

CHAPTER 1

The Forgotten Reading Proficiency: Stamina In Silent Reading

Elfrieda H. Hiebert

TextProject & University of California, Santa Cruz

The new assessments developed by the Smarter Balanced Assessment Consortium and the Partnership for Assessment of Readiness for College and Careers (PARCC) to align with the Common Core State Standards (CCSS; National Governors Association Center for Best Practices [NGA Center] & Council of Chief State School Officers [CCSSO], 2010) require all but the most severely disabled students to read and respond to texts in a digital context. Beginning at third grade, students are expected to read and respond to texts silently over extensive periods of time (see Table 1.1). And, unlike typical classroom reading tasks, students will have no access to teachers to present a first read or to help them by scaffolding a section of text, monitoring their reading, or advising them when it is time to start answering questions or writing responses.

Of course, extended silent reading is not a requirement limited to the new CCSS-related assessments. For the tasks of college, citizenry, and the workplace, we most often conduct reading tasks silently on our own for sustained periods of time. But it is highly likely that many students will not be prepared for the challenge of the silent reading tasks posed by the new assessments. The reason for this challenge is not—as pundits and observers of education frequently suggest—that American students cannot read. Indeed, most American students can read. What many students cannot do is independently maintain reading focus over long periods of time. The proficiency they lack is stamina—the ability to sustain mental effort without the scaffolds or adult supports.

In this chapter, I provide an overview for three themes that are echoed in the chapters of this book: (a) stamina is a major challenge for many American students, (b) silent reading proficiency depends on extensive reading opportunities, and (c) appropriate instructional applications can increase students' silent reading proficiency. First, however, I identify and define the constructs that are the foci of this

book—silent reading, comprehension-based silent reading rate, and the role of oral reading (including oral reading of instructional texts by teachers).

Table 1.1: Administration Times and Number of Sessions: CCSS Assessment Consortia¹

Grade	PARCC	SBAC
3	EOY ² : 60 min. x 2 sessions Perf: 40-60 min. per task TOTAL: Approximately 4.5 hours	CAT ³ : 1 hr. 45 min. Perf: 35 min. (stimulus + research Qs; 70 min. writing prompt) TOTAL: Approximately 3.5 hours
4-5	EOY: 70 min. x 2 sessions Perf: 50-80 min. per task TOTAL: Approximately 5 hrs. 50 min.	CAT: 1 hr. 45 min. Perf: 35 min. (stimulus + research Qs; 70 min. writing prompt) TOTAL: Approximately 3.5 hrs.
6-8	EOY: 70 min. x 2 sessions Perf: 50-85 min. per task TOTAL: Approximately 5 hrs. 55 min.	CAT: 1 hr. 45 min. Perf: 35 min. (stimulus + research Qs; 70 min. writing prompt) TOTAL: Approximately 3.5 hrs.
9-11	EOY: 70 min. x 2 sessions Perf: 50-85 min. per task TOTAL: Approximately 5 hrs. 55 min.	CAT: 2 hrs. Perf: 35 min. (stimulus + research Qs; 70 min. writing prompt) TOTAL: Approximately 4 hrs.

¹From Wixson (2013).

²EOY: End-of-Year

³CAT: Computer Adaptive Technology

Definitions and Distinctions

Oral reading assessments are a critical method for gaining insights into an individual’s mental processing capacities. Oral reading rate is an indicator of automaticity with words, so it’s not surprising that it has been shown to be a strong predictor of students’ comprehension. However, during the No Child Left Behind (NCLB) era, reading assessments often stopped with oral reading measures, ignoring a crucial fact: Ultimately, it is the silent reading performance of students that is most critical to their comprehension. After all, in the real world—whether we are college students, newly minted college graduates who are beginning their first jobs, or seasoned professionals—we are generally not asked to read articles or manuals orally. Silent reading, not oral reading, dominates.

Further, it is not the rate at which we read articles or manuals that is most valuable. What is critical is how well we understand, use, remember, and apply the content of what we read. Yet the rate at which this silent reading occurs can also be important. If readers read too slowly, it can create problems for both comprehension and memory. Consequently,

Hiebert, Wilson, and Trainin (2010) have introduced the construct of comprehension-based silent reading rate. Initially, we gave the construct the acronym CBSRR but, over time, we have shortened this to CSR, which stands for comprehension-silent reading rate. As this term implies, the emphasis of CSR is on establishing the rate at which students read silently with comprehension.

Stamina: A Challenge for Many American Students

Continuing a persistent trend, the reading scores for the most recent National Assessment of Educational Progress (NAEP) show that approximately one-third of our fourth graders score below the basic level and another one-third at the basic level (National Center for Education Statistics [NCES], 2014). Often, this pattern is interpreted to mean that our students cannot read, and the “solution” provided is to immerse them in more word-recognition instruction. Often the intervention programs chosen for use with struggling readers emphasize English grapheme-phoneme relationships, including with middle- and high-school students. But is the problem really that students cannot recognize words?

In the early 1990s, a group of scholars asked precisely this question. In response, the NAEP commissioned a special study in 1995 (Pinnell, Pikulski, Wixson, Campbell, Gough, & Beatty, 1995) and a follow-up study a decade later (NCES, 2005). Both studies involved a sample of fourth graders reading orally a portion of a text that had been part of the silent reading comprehension assessment. Students’ accuracy, fluency (i.e., prosody), and rate were assessed.

The two student samples in these special NAEP studies (Pinnell et al., 1995; NCES, 2005) did not read the same texts, but the texts are similar in their levels of complexity (around the end of the third-grade level). The two studies also were not precisely the same in terms of procedures (e.g., students in the 2002 sample read beyond one minute, while students in the 1992 sample read for a minute). However, the studies were similar enough to conclude that, within a representative sample of American fourth graders, the percentages of students who were reading with insufficient accuracy was relatively low. Clay (1985) deemed a 90% accuracy level as sufficient for determining whether students were reading a text adequately. The percentages of students within the two samples who were performing below 90% accuracy were similar at both assessment periods, as is evident in the information presented in Table 1.2: 2% of a cohort. The students who were reading with accuracy levels of 90 to 97% read more slowly

than students who were reading at the frequently cited independent level of 98% or higher (Betts, 1946). This pattern would suggest that students lack automaticity, not the fundamental ability to recognize words as is frequently assumed in policies and mandates. For example, the current California textbook requires required (California State Board of Education, 2014) that intervention programs for students in grades 4 through 8 contain decodable readers for each of the 43 phonemes and their graphemes.

Table 1.2: Accuracy Levels for Words Read without Meaning Change (Percentages) for Students Within Two NAEP Studies

	100-98%	97-95%	94-90%	<90%
1992 ¹	41	51	5	2
2002 ²	76	15	5	2

¹Pinnell et al., 1995

²National Center for Education Statistics, 2005

There is also evidence from DIBELS assessments (Dewey, Kaminski, & Good, 2013) that students (at least fourth graders) maintain a high level of word-recognition accuracy, even with texts that are more complex than the below grade-level texts in the two NAEP studies (Pinnell et al., 1995; NCES, 2005). As shown in Table 1.3, benchmark assessment passages for the end of the fourth grade on the DIBELS have approximately 2 more rare words per 100 than the NAEP passages. Unlike the passages in the two aforementioned NAEP oral fluency studies, which fall within the band for grades 2 through 3 on the CCSS staircase of text complexity (NGA Center, 2010, 2012), the DIBELS passages fall within the band for grades 4 through 5.

Table 1.3: Features of Fourth-Grade Passages (NAEP, DIBELS, and CSR Studies)

Text (Fourth-Grade Designation)	Lexile	Mean Sentence Length	Mean Log Word Frequency	Core Vocabulary
<i>Hungry Spider</i> (1992 NAEP)	660	10.70	3.69	96%
<i>Box in a Barn</i> (2002 NAEP)	620	10.29	3.72	96.5%
<i>The Youngest Rider</i> (end-of-year fourth grade DIBELS)	810	12.55	3.61	96%
<i>Temporary Homes</i> (Hiebert et al., 2011)	890	13.3	3.50	94%
<i>Theseus</i> (Hiebert et al., 2011)	800	12.5	3.60	90%

The DIBELS norms are based on approximately 167,000 students in kindergarten through grade 12 representing every census region in the U.S. (Dewey et al., 2013)—approximately 24,000 students per grade level. Table 1.4 provides accuracy, rate, and comprehension data for fourth graders. These data support the NAEP data, as even students at the 10th percentile display reasonable accuracy—95%. Their rate, however, is approximately 60% of the oral reading rate of typical grade-level readers. DIBELS developers have added a retelling measure to the assessment. Differing considerably from the comprehension measures typical of the NAEP and of the new CCSS-aligned assessments, this measure indicates that students’ challenges lie not in their ability to recognize individual words but in their ability to think about text.

Table 1.4: Fourth Graders’ Rate, Accuracy, and Comprehension on DIBELS (2011 to 2012 Cohort)

Percentile	Rate	Accuracy	Comprehension
10	80	95	21
20	98	97	27
30	109	97	32
40	118	98	36
50	128	98	41
60	138	99	45
70	147	99	50
80	160	99	57
90	176	100	67
99	212	100	94

A third source of information about American students’ word-recognition capabilities is a line of CSR studies that examined students’ reading rates and comprehension scores in silent reading contexts (Hiebert et al., 2010; Hiebert, Trainin, & Wilson, 2011). A similar context has been used in these two studies, one that replicates many norm-referenced reading assessments. Students read a set of short texts (each 200 to 250 words) about the same topic, and after reading a passage, they respond to multiple-choice comprehension questions.

In the first study (Hiebert et al., 2010), fourth graders read comparable texts in two different contexts: (a) digital and (b) print. For reading comprehension, no significant differences emerged across the two contexts. But for silent reading rate, differences did show up, with students reading significantly faster in the digital rather than the print context.

The Hiebert et al. (2010) study also considered differences in reading rate and comprehension across quartile groups. Rates for different

comprehension quartiles differed as a function of performance level and part of text. Students in the two lower quartiles started out at a reasonable rate, but their rates changed dramatically over the sections of the assessment (but not with increases in comprehension). The readers from the lowest quartile increased their speed after one passage but with lower levels of comprehension. The second-lowest quartile followed a similar pattern (i.e., increase in rate, decrease in comprehension) as the lowest quartile, but only after the first two sections of the assessment. The students in the top two quartiles had a stable rate and comprehension performance that changed very little across sections of the text.

In a subsequent study (Hiebert et al., 2011), fourth graders' performances on narrative and informational texts were compared. CSR was computed for the reading of each of four 250-word passages, and correct responses to four comprehension questions. For both the narrative and informational texts, percentages of students who attained the CSR level dropped steadily from the first text to the third. Whereas 85% of the students comprehended the first text, only 66% (narrative) and 56% (informational) attained the CSR criterion on the last texts.

An examination of the data by Hiebert et al. (2011) also identified the following six stamina patterns among students:

1. **Nonstarters** (i.e., students who did not attain the CSR criterion for any passage)
2. **Quitters after passage 2** (students who attained the CSR criterion on the two passages but engaged in rapid reading with insufficient comprehension on the first two subsequent passages)
3. **Quitters after passage 3** (students who attained CSR criterion on three passages but engaged in “fake reading” on the final passage)
4. **Monitors** (students who engaged in fake reading after failing to comprehend at least one text)
5. **Persisters** (students who, at best, attained a minimal level of comprehension on two texts but continued to engage with the same rate on other texts)
6. **Comprehenders** (students who attained the criterion on all passages)

The number of nonstarters was low (3%), but approximately 27% of the students fell into the quitters group and another 6% were classified as monitors. Of the remaining students, 56% were comprehenders and 8% were persisters.

This review of research leads to the conclusion that the vast majority of American students in an age cohort can recognize words—yet word recognition is the focus of most reading interventions. Although a

lack of automaticity in word recognition does appear to be an issue for the students in the bottom 5% or even 7% of a cohort, most students can recognize the core vocabulary. However, when they are asked to sustain their attention in silent reading, these students appear not to have the stamina that is required to interact with texts in a meaningful manner.

Silent Reading: Proficiency Depends on Reading Opportunities

For any given activity, whether it is highly demanding (e.g., performing brain surgery or playing a Rachmaninoff piano concerto) or prosaic (e.g., riding a bike or using a computer keyboard), it is absurd to think that we can become proficient without participating extensively in the activity. When it comes to teaching students to read, however, attention typically focuses on the nature of instruction rather than on the quality or quantity of deliberate practice time for students. For example, in the NCLB era, the five pillars of proficient reading identified by the National Reading Panel (NRP; NICHD, 2000)—phonemic awareness, phonics, fluency, vocabulary, and comprehension—became the focus of instruction. In the era of the CCSS, ensuring that students are engaging in close-reading strategies has taken center stage in discussions of pedagogy and implementation. Instruction about critical reading strategies and content is important, but instruction does not necessarily ensure that students have the opportunities they need to become proficient independent readers. For this to happen, students also need to have an abundance of occasions that allow them to take responsibility for getting meaning from a text, or as Guthrie, Schafer, and Huang (2001) have described it, students need opportunities to read. It is especially the case that students require opportunities to read silently in classrooms.

The research on the nature and effects of students' opportunities to read in classrooms is sparse at best. In the late 1970s, several research groups (e.g., Fisher, Berliner, Filby, Marliave, Cahen, & Dishaw, 1980; Leinhardt, Zigmond, & Cooley, 1981) examined the relationship of classroom time spent in silent reading to students' reading achievement. They found that students in classrooms where more time was devoted to reading practice and instruction attained higher levels of reading achievement.

More recently, an observation study of more than 1,000 first and second graders and their teachers (Foorman, Schatschneider, Eakin, Fletcher, Moats, & Francis, 2006) showed that of 20 time allocation

variables, it was only when time was allocated for text reading in classrooms that significant gains were found on any post-test measures (including word reading, decoding, and passage comprehension). No other time factors, including time spent on word recognition, alphabetic knowledge, or phonemic awareness instruction, independently contributed to reading growth. In another study, Kuhn and Schwanenflugel (2009) reported that the distinguishing feature in a large scale-up of an intervention was not in the results demonstrated by the intervention but rather the success of students in relation to the amount of time that they spent reading. Students in the seven most successful classes read seven minutes more each day than did the students in the seven least successful classrooms, regardless of whether classrooms were part of the intervention.

Observational studies over the decades have shown, however, that the percentage of school time students reading texts in many of classrooms is limited. Leinhardt et al. (1981) found that the amount of time that students spent reading was approximately 15% of the time allocated to reading instruction. Taylor, Frye, and Maruyama (1990) found that students spent an average of 15.8 minutes a day in either assigned reading or sustained silent reading (SSR).

All evidence points to the fact that, although the amount of time devoted to reading instruction increased during and following the NCLB era (Dorph et al., 2007), the amount of time that students actually spend reading has not increased substantially. Brenner, Hiebert, and Tompkins (2009) observed the amount—and kinds—of reading in which third graders participated in a sample of classrooms that were participating in a state's Reading First program. On average, across the 64 classrooms, teachers reported that they were devoting twice as much time to English language arts instruction than they had prior to the implementation of Reading First, but their students were involved with text less than 20% of the time, spending an average of 18 minutes a day reading text. This amount of reading practice is less than those amounts proposed by Allington (2001) and Fisher and Ivey (2006) but it was greater than the national average of 12 minutes a day reported by the NCES (1999). Even so, nearly a quarter of students did not read at all during the observed reading periods in the classrooms in Brenner et al.'s sample.

In the classrooms that Brenner et al. (2009) observed, less than 10% of total reading instructional time was allocated to unassisted reading, where students are responsible for reading texts on their own without teacher assistance or immediate monitoring. The small amount of time that students read on their own can be tied to interpretations that were

prominent as a result of the report of the NRP (i.e., NICHD, 2000), which concluded that there was insufficient evidence to support independent reading in classroom time. Teachers in the study had been informed of this finding as part of Reading First trainings and they appeared to follow this advice, even though the teacher's guides in their mandated core reading programs included in-school independent reading.

During the NCLB era, many educators extended the NRP's conclusion on independent reading to silent (or unassisted reading, as Brenner et al. called it) reading as part of instructional sessions (Allington, Billen, & McCuiston, 2015). This interpretation of this conclusion to independent, silent reading did not accurately reflect the studies on which the NRP based their conclusions—studies of SSR where students read texts of their own choosing and without teacher monitoring or scaffolding. The popular interpretation of this finding among educators, however, was understandable in that the NRP did not provide a highly nuanced description of the findings and also failed to include descriptive studies in their database such as the Manning and Manning (1984) study that showed that SSR was more effective when it included peer discussion or teacher conferencing.

Following the NRP report, Lewis (2002) analyzed a broader group of independent reading studies, many pertaining to students' silent reading. Out of more than 100 separate student samples that Lewis examined, the majority showed positive results for silent reading. The samples in most of the studies that reported no effects or negative growth from silent reading experiences consisted of students in fourth grade or above. Lewis speculated that because older students already have some reading proficiency, 10- to 15-minute silent reading periods—as was typical in these studies—may have been insufficient to significantly influence these students' performance. For students who were less-proficient readers (e.g., beginning readers, learning disabled, second- language learners), even such short periods typically produced benefits. Specifically, the studies suggest that when there is some form of scaffolding, students' silent reading proficiencies improve as a result of increased opportunities to read (Nunnery, Ross, & McDonald, 2006). Scaffolding may need to take numerous forms, including support for selecting appropriate texts (Mervar & Hiebert, 1989).

On the 1998 NAEP (NCES, 1999), fourth graders were asked to report the number of pages that they read daily in school. Even though a measure of self-reported reading is a rather simple tool (and not necessarily the most accurate), this measure predicted students' performances on

the NAEP. A follow-up study that focused specifically on the students within the state of Maryland confirmed that, after parental education was statistically controlled, the amount of engaged reading significantly predicted reading achievement on the NAEP (Guthrie, Schaffer, & Huang, 2001).

The survey used in the Guthrie et al. study used number of pages read to determine the amount of reading. In Table 1.5, I have converted pages read to number of words likely read by a hypothetical student in each of three proficiency groups on the NAEP, using the average number of words per page in a set of 100 fourth-grade texts. It is highly unlikely that all three hypothetical students, representing different proficiency groups on the NAEP, read at a similar rate (Pinnell et al., 1995; NCES, 2005), making the disparities in amount of text read daily in school by less-proficient and more-proficient students likely greater than the amounts shown in Table 1.5. But as Table 1.5 illustrates, even when a similar reading rate is used across proficiency levels, differences in amount of time spent reading in school mean that the poor readers keep getting poorer and the proficient readers keep getting better (Stanovich, 1986).

Table 1.5: Typical Reading Volume: Reading Levels of Three Hypothetical Students

	Alex	Alice	Abby
Daily reading in school (in minutes)	7.2	11	15
Daily # of words read (yearly total words)	715 (127,700)	1,100 (198,000)	1,485 (267,300)
Projected new words (with morphological family members)	290 (1,160)	446 (1,784)	601 (2,406)
Performance on NAEP	Below-basic	Basic	Proficient

*Same reading rate used for all students: 100 wpm

Instructional Applications: Appropriate Opportunities Can Increase Students' Reading Proficiency

Especially for students whose reading experiences occur primarily in school settings, a strong silent reading habit (of which stamina is a part) greatly depends on the experiences that their teachers provide them. The development of a habit like silent reading does not occur over the course of only a single grade. How children start out is incredibly important, but a habit is formed over an extended period of time—grade after grade in school. If students haven't had the kind of support that develops solid silent reading habits over several grades, it is highly likely that changing direction and developing appropriate habits may require instructional

programs that are particularly well designed—often referred to as interventions.

One such instructional program that was carefully designed to increase silent reading proficiency for students who were still developing as readers was the project of Reutzel, Fawson, and Smith (2008). Reutzel et al. reconfigured SSR (where students read independently without substantial teacher monitoring or guidance) into Scaffolded Silent Reading (ScSR), in which students read widely in independent-level texts covering a range of genres but with periodic teacher monitoring and accountability. ScSR was compared to Guided Repeated Oral Reading (GROR), the approach that the NRP (NICHD, 2000) identified as effective. In GROR, third graders orally read a single text repeatedly, typically at grade level or instructional level, while receiving feedback from a teacher or other students. At the end of the yearlong study, Reutzel et al. concluded that the two forms of reading did not produce significant differences in students' fluency and comprehension. What this study showed is that, when students are guided in what and when to read silently, students' achievement is as good as that of students reading orally. In that silent reading is the proficiency that typifies most reading done by adolescents and adults, such scaffolded opportunities to read silently lay the foundation for subsequent tasks in a way that a heavy diet of oral reading in the primary grades does not.

One context in which consistency and adaptive solutions can be part of reading lessons is the digital environment. Online contexts give structure to learning experiences, which may be particularly valuable for struggling readers who have spent three or four years in classrooms where appropriate scaffolding has not been provided (Hiebert, Menon, Martin, & Bach, 2009). In a digital environment, there are ways to monitor students' involvement—which, of course, is a difficult thing to do with 25 or more students in a classroom. When considered relative to the approximately 1,200 hours most students spend in school annually, even a small amount of consistent support in an online context leads to considerable improvement in the CSRs of struggling readers in grades 3 and beyond.

Rasinski, Samuels, Hiebert, Petscher, and Feller (2011) found that as little as 20 hours of participation in a digital context over a school year resulted in improved performances on both a norm-referenced test (NRT) and a criterion-referenced test (CRT). Reutzel, Petscher, and Spichtig (2012) found that a similar digital intervention of additional reading was also efficacious in increasing the reading proficiency of struggling third-grade readers.

In a recent assessment of CSR completed by 350,000 students

from grades 2 through 12 (Hiebert, Spichtig, Bender, 2013), over 14% of the students could not comprehend a first-grade text. What is surprising is what these students gained from consistent reading—on computers—over a two-month period following the assessment. After only 10 hours of instruction that consisted of reading extended texts and answering comprehension and vocabulary questions, these students had moved from a 58% to 79% (on average) level of comprehension, moved to one grade level higher of text, and were reading an average of nine words faster (Hiebert et al., 2013). These students had sufficient word recognition—even the lowest scoring ones—to increase substantially in their comprehension on a first-grade passage. And this growth happened after students had read approximately 40,000 words over the course of 40 lessons. Even a relatively small increase in reading apparently can mean substantial increases in students' proficiency.

These reports (Rasinski et al., 2011; Reutzel et al., 2012; Hiebert et al., 2013) all indicate that there are instructional mechanisms that can support students in developing the reading habits that are needed for the 21st century—and that build on the research on cognitive and linguistic processes. But most teachers don't have access to digital technology such as that I have discussed, nor am I advocating that digital technology or a particular program is the solution to all reading problems. Instead, it is critical to consider the important components of various kinds of successful programs. Using knowledge about research, theory, and practice, I have generated seven actions that teachers can take to support increased stamina in silent reading. The actions are listed below.

1. Give students responsibility for the first read of texts.
2. Be explicit about the degree of challenge.
3. Have students make explicit goals for increased stamina and reading.
4. Increase the amount that students are reading.
5. Increase students' engagement in reading through connected homework reading and magazine articles.
6. Increase students' responses to texts through writing and discussions.
7. Have monthly "on your own" sessions using available sample assessments.

Individual teachers can implement these actions over the course of a school year with a cohort of students. Getting support in one year may make a difference (as was the case in the Rasinski et al., 2011 and Reutzel et al., 2012 studies). As the Hiebert and colleagues (2013) project indicates,

students can benefit even from several months of consistent and deliberate opportunities of increased silent reading. But for students who have developed poor reading habits in the early grades, the effort of creating strong silent reading patterns, including stamina, will likely require the involvement of teachers over several years of students' school careers. Opportunities need to be consistent and aimed at acquiring knowledge. The texts can't be vacuous—otherwise students won't be engaged in reading—but neither should the texts be far out of the realm of students' knowledge or their vocabulary expertise.

Conclusions

The need for efficient silent reading habits for success in the digital-global age is unarguable. There is emerging evidence that these habits can be enhanced through scaffolding, both on the part of teachers and from digital supports. These supports look quite different than the SSR that Hunt (1970) advocated in favor of. This structuring can begin when students are in the early stages of reading (Reutzel et al., 2008). Further, it is highly likely that the process is an ongoing endeavor, extending through the elementary grades and into middle and high schools as students encounter new genres and content. At least for the students who depend on schools to become literate, good silent reading does not just happen as a result of an emphasis on oral-reading fluency training. For many students, good silent reading habits require that they participate in structured silent reading experiences that model efficient reading. The target activities can be summarized as a succinct mantra (Hiebert, 2013) that provides the meanings for increasing stamina in silent reading: Read often. Mostly silently. Focus on knowledge.

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