Response to the Intervention

Nina tailored each lesson to meet Devan's reading goals established in January. By the end of tutoring in May, Devan made significant progress toward becoming an independent reader.

Letter-sound correspondences. Devan's accuracy with letter-sound correspondences increased substantially. He knew all consonant sounds, all vowel sounds (both long and short), all digraphs, and 9 out of 15 vowel teams. In January, he had not known any vowel teams.

Word recognition. At the end of tutoring, Devan read 80% of the Grade 3 and 4 words in the *Ekwall/Shanker Reading Inventory*, an improvement from the 50% of Grade 2 words he could read in January.

Decoding. Devan also made notable progress on the *Road to Reading* decoding levels assessment. Although his initial results showed he had difficulty decoding words, by the end of tutoring Devan showed mastery (80%) of four of the six syllable types (i.e., closed, open, silent-e, and vowel teams) and improvement on the remaining two (i.e., r-controlled and consonant + le).

Fluency. Devan's DIBELS ORF score increased from 21 correctly read words per minute in January to 59 in May (see Figure 1). He averaged an impressive gain of nearly 3 words (2.9) per minute each week, which stood in stark contrast to the less than one (0.6) average weekly word gain he made in the 5 months prior to tutoring. This was evidence that Devan's reading rate was noticeably accelerating and that his cognitive resources were potentially being freed to find meaning in the texts he read.

Comprehension. Nina examined whether Devan's ability to read words more effortlessly resulted in the increased reading comprehension that is so critical for academic success. The answer was *yes*. Previously on the reading passages section of the *Ekwall/Shanker Reading Inventory* in January, Devan was not given the Grade 2 comprehension questions because of the high number of word-reading errors made. In May, Devan was able to read the Grade 2 passage with 97% accuracy and was able to correctly answer 8 out of 10 comprehension questions. Moreover, Devan was also able to read the Grade 3 passage (which was above his grade level) with 96% accuracy while correctly answering 8 out of 10 comprehension questions.

It is improbable to expect that Devan would have made such progress if Nina had required him just to read more texts to build his reading speed. His initial problems seemed to be difficulties with fluency, but by identifying the underlying causes of these difficulties and then explicitly and systematically providing him with the skills necessary for accurately identifying words, Nina helped Devan improve his fluency, and he was able to focus more on comprehending what he was reading. Compelling evidence of Devan's reading improvement came from his reading teacher, who remarked that Devan was consistently applying the skills learned during tutoring while reading texts in the classroom. He was also eager and motivated to read to others, especially his parents.

Although the intervention procedures and outcomes for Devan are worth sharing as an example of how a deeper conceptualization of reading fluency can bring about benefits to students, it is important to note that this was not a controlled experimental situation. It is merely the report of an experience with one student. This anecdotal evidence is not necessarily transferrable to other students or settings.

Conclusion and Implications for Practice

Like many students with reading disabilities, Devan had a slow reading rate. Because his school administered reading fluency screening measures, he was quickly identified as at risk of not meeting future benchmarks and provided with academic intervention services. These services consisted primarily of repeated practice reading-level texts. During the 5 months of that intervention, however, Devan failed to make the kind of progress he needed to catch up to his more

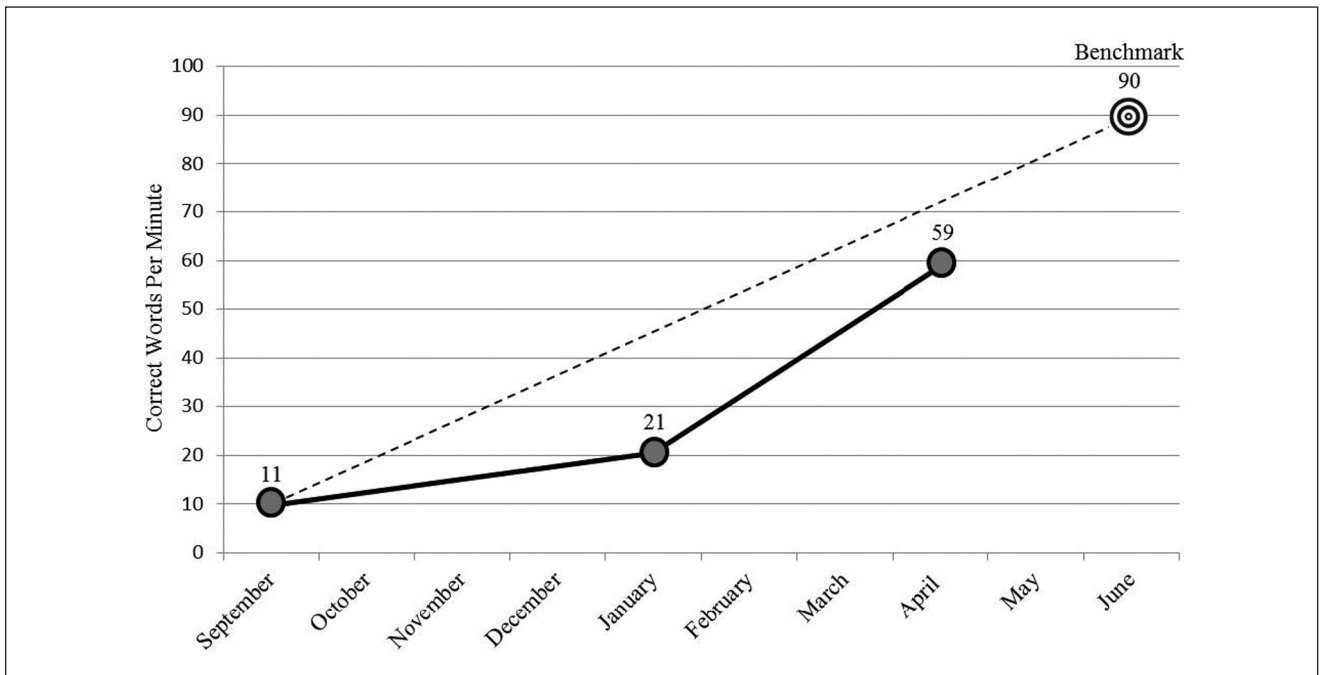


Figure 1. Devan's oral reading fluency scores and second grade benchmark.

fluent peers, suggesting that he was not responding to the repeated reading *fluency-only* intervention. It was only after more targeted assessment and intervention addressing his underlying word reading difficulties that Devan showed improvements in reading rate, word recognition accuracy, and reading comprehension. Devan's average weekly gain of 2.9 words per minute demonstrated that he responded quickly to a targeted intervention focusing on decoding words more accurately and effortlessly.

There are many settings and circumstances in which remarkable improvements in students' reading can occur, provided the intervention addresses underlying reasons for reading difficulties when students do not respond adequately to instruction. Helping students become more fluent readers is too often misconstrued as a "need for speed" and addressed with interventions based on the singular goal of increasing students' reading rate. For students like Devan, accurate and effortless word reading should not be neglected when making decisions regarding fluency interventions. The example illustrated here is unfortunately not uncommon in school-based reading instruction and intervention. Although assessment of students' oral reading fluency has undoubtedly led to quicker identification and provision of interventions to students with reading difficulties (Good et al., 2003), these data alone do not provide a complete representation of students' reading needs. As Deeney (2010) warned, "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" (p. 443).

Without an adequate background in assessment, many teachers may not realize the limitations of oral reading fluency data, and they may also fail to gather additional data to aid them in making effective instructional decisions (Conderman & Strobel, 2006). Hudson, Lane, and Pullen (2009) suggested that unless teachers "understand the complex nature of reading fluency and know how to assess and teach it, then we have failed in our efforts to provide effective and successful school experiences for young readers" (p. 2). Professional development providing support to educators is necessary to help them appropriately link assessment and instruction (Fletcher & Vaughn, 2009). Such opportunities would help to bridge the research-to-practice gap demonstrated in the example provided here and increase the likelihood that readers like Devan receive interventions that target areas of need and lead to significant, meaningful growth.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interests with respect to the research, authorship, and/or publication of this article.

Financial Disclosure/Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Note

1. This vignette represents an authentic situation observed by the authors. The names of the student and the tutor have been changed to pseudonyms.

References

- Allington, R. L. (1983). Fluency: The neglected reading goal. *Reading Teacher, 36*, 556–560.
- Archer, A. L., Gleason, M. M., & Vachon, V. L. (2003). Decoding and fluency: Foundation skills for struggling older readers. *Learning Disability Quarterly, 26*, 89–101. doi:10.2307/1593592
- Blachman, B. A., Schatschneider, C., Fletcher, J. M., Francis, D. J., Clonan, S. M., Shaywitz, B. A., & Shaywitz, S. E. (2004). Effects of intensive reading remediation for second and third graders and a 1-year follow-up. *Journal of Educational Psychology, 96*, 444–461. doi:10.1037/0022-0663.96.3.444
- Blachman, B. A., & Tangel, D. M. (2008). *Road to reading: A program for preventing and remediating reading difficulties*. Baltimore, MD: Brookes.
- Blachman, B. A., Tangel, D. M., Ball, E. W., Black, R., & McGraw, C. K. (1999). Developing phonological awareness and word recognition skills: A two-year intervention with low-income, inner-city children. *Reading and Writing: An Interdisciplinary Journal, 11*, 239–273. doi:10.1023/A:1008050403932
- Conderman, G., & Strobel, D. (2006). Problem solving with guided repeated oral reading instruction. *Intervention in School and Clinic, 42*, 34–39. doi:10.1177/105345-12060420010601
- Deeney, T. (2010). One-minute fluency measures: Mixed messages in assessment and instruction. *Reading Teacher, 63*, 440–450. doi:10.1598/RT.63.6.1
- Denton, C. A., Fletcher, J. M., Anthony, J. L., & Francis, D. J. (2006). An evaluation of intensive intervention for students with persistent reading difficulties. *Journal of Learning Disabilities, 39*, 447–466. doi:10.1177/00222194060390050601
- Denton, C. A., Vaughn, S., & Fletcher, J. M. (2003). Bringing research-based practice in reading intervention to scale. *Learning Disabilities Research & Practice, 18*, 201–211. doi:10.1111/1540-5826.00075
- Eldredge, J. L. (2005). Foundations of fluency: An exploration. *Reading Psychology, 26*, 161–181. doi:10.1080/02702710590930519
- Fletcher, J. M., & Vaughn, S. (2009). Response to intervention: Preventing and remediating academic difficulties. *Child Development Perspectives, 1*, 30–57. doi:10.1111/j.1750-8606.2008.00072.x
- Fry, E., & Kress, J. (2006). *The reading teacher's book of lists*. New York, NY: John Wiley.
- Gallistel, E., & Ellis, K. (2005). *Gallistel–Ellis Test of Coding Skills*. Arlington, VA: Montage.
- 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.
- Good, R. H., Kaminski, R. A., Smith, S., Simmons, D., Kame'enui, E., & Wallin, J. (2003). Reviewing outcomes: Using DIBELS to evaluate kindergarten curricula and interventions. In S. R. Vaughn & K. L. Briggs (Eds.), *Reading in the classroom: Systems for the observation of teaching and learning* (pp. 221–259). Baltimore, MD: Brookes.
- Hasbrouck, J. (2006). *Quick Phonics Screener*. St. Paul, MN: Read Naturally.
- Hasbrouck, J., & Tindal, G. (2006). Oral reading fluency norms: A valuable assessment tool for teachers. *Reading Teacher, 59*, 636–644. doi:10.1598/RT.59.7.3
- Hudson, R. F., Lane, H. B., & Pullen, P. C. (2009). Introduction: Understanding theory and practice in reading fluency instruction. *Reading and Writing Quarterly, 25*, 1–3. doi:10.1080/10573560802491190
- Juel, C., Griffith, P., & Gough, P. (1986). Acquisition of literacy: A longitudinal study of children and first and second grade. *Journal of Educational Psychology, 78*, 243–255. doi:10.1037/0022-0663.78.4.243
- Mesmer, E. M., & Mesmer, H. A. E. (2008). Response to intervention (RTI): What teachers of reading need to know. *Reading Teacher, 62*, 280–290. doi:10.1598/RT.62.4.1
- Moats, L. C. (2001). When older students can't read. *Educational Leadership, 58*(6), 36–40.
- Moats, L. C. (2005, Winter). How spelling supports reading: And why it is more regular and predictable than you may think. *American Educator, 27*, 12–22, 42–43. Retrieved from <http://www.aft.org/pdfs/americaneducator/winter0506/Moats.pdf>
- Moats, L. C. (2010). *Speech to print: Language essentials for teachers* (2nd ed.). Baltimore, MD: Brookes.
- Nation, K., & Snowling, M. J. (1997). Assessing reading difficulties: The validity and utility of current measures of reading skill. *British Journal of Educational Psychology, 67*, 359–370.
- National Reading Panel. (2000). *Report of the National Reading Panel: Teaching children to read: Reports of the subgroups*. Washington, DC: National Institute of Child Health and Human Development, National Institutes of Health.
- Pikulski, J. J., & Chard, D. J. (2005). Fluency: Bridge between decoding and reading comprehension. *Reading Teacher, 58*, 510–519. doi:10.1598/RT.58.6.2
- Rasinski, T. (2009). Fluency: The essential link from phonics to comprehension. In T. Rasinski (Ed.), *Essential readings on fluency* (pp. 1–10). Newark, DE: International Reading Association.
- Rasinski, T., & Hamman, P. (2010). Fluency: Why it is “not hot.” *Reading Today, 28*(1), 26. Retrieved from http://readtume.com/peters_room13/research_articles/fluency2.pdf
- Riedel, B. W. (2007). The relation between DIBELS, reading comprehension, and vocabulary in urban first-grade students. *Reading Research Quarterly, 42*, 546–562. doi:10.1598/RRQ.42.4.5

- Samuels, S. J. (2006). Reading fluency: Its past, present, and future. In T. Rasinski, C. Blachowicz, & K. Lems (Eds.), *Fluency instruction: Research-based best practices* (pp. 7–20). New York, NY: Guilford.
- Shanker, J. L., & Ekwall, E. E. (2000). *Ekwall/Shanker Reading Inventory* (4th ed.). Boston, MA: Allyn & Bacon.
- Snow, C. E., Burns, M. S., & Griffin, P. (Eds.). (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.
- Spencer, S. A., & Manis, F. R. (2010). The effects of a fluency intervention program on the fluency and comprehension outcomes of middle-school students with severe reading deficits. *Learning Disabilities Research & Practice, 25*, 76–86. doi:10.1111/j.1540-5826.2010.00305.x
- Torgesen, J. K., & Hudson, R. F. (2006). Reading fluency: Critical issues for struggling readers. In S. J. Samuels & A. E. Farstrup (Eds.), *What research has to say about fluency instruction* (pp. 130–158). Newark, DE: International Reading Association.
- Wilson, B. A. (1996). *Wilson Reading System*. Oxford, MA: Wilson Language Training.

About the Authors

Maria S. Murray, PhD, is assistant professor at the State University of New York at Oswego in the Curriculum and Instruction Department. Her research interests include early intervention, reading disabilities, and invented spelling.

Kristen A. Munger, PhD, is assistant professor at the State University of New York at Oswego in the Counseling and Psychological Services Department. Her current interests include early literacy intervention and assessment.

Sheila M. Clonan, PhD, is assistant professor of Educational Studies at Colgate University. Her current research interests include assessment for intervention, early literacy development, and social skills interventions.