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The Art and Science of Teaching Reading Fluency

TIMOTHY RASINSKI

The construct of reading fluency has run a rather schizophrenic and tumultuous course (Rasinski, 2003). Early American reading instruction placed oral reading fluency (elocution) at the zenith of instructional goals. With the recognition in the late 19th century that silent reading was the most pervasive form of reading for most adults, oral reading fluency took a decidedly backseat in instruction. It remained at best a secondary reading goal, and gained further disrepute through the common practice of round robin reading. There fluency remained until the late 1970s and early 1980s when literacy scholars (e.g., Chomsky, 1976, 1978; LaBerge & Samuels, 1974) began to write theoretically and practically about the importance of reading fluency. Richard Allington (1983) consolidated the various emerging points of view related to fluency when he identified it as the “neglected reading goal.” Rasinski and Zutell (1996) pointed out that instructional and professional development materials in reading of the time rarely, if at all, gave mention to reading fluency.

Yet, in the span of less than 20 years reading fluency has gone from neglected to “hot.” Indeed, in its review of empirical research on effective literacy approaches, the National Reading Panel (2000) identified reading fluency as one of the critical components of effective reading programs. A search of Amazon.com using reading fluency as key words resulted in over 3,000 titles listed, most published after 2000.

Still, a recent survey of reading experts of hot topics in reading has found that although fluency is hot, over 50% of the respondents indicated that it shouldn’t be (Cassidy & Cassidy, 2009). The primary reason for this second decline in the status of reading fluency has been due to in large part to the way in which reading fluency has been assessed in students. The discovery of a relatively strong association between oral reading rate (also called oral reading fluency—ORF) and measures of reading comprehension and overall reading achievement has led to the use of ORF as the primary tool for assessing reading fluency. Recognizing the strength of this association, many in the reading practitioner community have created instructional approaches for teaching fluency by focusing on increasing students’ oral reading rate. Scholars recognizing that this is a corruption of the notion of reading fluency, much in the same way as oral round robin reading had become an earlier corruption of reading fluency, have called for the de-emphasis of reading fluency in instructional settings.

Recent scholarly reviews of research in reading fluency (Kuhn & Rasinski, 2007, 2009; Kuhn, Schwanenflugel, & Meisinger, 2010; Rasinski, Reutzel, Chard, & Linan-Thompson, in press) have concluded that fluency is indeed an important theoretical and instructional construct in reading if viewed in the proper context. These articles provide a comprehensive review of research related to the theory and instructional practice related to reading fluency. Rather than merely reiterate the findings of these excellent reviews, in this article I attempt to provide a consensus definition and description of reading fluency, one that goes beyond mere reading rate, describe how reading fluency may be situated within a total literacy curriculum, identify instructional approaches to fl uency that are supported by the research, and explore contemporary issues in reading fluency that need to be addressed for the concept of fluency to move forward as a relevant construct in reading.

The previously mentioned reviews of research in fluency have identified various aspects of fluency—that it involves: the accurate and automatic recognition of words in written text; the expressive (oral) production of the text that reflects syntactic and semantic nature of the text (prosody); that it is an interactive process that involves the making of meaning (comprehension) and is itself influenced by the readers’ comprehension; that it its properties are operative in authentic uses of silent as well as oral reading.

Although Huey (1908/1968) discussed the construct of fluency in his early and seminal volume on reading, the modern roots on automaticity in reading come from the work of LaBerge and Samuels (1974). In most human activi-
ties, LaBerge and Samuels argued, people can direct their attention to one task at a time. Multi-tasking can only be done successfully when humans alternate their attention between tasks or when one or more of the tasks have been learned so well that it can be performed automatically, effortlessly, or with minimal employment of attention. Reading is a multi-task operation. At the very least, successful reading requires readers to identify and understand words accurately and at same time construct or comprehend the meaning intended by the author of the text. Through plenty of practice of contextual reading proficient readers automatize the lower level word identification task in reading, allowing themselves to attend to the meaning of the text. Less proficient reading can result from an insufficient ability to decode the words in the text. It can also result from word identification that is not sufficiently automatized. Struggling readers may be able to decode words accurately. However, if they have to invest too much of their limited cognitive resources into that task, they will have less available for comprehension. As a result, comprehension will suffer.

Fluency, then, according to automatic theory, is the ability to process the lower level task word identification task accurately and automatically so that the reader can devote his or her attention to the making of meaning. Other scholars have extended and elaborated on LaBerge and Samuels work (e.g., Logan, 1988, 1997; Perfetti, 1985; Stanovich, 1980, 1986). Logan (1988) posited that focused attention on a stimulus (word) encodes the features of the stimulus in memory. Repeated focused exposures results in stronger, more durable memory traces laid down in the brain to the point where retrieval of the stimuli in memory becomes automatized. Stanovich (1980) and Perfetti (1985) argued that if lower level processes in reading are not developed to an appropriate level of efficiency, higher level processes, those normally involved in comprehension, must compensate. As a result, comprehension is compromised.

Prosody is the area of phonology that focuses on the rhythmical and tonal features of speech that are layered upon individual phonological segments and include stress, pitch, and duration (Schreiber, 1991). Stress involves the prominence that is placed on individual syllables within words. Intonation is the rise and fall of voice pitch during speech or oral reading. Duration is the length of time employed in pronouncing a word or part of a word.

In reading, prosody refers to the ability to make oral reading sound like authentic oral speech. Referring to prosody in reading, Martin (1966) has stated that “much of the meaning of the sentence is in its sound, not necessarily in the words themselves” (p. 13). Prosody or prosodic reading has been identified by a number of reading scholars as an essential component of reading fluency (e.g., Allington, 1983; Kuhn & Stahl, 2000; National Reading Panel, 2000; Rasinski & Hoffman, 2003).

A distinct manifestation of fluent (and nonfluent) language production, including reading, lies in the language user’s ability to parse texts into syntactical appropriate units or phrases. (The disfluent language user often processes oral language in a monotone, word by word manner or with nonconventional phrasing.) Phrasing plays an important role in oral language production and comprehension (Epstein, 1961; Johnson, 1965; Cooper & Paccia-Cooper, 1980). Schreiber (1980, 1987, 1991) and others (Coots, 1982; Dowhower, 1991) argue that prosody plays a role in oral and written language comprehension by assisting the reader in segmenting or chunking text into syntactically appropriate and meaningful phrasal groupings of words. Schreiber (1991) posits that the ability to chunk or phrase text into syntactically appropriate and meaningful multi-word units is a critical aspect of learning to read. In general, some but not all phrase boundaries in written text are marked by punctuation. When phrase boundaries are not explicitly marked in written texts readers must employ their prosodic sensitivity to parse written text into appropriate phrases.

Research has shown that younger and less able readers are less able to employ prosodic elements in phrasing written texts (Clay & Imlach, 1971; Dowhower, 1987; Schreiber, 1980, 1987, 1991; Schreiber & Read, 1980). Although the role of prosody in reading has not been as extensively studied as automaticity (Dowhower, 1991), recent empirical research has demonstrated the relevance of prosody in reading (Miller & Schwanenflugel, 2006, 2008; Rasinski, Rikli, & Johnston, 2009; Whalley & Hansen, 2006).

Given these essential features of fluency, I propose the following comprehensive definition of fluency: Fluency is the component of the reading process that allows readers to decode the words in a text with sufficient accuracy and automaticity (efficiency) to allow for understanding the text and that reflect the prosodic features embedded in the text.

Within the definition of fluency used here, as well as those proposed in previous reviews of research, certain instructional approaches such as teaching fluency through an exclusive emphasis on word perfect oral reading production (i.e., round robin reading) or reading rate (ORF) must be excluded from any discussion of effective fluency instruction. Indeed, research has identified several productive instructional practices that are associated with reading fluency. In the following section, I discuss these practices within the context of the full reading curriculum.

An Effective Reading Curriculum

Although there is no one best approach for the effective teaching of reading, there is a recognition that certain areas of emphasis need to be part of any effective reading curriculum (National Reading Panel, 2000). Among these are word study (phonics and vocabulary), reading comprehension (guided reading), and reading fluency. In his model of effective literacy instruction, one that was implemented with some success in the Chicago Public Schools, Shanahan (2006) proposes a literacy curriculum of four distinct components—word knowledge, fluency, reading comprehension, and writing. Although fluency is only one part of the total literacy curriculum, according to various experts (e.g., Allington, 2005; National Reading
Panel, 2000; Rasinski, 2010; Shanahan, 2006) it is an essential component of that curriculum. Although there is no definitive estimate as to the amount of time within the school curriculum that should be devoted to reading fluency instruction, the less-than-5-minutes per day given to fluency in primary grade classrooms as reported by the recent review of Reading First programs (Gamse, Bloom, Kemple, & Jacob, 2008) must certainly be considered insufficient. Accepting the notion that fluency must be taught, in this chapter I explore the instructional practices for fluency that are supported by the research.

The Science of Reading Fluency Instruction

**Practice in Reading** Fluency in any human endeavor is accomplished through practice. In reading instruction, practice is usually thought of in terms of wide silent reading. In wide silent reading students read a text and after an opportunity to respond to the text they move on to the next text. In their summary of research related to fluency Kuhn et al. (2010) suggest that this ubiquitous and widely accepted form of reading practice does indeed support fluency development. A recent study by Reutzel and colleagues (Reutzel, Fawson, & Smith, 2008; Reutzel, Jones, Fawson, & Smith, 2008) reported that silent scaffolded wide reading resulted in gains in elementary students’ fluency and comprehension. Reutzel and colleagues argue that wide silent reading is most effective when students are held accountable for their reading and when teachers provide sufficient support and guidance to allow students to be successful in their wide reading.

Wide reading may be contrasted with deep reading, or reading that is practiced until the reader achieves a degree of mastery over the surface elements of the text practiced. Research supports this other form of practice—deep reading or guided repeated reading. Repeated reading is based on the assumption that readers need to develop some degree of mastery over one text before moving on to the next. If a reader reads a text one time in a mediocre manner and then moves on to another passage that is also read in a mediocre manner, it seems reasonable to assume that the ultimate results in terms of student growth and satisfaction in learning to read will also be mediocre.

In guided repeated reading a student will read a text of reasonable length several times until the student achieves an acceptable level of fluency before moving on to the next passage. The teacher plays a role in selecting appropriately leveled texts, modeling the reading of the texts, and providing students guidance and support in their own reading. The National Reading Panel (NRP; 2000) reported on 51 studies involving repeated reading and reported a mean effect size of 0.41 for repeated reading instruction on students’ improvement of word recognition accuracy and rate (efficiency).

Subsequent to the report of the NRP several other studies have affirmed the effectiveness of guided repeated reading (e.g., Biggs, Homan, Dedrick, & Rasinski, 2008; Compston, Appleton, & Hosp, 2004; Daly, Bonfiglio, Mattson, Perampiere, & Foreman-Yate, 2006; Griffith & Rasinski, 2004; Hiebert, 2005, 2006; Musti-Rao, Hawkins, & Barkley, 2009; Rasinski & Stevenson, 2005; Sanders & Vadasy, 2008; Stahl & Heubach, 2006; Wickstrom, Jones, & Therrien, 2006; Vadasy & Sanders, 2008; Williams, Klubnik, & McCall, 2009). These studies have consistently found that repeated readings used with students at various grade and achievement levels, implemented by different forms of instructional delivery (e.g., teachers, para-educators, parents, technology), using various forms of texts (e.g., basal texts, informational, narrative, poetry, scripts, song lyrics) at various difficulty levels, and combined with various forms of support (e.g., modeling, choral reading) during and response after the readings (e.g., number of repetitions, word recognition instruction, comprehension follow-up) universally led to improvement in a variety of reading outcomes (e.g., word recognition, reading rate, comprehension, informal reading inventories) on passages practiced and on new passages not previously read.

Hiebert (2008) notes that text difficulty is a critical issue when it comes to learning to read. When texts are too difficult and long and accompanied with minimal differentiation of instruction and support, low-performing students are likely to attend to the text in a cursory manner and progress will be muted. Recent research suggests that the use of texts with deliberately controlled levels of difficulty and other text elements can provide optimal practice and learning conditions for developing reading fluency through practice (Hiebert, 2006; Menon & Hiebert, 2005). Interestingly, in their earlier review of research related to repeated readings, Kuhn and Stahl (2004) report that a significant number of studies in their review reported greater improvements in reading when the materials used for repeated reading was above students’ instructional reading levels. Stahl and Heubach (2005), for example, reported that second-grade students made the greatest gains in achievement with materials at their frustration levels. One explanation for this anomalous finding is that the repetition and support offered in the repeated readings allowed students to expand their instructional reading level and work with more challenging materials. The more challenging materials allowed students to accelerate their progress in reading.

Clearly, the empirical research, then, supports fluency instruction that is based on both wide and repeated readings. Although issues related to various specific aspects of repeated readings are yet to be fully resolved (e.g., text difficulty, level of readers, provider of instruction, text type), it seems clear that repeated readings has been proven to be a positive instructional method, especially for students who struggle in achieving reading proficiency, and should be combined with wide reading for purposes of improving reading fluency and other aspects of reading proficiency.

**Oral Assisted Reading** Oral assisted reading refers to the practice of a student reading a text while simultaneously
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Phrasing

As was indicated earlier, it is well established that prosodic reading and sensitivity to phrasing is associated with proficient reading and speech. More proficient readers and speakers users tend to employ prosody in their oral reading and language—to segment text into meaningful phrases and perhaps in other ways to construct meaning. Methods used for developing readers’ prosody such as guided oral and assisted repeated readings are known and have been shown to be effective in improving reading achievement.

Text segmenting (Dowhower, 1991) appears to be less well known in contemporary reading education. It refers to the explicit marking of phrase boundaries in written texts in order to assist readers in phrasing texts meaningfully and applying prosody during oral reading. Although research on the role of text phrasing as an approach to fluency instruction does not seem to be currently in vogue, Rasinski’s (1990, 1994) reviews of research on instruction focused on text phrasing suggests that a focus on phrasing through explicit text marking has substantial potential for delivering positive outcomes on word recognition, fluency, and comprehension.

Synergistic Reading Fluency Instruction

Synergistic fluency instruction refers to instructional approaches that integrate or combine various established methods of instruction for improving accuracy, automaticity, and prosody in reading into instructional wholes. Such models are based on the premise that the effects of an integrated lesson is greater than the sum of the parts and that such approaches would be easier to implement in classroom settings. Integrated approaches normally combine repeated readings and assisted readings with elements of phonics instruction.

Studies of the implementation of such approaches such as Fluency Oriented Reading Instruction (Kuhn et al., 2006; Stahl & Heubach, 2005, 2006; Stahl, Heubach, & Cramond, 1997), the Fluency Development Lesson (Rasinski, Padak, Linek, & Sturtvante, 1993), Fast Start (Padak & Rasinski, 2004; Rasinski, 1995; Rasinski & Stevenson, 2005), Oral Recitation Lesson (Hoffman, 1987; Reutzel & Hollingsworth, 1993; Reutzel, Hollingsworth, & Eldredge, 1994), the Shared Book Experience (Eldredge, Reutzel, & Hollingsworth, 1996), Retrieval, Automaticity, Vocabulary Elaboration, Orthography (RAVE-O; Wolf & Katzir-Cohen, 2001; Wolf, Miller, & Donnelly, 2000), and Read Naturally (De la Colina, Parker, Hasbrouck, & Alecio, 2001; Denton, Fletcher, Anthony, & Francis, 2006; Hasbrouck, Innot, & Rogers, 1999) have yielded promising results in measures of word recognition, fluency, reading comprehension, and overall reading achievement, especially for struggling readers.

English Language Learners

Learning to read English can be particularly challenging for students whose first language is not English. Nevertheless, the Report of the National Literacy Panel on Language-Minority Children and Youth (August & Shanahan, 2006) indicated that reading fluency is a relevant instructional issue for ELL students. Lems (2006), for example, found significant correlations between measures of reading fluency and adult ELL students representing a number of different first languages. Other studies have demonstrated that instructional interventions in fluency can have positive impact on ELL students reading development (Da la Colina et al., 2001; Hiebert & Fisher, 2006).
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The title of this volume is the *Handbook of Research on Teaching the English Language Arts*. Implied in this title is the notion that reading and instruction in reading is an art. The previous section of this chapter has examined the scientific evidence supporting the construct of fluency in reading and instruction in reading fluency. In this section I address some artistic issues involved in fluency instruction.

An important practical question that emerges from the research and practice of guided oral repeated and assisted readings previously reviewed revolve around the purpose for students to engage in such activities. Critics have argued that the over usage of reading rate (ORF scores) as a measure of fluency and progress in fluency has led to a primary emphasis on improving reading rate for fluency instruction with minimal regard for text comprehension (Rasinski, 2006; Samuels, 2007). Moreover, such an overt emphasis on improving reading rate may also lead to a disregard for the other critical aspect of reading fluency—prosody. When readers are focused on reading a text quickly, little regard is given to reading with appropriate expression that reflects the meaning of the text. Moreover, instruction that is aimed primarily at improving reading rate lacks authenticity. There are few instances in life where one is called on to read for the express purpose of speed.

Reading fluency is most often associated with oral reading (e.g., prosody is manifested in oral reading). An authentic (and artistic) use of oral reading is performance. Actors, singers, poets, orators, and others who perform regularly engage in repeated and assisted reading activities for the purpose of preparing to perform a text for an audience. Moreover, the purpose of the performance is often more than to inform. The purpose of oral performances by actors, singers, and poets are done to engender an aesthetic response (Rosenblatt, 1994). Art deals with aesthetics.

Certain text genres are meant to be performed (Rasinski, 2010). These include scripts, dialogues, monologues, poems, song lyrics, and speeches. When students are asked to perform such texts they have a natural reason to engage in rehearsal (i.e., guided oral assisted and repeated readings). The eventual performance provides an organic motivation for practice. Moreover, because the quality of the performance will, to a large extent, be judged on the expressiveness of the performer, the aim of the practice is not speed, but prosody—to be able to communicate meaning to an audience through the expressive interpretation of a text.

Alexander and Jetton (2000, p. 296) argue that reading is a “synthesis of skill, will, and thrill.” A learner must have a commitment to read and the reading must have some form of personal gratification for reading. The oral performance of a text for an audience has great potential for increasing students’ commitment and satisfaction in reading and the practice that precedes the performance.

A number of reading scholars (e.g., Rasinski, 2008; Worthy & Prater, 2002) have advocated the use of an artistic approach to fluency. Moreover, a growing body of research has examined the use of this artistic approach to reading fluency instruction. Matinez, Roser, and Strecker (1998/1999) studied second-grade students engaged in an instructional routine employing readers theater. Students received a short script at the beginning of each week which was then rehearsed over the course of the week and eventually performed. In a 3-month implementation the researchers reported that students in the readers theater program made greater gains in fluency and overall reading achievement than a control group of students in a more conventional form of instruction. Moreover, the gains exceeded the normal progress expected in such a time period. Students, teachers, and parents reported that high levels of engagement and motivation for the program.

Using a similar format of practice and performance of readers theater scripts with fourth-grade students, Griffith and Rasinski (2004) reported on 3 years of implementation. Struggling readers made gains in reading achievement (2+ years growth in 1 year of instruction) and reading fluency (50+ words correct per minute gain in 1 year of instruction) well exceeding what would normally be expected. Other researchers have reported similar gains with implementations of readers theater with second-grade students (Young & Rasinski, 2009), fifth-grade students (Carrick, 2006), and high school students (Reese, 2005). Still other research has demonstrated improvements in confidence in and motivation for reading that results from performing scripts (Clark, Morrison, & Wilcox, 2009).

The use of poetry also suggests rehearsal and performance. Rasinski, Rupley, and Nichols (2008) suggest that the use of poetry with young children provides teachers and students with unique opportunities to teach and learn phonics as well as fluency since most poems for younger children make good use rhymes (rimes). Three reports of research using the repeated and assisted use and performance of poetry and nursery rhymes with primary-grade readers found very positive results, especially for the most at-risk students (Padak & Rasinski, 2004; Rasinski, 1995; Rasinski & Stevenson, 2005). Similarly positive results have been found with the use of song lyrics with struggling middle school readers (Biggs et al., 2008).

There is no reason why an artful and scientific approach to the teaching of reading fluency cannot complement one another to create instruction that nurtures and satisfies the “skill, will, and thrill” requisites of textual experiences.

Reading Fluency: Next Steps It has been nearly three decades since Allington (1983) called fluency the “neglected goal of the reading curriculum.” Finally, fluency is recognized as an important part of the reading curriculum. Still, important questions remain to be answered by researchers and practitioners in positioning fluency in its optimal and appropriate place in the reading and language arts curriculum.

Various tensions between aspects of fluency and the reading curriculum require further attention. How does fluency fit into the overall reading curriculum? What is the optimal
amount of time for fluency instruction, given the limitations to the school day? Should fluency be taught beyond the primary grades? Are the methods for fluency instruction appropriate in prereading environments and programs? Chall’s (1996) model of reading development positions fluency in the primary grades. However, recent research has demonstrated that fluency is a concern for students in the upper elementary and middle school grades (Rasinski et al., 2009) as well as the secondary grade levels (Rasinski et al., 2005) and that fluency interventions can have a positive impact on older students’ reading proficiency (Biggs et al., 2008; Rees, 2005).

The tension between automaticity and prosody is clearly an instructional issue that need resolution. Are these elements of fluency best addressed separately? Or can instruction be developed to promote both in an interactive manner? The tension between automaticity and prosody is especially present in the way that fluency is assessed. Automaticity is normally measured through reading rate; prosody through teacher ratings of the expressive nature of a student’s oral reading. When speed is assessed, prosody is often neglected. Moreover, when readers interpret a text through oral reading, reading speed is usually not a major concern. Indeed, readers often slow their reading for purposes of text interpretation and to allow for repeated readings. To what extent is fluency time, text length an issue in fluency instruction. Most primary grades? Are the methods for fluency instruction to the school day? Should fluency be taught beyond the amount of time for fluency instruction, given the limitations of the instructional milieu. What is the appropriate balance between wide and repeated reading? What is the optimal number of readings of a passage as a function of the relative difficulty of the passage?

Unquestionably, many tensions need to be resolved and many questions remain to be answered in the realm of fluency. From a teaching viewpoint, however, perhaps no bigger tension, however, is the tension between the science and the art of teaching fluency. Fluency instruction is clearly important for developing readers, especially those who experience difficulty in learning to read. The challenge for researchers and practitioners is to develop reading fluency instruction that satisfies the scientific requisite to be effective in terms of increasing proficiency in the skill of reading and at the same time makes fluency instruction an authentic and engaging reading experience that satisfies the aesthetic needs of readers and teachers of reading.

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