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Amount of Time in Print Reading in General Education Kindergarten Classrooms: What Does It Look Like for Students At-risk for Reading Difficulties?

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Abstract

The purpose of this study was to examine the amount of time spent actively engaged in reading sounds, words, and connected text for students at-risk for reading difficulties in the first formal grade of reading instruction, kindergarten. Observational data of 109 kindergarten students at high-risk for later reading difficulties were collected during general education reading instruction across the school year. Findings revealed students read orally for just over 1 minute during their reading instruction with approximately equal time spent reading sounds, words, or connected text. Implications of these results for early reading instruction and intervention for students at-risk for reading difficulties or disabilities are presented.

Keywords

reading instruction; struggling readers; oral reading; kindergarten

Although national outcomes data for students in the earliest grades, including kindergarten, are not presently available, several studies have provided converging evidence confirming the persistence and stable nature of early reading difficulties over time, painting a grim picture of success at remediating such deficits as students get older (Coyne, Kame'enui, Simmons & Harn, 2004; Cunningham & Stanovich, 1997; Francis, Shaywitz, Stuebing, Shaywitz, & Fletcher, 1996; Juel, 1988; Torgesen & Burgess, 1998). In the widely cited study by Juel (1988), results revealed that 88% of students who were poor readers in first grade continued to be poor readers in fourth grade. Other research (McNamara, Scissons, & Gutknecht, 2011; Stanovich, 1986) has demonstrated a widening gap between good and poor readers, evident as early as kindergarten and growing wider as students enter third grade and beyond. Given these findings, it is likely that many of the 33% of fourth grade students achieving less than basic performance on the most recent National Assessment of

Educational Progress (2009) were students who struggled with literacy skills in their early schooling. Faced with the reality that student reading trajectories are often established in the early grades, research and education policies over the past 10–15 years have focused on the prevention and early intervention of reading difficulties.

Research and Policy on Early Reading Instruction

Findings from several syntheses of the research have expanded our understanding of key components of early literacy instruction and drawn attention to the need for students to achieve mastery in foundational reading skills (National Early Literacy Panel, 2008; National Reading Panel, 2000; Snow, Burns, & Griffin, 1998). Specifically for kindergarten, code-focused instruction has demonstrated moderate to large effects on student reading outcomes (National Early Literacy Panel, 2008). As the panel noted, effective interventions tended to be “...focused on helping children learn skills by engaging in the use of those skills” (p. x).

In addition, educational policies, most notably the reauthorization of the Individuals with Disabilities Education Act (IDEA; 2004) have stressed the importance of quality general education instruction, particularly in the early grades, as a means of preventing future difficulties. Specifically, IDEA allows provision of special education funds for general education “early intervening services”, including providing scientifically-based literacy instruction (613(f) (1)). Further, the statute allows for examining a student’s response to instruction as a model for identifying a learning disability. In response to intervention models, documentation of high-quality instruction in the general education classroom represents the first “tier” of support for all students including those identified as at-risk for future reading problems (Vaughn, Wanzek, & Fletcher, 2007).

Increasing effective instructional ingredients within the general education classroom can lead to improved achievement for students with early reading difficulties (Al Otaiba et al., 2008; Juel & Minden-Cupp, 2000; Pressley et al., 2001). In these studies, strategies used by “effective” teachers included explicit instruction, maximizing time spent specifically in reading instruction, differentiated instruction using both large and small groups, and providing many opportunities for meaningful interaction with text. Additionally, increased student engagement during instruction with frequent opportunities to respond, has been shown to have positive relationships to student outcomes, including students with learning difficulties (e.g., Guthrie, Wigfield, & VonSecker, 2000; Ponitz, Rimm-Kaufman, Grimm, & Curby, 2009; Swanson et al., 1999). In the area of reading, student opportunities to apply skills to print and practice reading may be particularly relevant. However, the extant literature examining student engagement in reading print in the earliest grades has been notably sparse. The present study sought to expand findings from previous research by examining the amount of time students identified as at-risk for reading difficulties in kindergarten were actively engaged in reading print.

Observational Studies of Print Reading

Questions regarding the focus and quality of reading instruction for students with or at-risk for disabilities in the general education classroom are not entirely new, at least for students

in 1st–5th grade. In particular, the amount of time students spend actively reading print in school in these grades has been examined in several studies over the last three decades (e.g., Allington, 1980, 1984; Chard & Kame'enui, 2000; Foorman et al. 2006; Haynes & Jenkins, 1986; O'Sullivan, Ysseldyke, Christenson, & Thurlow, 1990). In two separate studies, Allington (1980, 1984), found that elementary students who were considered poor readers read significantly less print than their peers who were rated as "good" readers, with the gap most pronounced at the lower grades (i.e., 1st and 2nd). From observations and recordings of reading group instruction in first and second grades, groups consisting of good readers read, either orally or silently, twice as many words of connected text, than poor reader groups (Allington, 1980). Similarly, using teacher logs of text read during instructional groups within first, third, and fifth grade classrooms, significant differences were found in the total number of words read between good and poor reader groups (Allington, 1984). The data collection in these studies was reflective of the instructional time allocated by teachers for literacy activities, such as print reading, provided to groups of students. A limitation of both studies was that the amount of time engaged in print reading by individual students, including those at-risk for reading difficulties, was not measured.

In a study involving older students, Haynes and Jenkins (1986) observed reading instruction in resource rooms and general education classrooms for students in fourth, fifth, and sixth grade. The authors examined a sample of 18 students with undefined "mild handicaps" receiving instruction in both general and special education settings, in addition to examining instruction for their nondisabled peers. When examining reading opportunities for these students with disabilities specific to their general education classroom, the total amount of time spent in oral or silent reading averaged just over 17 minutes, of which less than 1 minute involved oral reading. Observations across both general and special education settings revealed that in total, the students with disabilities read orally for a total of about 4 minutes. Similarly, observations of reading instruction for the students without disabilities across the school day revealed that while these students averaged approximately 29 minutes daily of either oral or silent reading of print, less than 2 minutes of that time consisted of oral reading practice. In general, these findings indicated opportunities for reading practice for students with and without disabilities were quite similar, with total time devoted to such activities fairly minimal.

O'Sullivan and colleagues (O'Sullivan, Ysseldyke, Christenson, and Thurlow, 1990) reported similar findings in their study on print reading for students with and without disabilities in grades two through four. Participants included students with learning disabilities, emotional/behavioral disorders, and intellectual disabilities. Observations were completed across an entire school day in order to document all print reading opportunities. The time students with disabilities spent reading print was approximately 6 and 8 minutes per day, respectively, across general and special education settings. Within the general education classroom specifically, oral reading averaged about 1 minute, while silent reading averaged about 5 minutes per day. Likewise, students without disabilities engaged in oral reading for 1 minute per day, on average, although silent reading averaged nearly 13 minutes.

The above studies by Haynes and Jenkins (1986) and O'Sullivan et al. (1990) included observational data not only for general education students, but also for a group of students with identified disabilities and suggested that opportunities for reading practice are insufficient in the middle to upper-elementary grades even when looking across educational settings. However, it is equally important to investigate the degree to which students at-risk for reading difficulties are given explicit practice with reading print in the early instructional grades where the goal is prevention of the need for future intervention.

Chard & Kame'enui (2000) sought to examine early reading instruction for first grade students at-risk for reading difficulties. The participating students, as nominated by their teachers, were identified as not being independent word readers. All received their primary reading instruction within the general education setting either in the first grade classroom, through small group instruction for at-risk students (Title 1), or a combination of these settings. Based on observations of students during their primary reading instructional time, the average time allocated to reading instruction across all instructional settings (regular classroom, Title I only, and regular classroom with Title 1) was 42 minutes per day. On average, practice with reading print occurred .60 times per minute during the reading instruction period across settings. Reading of isolated words and connected text were about equal in observed frequency and occurred about twice as often as identification of letter sounds. The authors particularly highlighted that some students did not read at all during the observations. However, because event recording was used for instances of reading, the actual amount of time spent in reading activities could not be calculated. Chard and Kame'enui concluded that in general, students in first grade who are at risk for developing reading difficulties had inadequate opportunities to practice and apply reading skills within the school setting.

A more recent study also reported observational data on literacy instruction in 55 first grade classrooms (Foorman et al, 2006). During typical 90-minute instructional blocks, the percent of reading instructional time allocated to decoding and word recognition was about 12%. Another 7% of time was allocated to working on letter-sound correspondences and recognizing blends, while 5% of instructional time involved text reading, either by the teacher or by the student. Although the Foorman et al. study provides a more current view of literacy instruction in the early grades, direct student engagement in print reading was not reported.

Chard and Kame'enui (2000) provided the only study investigating reading opportunities for early elementary students, which specifically focused on students at-risk for reading difficulties, although the study is now over ten years old. Given the dearth of observational research in this area over the last decade, we were interested in the amount of time spent actively reading print, particularly at the earliest grades when reading difficulties are most readily prevented and/or remediated. Thus, we sought to build upon previous observational research in two salient ways. First, we examined print reading time in the first formal grade of reading instruction, kindergarten. Second, we specifically measured the amount of time individual students at-risk for reading difficulties were actively engaged in orally reading print during the reading instructional block including sounds, words, and connected text. Specifically, the following research questions were addressed, (1) How much time do

kindergarten students at-risk for reading difficulties spend orally reading print in the general education classroom?; and (2) What type of print (e.g., sounds, words, sentences) and under what context (choral or individual reading) are most typical when these students are engaged in oral reading of print? The findings of this study will provide preliminary, descriptive information regarding print reading opportunities provided within the kindergarten classroom to students at-risk for future reading difficulties.

Method

Participants and Settings

Participants in the present study were selected from a larger longitudinal study specifically concerned with investigating core reading instruction in kindergarten classrooms as one part of a response to intervention model (Al Otaiba et al., 2011b). Across the 14 participating schools from one large urban district, kindergarten was provided for the full day and, as is increasingly typical in schools in the United States, there was a strong focus by the district curriculum on reading and language arts instruction. Per district policy, reading and language arts instruction was to be provided exclusively for an uninterrupted block of a minimum of 90 minutes, guided by a core reading program that was explicit and systematic. Specifically, all but one school utilized Open Court as the core reading program (Bereiter et al., 2002); the other school used Reading Mastery Plus published by SRA (Engelmann & Bruner, 2002). In the summer previous to data collection, all teachers participated in a day-long workshop on response to intervention (RTI), with a focus on individualizing instruction using student assessment data. The workshop highlighted the five components of reading as outlined in the NRP (2000) and how to manage small-group “center” activities within the classroom.

As part of the larger study, all kindergarten students in the fourteen schools ($n = 605$) were screened by trained research staff in the fall of kindergarten using a measure of rapid letter naming (DIBELS; Good & Kaminski, 2002). Students were selected for the current study if they scored in the “high risk” category as defined by the measure (i.e. less than 8 letters correct per minute). Alphabet knowledge and rapid naming, both measured on the LNF subtest, have been shown to have medium to large predictive relationships with later literacy development in the areas of decoding and comprehension (National Early Literacy Panel, 2008). A total of 111 kindergarten students at-risk for reading difficulties were identified for participation in the present study representing 41 classrooms, with a range of 1–8 students per classroom. Two of the identified students were absent or had moved and thus, were not in the classroom during the observation periods. Therefore, the final sample consisted of 109 students for whom observational data was available.

The sample demographics are provided in Table 1. Of the 109 students identified for the present study, there were 56 males and 53 females. The sample was ethnically diverse with 67% African American, 26% Caucasian, 6% Hispanic, and approximately 1% Asian. Eighty-eight students (80.7%) were eligible for participation in the free and reduced-lunch program. Nearly one third of the sample (35 students, 32.1%) was identified with a disability (with the largest proportion eligible with a speech and/or language impairment). The sample

also demonstrated depressed scores on measures of phonemic awareness and letter and word identification at the beginning of the year, confirming their risk status.

Procedures

Instructional activities and student engagement in oral reading of print within the kindergarten classroom were observed via videotaped observations of each individual student during the reading instructional block. Using multiple cameras, each student in the sample was videotaped during the reading instructional block at two time points during the school year (fall, spring). In previous research conducted as part of the larger study (Al Otaiba et al, 2008), three observations of classroom instruction across the year were conducted. However, it was found that teachers' literacy instruction was highly stable across each observation and there were no significant differences in time or quality of instructional activities when three versus two observational timepoints were collected. Thus, for subsequent years of the research (including the observations for this study) only two observations were conducted. Previous research has also noted the stability of instruction and implementation for individual teachers across time (correlations of .7 and above) with higher levels of variance occurring between teachers (Pianta, 2006).

Each videotape consisted of a complete reading instructional period for the students' classroom ($M_{\text{Length}}=91\text{minutes}$, $SD=11.6$). Three observers were trained on the reading print codes using the Noldus Observer Pro observational system (Noldus Information Technology, 2001) to collect the data. The Noldus software specifically tracks the time between the start and end of each coded segment, allowing for total time in the activity to be calculated. The software allows for observers to start and stop the videotape at any point, review any section of a given videotape, and change to a different videotape of the same instructional period from a different camera angle.

A four-part training process was utilized to achieve reliability among coders: (a) explanation provided on each code's meaning with specific examples, (b) modeling of the coding process by the trainer including thinking aloud about the codes while watching a short (10–15 minutes) video segment, (c) practice coding instruction on videotapes using a sample of students not included in the present study followed by discussion, and (d) coding of a videotape without assistance to serve as a reliability test with the trainer. Interrater reliability for the reading instructional activity codes ranged from .77–.83 with an average of .80 (agreements divided by agreements plus disagreements). Agreement for the reading print codes averaged 99.97% across the three coders. Cohen's kappa coefficients were also calculated and ranged from .94–1.0. To further ensure continued reliability of coding observations, 20% of the videotaped instructional periods were coded by two observers. These methods for training and establishing reliability of coders have been used successfully in prior classroom observation studies using Noldus software (Al Otaiba et al., 2011a, 2011b).

Measures

Student selection measure—The Dynamic Indicators of Basic Early Literacy Skills (DIBELS; Good & Kaminski, 2002) consists of assessments of early literacy skills used for

screening and progress monitoring of students. Student performance on the Letter Naming Fluency (LNF) subtest was used to identify students as at-risk at the beginning of kindergarten and for inclusion into this study. During this individually administered, timed subtest, students were presented with a page of randomly ordered upper and lowercase letters and asked to identify as many letters as they could within one minute. The predictive validity of LNF at the kindergarten level with first grade Woodcock-Johnson Psycho-Educational Battery Reading Cluster score is .65 and the one-month alternate form reliability for kindergarten has been reported as .88 (Good et al., 2001).

Observational coding—Observational data were collected in two ways. First, data on the reading instructional activities occurring during the reading instructional block were obtained for the present sample from data already collected in the larger study using a coding instrument that reports the amount and types of language arts instruction for each individual child (Al Otaiba et al., 2011a). The reading instructional activities each of the students participated in during the reading instructional block were coded on this measure including print concepts, phonological awareness, letter-sound correspondences, word identification/decoding, spelling, fluency, oral language, morpheme awareness, print vocabulary, listening and reading comprehension, text reading (teacher or student), writing, and other (non-literacy activities). Non-literacy codes were used for any and all student activities that were not directly related to the teaching of literacy skills, including giving directions and orienting students for activities, transitions, and time spent for discipline purposes.

Second, a data coding instrument was developed specifically for the present study in order to document student time spent actively engaged in the act of reading print during these reading instructional activities. Active engagement in the act of reading print was defined as the student orally reading print, including word parts (e.g. identifying the sound of a letter presented in isolation), isolated words, or connected text. The coding instrument allowed observers to code each instance of print reading, along with its duration, for the individual student as well as a modifier for type of print read (i.e., word part, word(s), and connected text). In addition, codes were developed to document the response condition, either a choral or individual reading response. The amount of time each target student actively engaged in reading print, both in total and across the three types of print, was calculated for each instructional session. Coding occurred continuously throughout the instructional session in each individual classroom for all targeted students. In total, 82 reading instructional periods (41 at each time point) were observed and coded.

Results

Due to student absences, observational data were not available for all 109 participants across both fall and spring. Fall data consisted of 97 of the students (89%) while spring data were available for 100 of the students (92%). Of the total sample, 88 students had observational data for both time periods and 21 had data for one observation period.

Reading Instructional Activities

In order to situate the findings on the amount of time students at-risk for reading difficulties were engaged in reading print orally, we first examined the context of the reading instructional block for the students in this sample. On average, the amount of instructional time teachers devoted to literacy instruction, including both reading and writing, was approximately 46 minutes. This accounted for 50% of the total scheduled reading instructional period (mean=91 minutes) in these general education classrooms. The remaining 45 minutes included instruction and activities not related to literacy (e.g., calendar activities, games or drawing/coloring without a specific literacy focus, transitional activities, discipline). Figure 1 presents data on the allocation of instructional time across the scheduled reading block.

Secondly, we investigated the specific instructional focus of the 90-minute reading instructional block during the time (i.e., 46 minutes) when literacy skills were being taught. Students participated in instruction or activities related to word identification and decoding most often, averaging approximately 9 minutes, or about 20% of the average time (46 minutes) allocated to literacy instruction during the reading period. Instruction in phonological awareness and letter-sound correspondences were each observed an average of just over 7 minutes (16% of literacy instruction each). Writing instruction also occurred an average of just over 7 minutes (16%). Activities involving the teacher and/or student reading connected text occurred approximately 6 minutes (13%) per session, while instruction or practice in reading or listening comprehension averaged just over 3 minutes (7%).

The remaining activities coded during the scheduled reading instructional block occurred with less frequency. The teachers allocated nearly 2 minutes (4%) of literacy instruction for practice of spelling skills, while 2 minutes (4%) was also allotted for activities intended to increase students' oral vocabularies. Just over 1 minute (2%) of the literacy instruction focused on concepts and structures of print. Instruction designed to increase students' print vocabulary, build fluency through oral reading of text, and familiarize students with the meaning of word parts (i.e., morpheme awareness) occurred on average less than 1 minute (~1%) each during the reading instructional blocks in these kindergarten classrooms.

Total Time Reading Print

Next, we examined the amount of time the students at-risk for reading difficulties were actively engaged in reading print during the general education reading instructional block. A summary of the total time the students spent orally reading print is presented in Table 2. Descriptive statistics are provided for the average of the fall and spring observation time points, rather than for each observation separately. The correlation in amount of time spent reading between the two observations was significant ($r = .60, p < .001$).

On average, students were actively engaged in print reading of any type (sounds, words, or connected text) for just over one minute during reading instruction with a mean of 71.53 seconds ($SD=84.49$). Given the mean length of each scheduled reading instructional period (91 minutes), student time actively reading print accounted for an average of 1.3% of the students' scheduled reading instruction period. As noted above, only 46 minutes of the

reading instructional period were actually devoted to reading instruction. Thus, students were actively engaged in reading print for approximately 2.6% of the time they spent in actual reading instruction.

Student time spent actively engaged in reading print ranged from a low of 0 (i.e., no reading print) to a high of 398 seconds, or approximately 6 ½ minutes. Of the 88 students for whom data were available for both fall and spring observational periods, five students (5.6%) did not orally read print at all during either observation of reading instruction. Another 24 of these students, or 27%, had one entire instructional period in which they did not orally read print. For the 21 students present during only one of the observational periods, 14% did not read print at all during the reading instructional block.

Some of the differences in the amount of time students at-risk for reading difficulties were actively engaged in reading print were related to the student's teacher, with 38% percent of the variance in time explained at the classroom level ($ICC = .38; p < .001$). Thus, it appears teachers vary in the amount of time they provide for students at-risk for reading difficulties to orally read print during reading instruction. Figure 2 presents the mean amount of time students were actively engaged in reading print by classroom. No significant variance was noted at the school level ($p = .104$). However, practically speaking, the overall amount of time students were actively engaged in reading print was very small across classrooms with 80% of the teachers providing less than 2 minutes of oral print reading to students at-risk for reading difficulties.

Types of Print Reading

The extremely small amounts of time students spent actively engaged in reading print were generally divided evenly across the different print types coded in this study. Specifically, the mean amount of time students spent identifying individual letter sounds and word parts was 20.5 seconds ($SD=31.4$), ranging from 0–197 seconds (i.e., maximum of just over 3 minutes). Similarly, students were engaged in orally reading single words on average 26.3 seconds ($SD=53.1$), ranging from 0 to 294 seconds (i.e., a maximum of approximately 5 minutes). Finally, 24.3 seconds ($SD=39.8$) was the mean time spent engaged in oral reading of connected text, with a range of 0–167 seconds (i.e., maximum of just under 3 minutes).

To further investigate the descriptive data collected, we analyzed how time spent actively engaged in reading print was allocated between choral and individual responding. Data are presented graphically in Figure 3. Results suggested that a far greater proportion of time spent orally reading print was done chorally versus individually in these classrooms. On average, students engaged in choral reading across print types for approximately 64 seconds, accounting for 90% of all print engagement. Meanwhile, individual oral reading accounted for 7 seconds per instructional reading period, or 10% of the total time spent in oral reading.

Discussion

The purpose of this study was to examine the amount of time and the type of engagement in reading print for kindergarten students at-risk for reading difficulties during their general education classroom reading instruction. To address the research questions, we first

examined the instructional context of the reading block for these students. We found students at-risk for reading difficulties spent only about half of the scheduled reading instructional block participating in literacy activities. Of these literacy activities, students spent most of the time participating in instruction or practice related to the foundational skills of phonemic awareness, letter-sound correspondences, and word reading. Smaller amounts of time were noted for text reading by the teacher or student, and for comprehension, with minimal time on vocabulary, fluency, and spelling.

During these reading instructional activities, we noted students at-risk for reading difficulties were actively engaged with reading print for approximately one minute per instructional session. Several students did not actively read print at all during the instructional sessions observed. Therefore, similar to previous research in older grades (e.g., Chard & Kameenui, 2000; Haynes & Jenkins, 1986; O'Sullivan et al., 1990), we found very few opportunities for students to practice reading print in the classroom during the reading instructional block. Although previous research has not set an optimal amount of time for reading print during literacy instruction at any grade level, it is concerning that there is a convergence of evidence across grade levels demonstrating very limited opportunities for students at-risk or with reading difficulties to actively practice reading print, apply learned instructional skills and strategies to print reading, or receive instruction and feedback while reading print during classroom reading instruction. Student opportunities to practice have been a demonstrated component of effective instruction for decades, and, thus, opportunities for students to actively engage in reading print could be an important part of effective reading instruction (Brophy & Good, 1986; Swanson et al., 1999). Ours is the first study to examine print reading for kindergarten students. The data from this study provide a snapshot of current practice with print reading in kindergarten general education classrooms from which further research may be conducted to determine the effects of increasing the amount of time students are actively engaged in print reading during beginning reading instruction. This information could provide much needed guidance for practitioners in considering their instruction and the amount of engagement in reading print for students at-risk for reading difficulties.

It is clear from the reading instructional activities noted during the reading block that these students at-risk for reading difficulties were part of instruction that was related to skills needed for reading print, including instruction in letter-sound correspondences and word reading. In fact, approximately 35% of the reading instruction time was related to teaching students skills for how to read print. However, our data indicate that these students at-risk for reading difficulties were largely participating in instruction that did not include application to reading print and/or they were passive participants (e.g., listening to the teacher or peers read the print) during this instruction. It is possible that if teachers had utilized their scheduled reading instruction of 90 minutes, it may have allowed for more time for active engagement in print reading. However, it may be that the realities of scheduling instruction in other content and/or classroom management issues made it challenging for these teachers to provide reading instruction for the full allocated amount of time.

Kindergarten state standards require students to be able to say the sound(s) of printed letters, and read and decode words in isolation and in context. Similarly, the national Common Core

Standards that have been adopted by the large majority of states also require kindergarten students to be able to produce the sounds for letters, read common high-frequency words, and read emergent reader texts with purpose and understanding (Common Core State Standards, 2010). In fact, the ability to name letters and sounds and read words at the end of kindergarten predicts future reading performance (Al Otaiba et al., 2011b; Spira, Bracken, & Fishel, 2005). Thus, there is no question that print reading of sounds and words in isolation and in context is one priority for reading instruction in kindergarten classrooms. In this study, students at-risk for reading difficulties spent approximately equal amounts of time actively engaged in reading sounds, words, and connected text; however the amount of time practicing each type of print was minimal. It stands to reason that students who have opportunities to practice reading during the year will be better prepared to meet expected goals in reading. As Al Otaiba and colleagues (2005) noted in their review of kindergarten instructional materials, if students are taught a reading skill, they need the opportunity to practice that skill in text. While we acknowledge there may be other opportunities for students to practice reading print outside of the reading instructional block, at home, or in supplemental interventions, we argue that the reading instruction block is one place where this practice should take place, particularly given the expectation for acquiring these print reading skills in kindergarten.

Some of the differences in the amount of time students were actively engaged in reading print during reading instruction were explained by the classroom the student was assigned to in kindergarten. In other words, students in the same classroom experienced similarities in instruction with some teachers providing more time for students in their class to actively read print during instruction. However, practically speaking, the overall amount of time spent actively engaged in reading print in any classroom was very low, with only 8 teachers providing more than an average of 2 minutes of instructional time in reading print for these students. It should also be noted that our sample was restricted to students at-risk for reading difficulties. It is possible that average or good readers in some of these classes may have spent additional time in print reading activities as has been found in previous research (Allington, 1980, 1984).

We also found that of the limited time spent actively engaged in reading print, 90% of this time was choral responding. In a typical kindergarten classroom when there is significant time spent in large group instruction, it is not surprising that teachers would use choral responding to increase engagement and opportunities for practice from all students. However, during choral responding it can be difficult for teachers to ensure individual students are responding without prompts or cues from other students who are also responding. In large group choral responding, it can also be difficult for a teacher to ensure an individual student is responding with the correct answer. Thus, while choral responding may be an excellent technique to increase student participation and practice, our data suggest there was limited opportunity beyond choral responding for the students at-risk for reading difficulties to practice reading in response situations where immediate feedback could be provided. Feedback has been demonstrated to have a key influence on student outcomes and is a powerful tool for assisting students in refining and mastering new skills (Hattie and Timperley, 2007).

Overall, this study highlights few opportunities for students at-risk for reading difficulties to receive active practice reading print in the kindergarten general education classroom. Based on these findings we offer several suggestions:

1. Special education teachers collaborating with general education teachers in a multi-tiered response to instruction model may want to consider the amount of practice students receive with reading print during general education reading instruction. Ensuring students are receiving opportunities to practice and apply the skills and strategies they are learning may be one consideration for enhancing instruction for these students.
2. When print reading activities are planned, teachers may want to consider the amount of time students in their classes are receiving opportunities to actively read print in situations where feedback can be provided. These opportunities may be provided by mixing choral and individual responses during instruction, during small group instruction, and through peer-assisted learning opportunities with higher and lower readers paired together;
3. Reading intervention and special education teachers should take into account that students at-risk for reading difficulties may not be receiving sufficient opportunities to practice with print in the classroom reading instruction and consider ways to provide increased practice opportunities with print during supplemental interventions for these students.

Limitations and Future Research

In this study, we collected data on individual responses for students at-risk for reading difficulties in order to provide information related to instructional opportunities in print reading for this population of students. We do not have data on the amount of reading print by individual students who are not in this population (on grade level or above grade level in their early reading achievement). Thus, we cannot report on whether these on track students also experienced similar limited opportunities to engage in actively reading print. Examining whether teachers differentiate instruction, including reading print, across the full range of student abilities or whether limited opportunities exist during the reading instructional block for any students to actively engage in reading print is an important area for future research.

Similarly, we do not have information regarding the reading opportunities provided during other parts of the instructional day. The data presented in this study relate only to the reading instruction block in the general education classroom. Future research is needed to examine the active print opportunities students with reading difficulties receive across core instruction and supplemental interventions in order to best determine student access to print during their reading instruction and where changes may be required. Additionally, intervention research examining increased practice opportunities for reading print and its effects on student outcomes could assist educators in making decisions about the amount of instruction and practice to emphasize during instruction.

Finally, these data offer a snapshot of reading instruction in these classrooms for students at-risk for reading difficulties. Although the data were fairly consistent across observation

periods and previous coding indicated similar consistency even with 3 data points per student, it is possible that there were other instructional days where students received more or less time to apply skills to reading print that may not be consistent with these data. However, with continuous coding of instruction across 41 classrooms, 82 observations, and 109 students there was limited variability; the range in the amount of time spent actively engaged in reading print spanned only 6 minutes and the standard deviation was approximately 1.5 minutes. The consistency of these data does suggest it is a representative snapshot of the instruction occurring in these classrooms.

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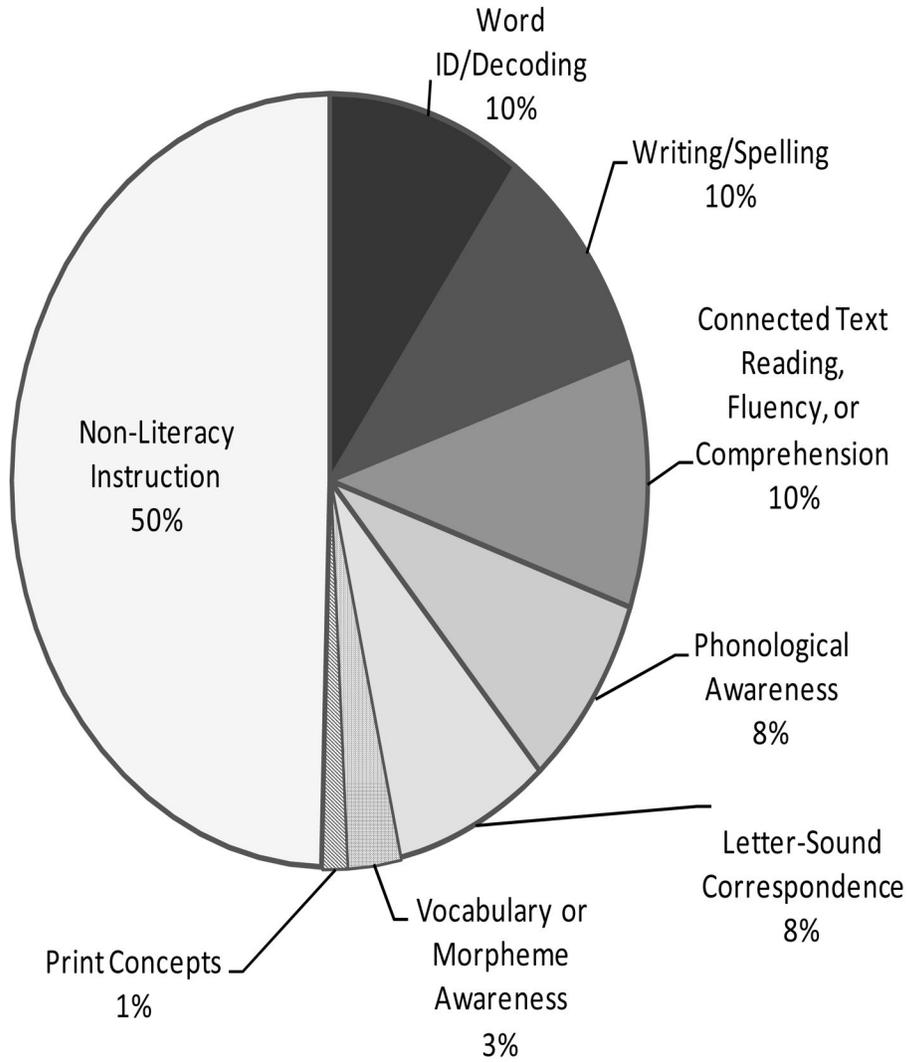


Figure 1. Allocation of instruction during scheduled reading block in general education kindergarten classrooms.

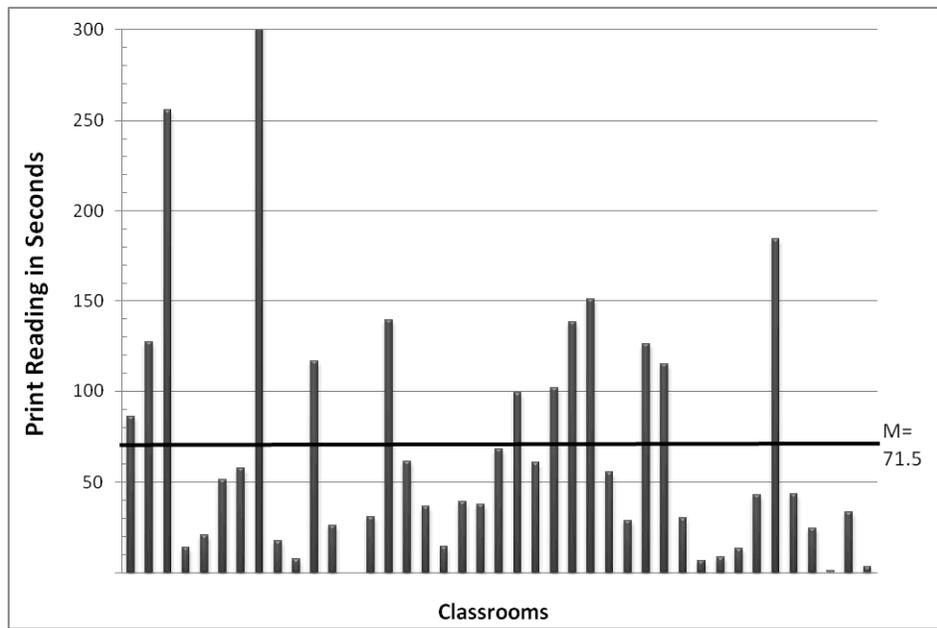


Figure 2. Distribution of classroom means for amount of total print reading. M = Mean amount of print reading across sample.

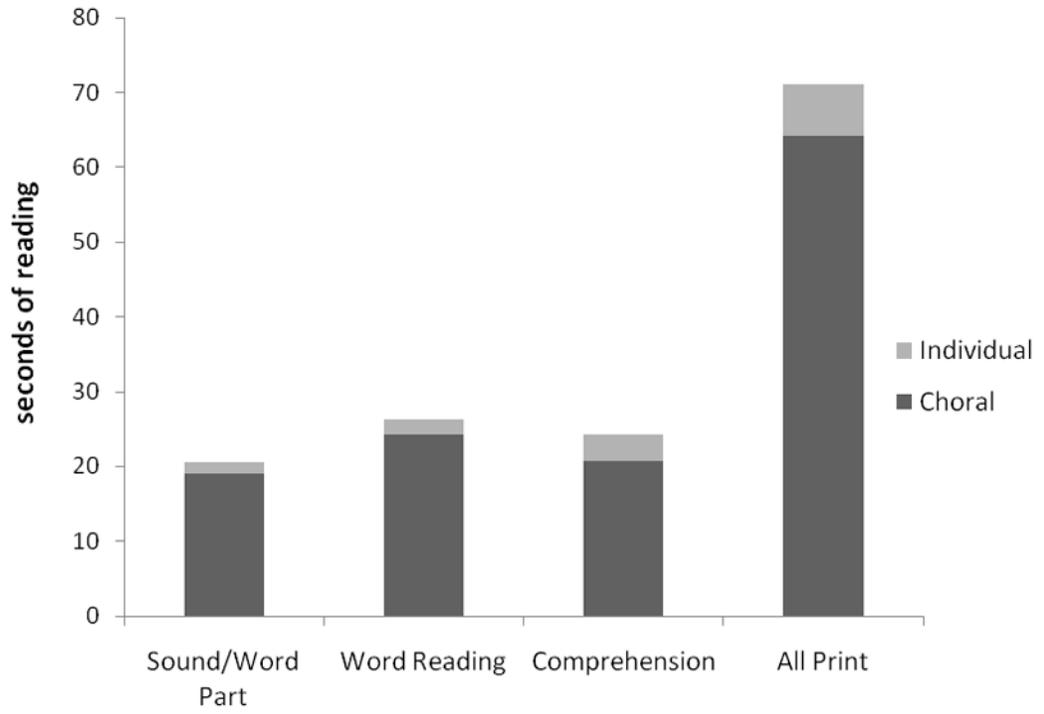


Figure 3.
Comparison of individual and choral print reading.

Table 1

Student Demographic Data

Variables	<i>M</i>	<i>SD</i>	Range
DIBELS LNF	2.54	2.3	0–7
CTOPP Blending Words			
Raw score	3.13	2.54	0–11
Standard score	9.0	1.90	5–13
WJ-III Letter-Word Identification			
Standard score	83.85	8.74	64–102
W scale score	324.16	16.13	276–359
WJ-III Word Attack			
Standard score ^a	92.72	12.26	71–111
W scale score ^b	383.3	17.56	364–470
<hr/>			
		<i>n</i>	%
Male		56	51.3
Ethnicity			
Caucasian		28	25.7
Black		73	67.0
Hispanic		7	6.4
Asian		1	.9
Eligible for Free or Reduced Lunch		88	80.7
Special Education Classification		35	32.1

Note. LNF = Letter Naming Fluency; CTOPP = Comprehensive Test of Phonological Processing; WJ-III= Woodcock Johnson III.

^a *n* = 61 due to students out of age range for calculating standard scores.

^b *n* = 107

Table 2

Duration (seconds) of Print Engagement Across Print Type for Two Observations

Print Type	M	SD	Range
Total Print Reading			
Student	71.53	84.49	0–398
Classroom		72.48	0–348
School		37.67	7.5–119.3
Sound-Word Part			
Student	20.54	31.36	0–197
Classroom		25.63	0–86.7
Single Word			
Student	26.27	53.10	0–294
Classroom		42.19	0–219.3
Connected Text			
Student	24.27	39.84	0–167
Classroom		35.19	0–126.5