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Increased frequency and planning: A more effective approach to guided reading in Grade 2

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ABSTRACT

This yearlong quasi experimental study examined the effects of two approaches to guided reading on second-grade students' reading abilities. The 79 subjects were chosen as a nonprobability sample and served as the treatment and comparison groups. The groups were pre- and post tested using the Developmental Reading Assessment, Second Edition determine students' reading levels. A 2 × 2 repeated measures analysis of variance revealed significant main and interaction effects. According to a post hoc analysis of mean difference effect size, both groups experienced very large effects, but treatment effects ($d = 3.66$) were much larger than the comparison ($d = 1.34$). The results suggest that increased emphasis on guided reading can lead to a greater impact on second-grade students' reading ability.

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Guided reading is an instructional approach often used in elementary classrooms that is designed to promote independent reading and strategy use. Although the approach is dynamic and dependent on the needs of students, there are some common tenets found in most guided reading frameworks (Fountas & Pinnell, 1996). First, students in the group share a similar reading level and are developing similar reading behaviors and strategies. Next, the teacher meets with individual groups and delivers lessons using instructional level texts. The instructional level is typically understood as the level at which a student can succeed with the support of the teacher (Clay, 1991). Typically, the teacher engages students in prereading, during-reading, and postreading activities. While students are reading, the teacher prompts them to use comprehension strategies as well as fix-up strategies at points of difficulty. However, research conducted by Ford and Opitz (2008) reported that guided reading is not always implemented as intended by experts on guided reading (i.e. Fountas & Pinnell, 2008). In fact, the degree of variability is large, which includes differences in grouping, use of texts, and assessments. Likewise, teachers' understandings of the purpose of guided reading also vary. Hornsby (2000) described guided reading as the following:

> Guided reading provides an opportunity for [teachers to support] small groups of children within the same developmental reading stages to apply strategies they already know to texts they do not know. The texts are carefully matched to the children so that that they can apply their strategies to overcome the challenges in the text and read it independently with success. (p. 26)

Thus, the purpose should be to promote successful independent reading. Though, as Ford and Opitz (2008) noted, this conception of the goal is not universal. These differences in understandings may be the reason for mixed results found in quantitative research studies that focus on the effects of guided reading. Research does suggest that guided reading can have an effect on some aspects of reading, such as reading fluency (Oostdam, Blok, & Boendermaker, 2015). Some empirical studies revealed that guided reading has similar effects to other types of small group instruction (Nayak & Sylva, 2013; Tobin & Calhoon, 2009). Other studies claimed guided reading had a little effect on reading outcomes (Bruce, 2010).

Despite the multitude of descriptive articles on guided reading (Brabham & Villaume, 2002; Fawson & Reutzel, 2000; Iaquinta, 2006), studies on teacher perceptions (Ferguson & Wilson, 2009; Ford & Opitz, 2008), and books that explore guided reading in depth (Fountas & Pinnell, 2001; Hornsby, 2000; Opitz & Ford, 2001; Witherell, 2007), it is clear that additional empirical research is needed to determine if particular implementations of guided reading can have a positive effect on students' reading abilities. Leading experts (Fountas & Pinnell, 2012) admit that there is much more work to be done in the area of guided reading.

Theoretical framework

In theory, it seems that guided reading should work. Most prominently, it has roots in social constructivism. Firstly, students are able to learn by interacting with the teacher and their peers. Thus, the social aspect is obvious in this context. Furthermore, the framework certainly resembles social constructivist learning theory. Vygotsky (1978) described the learning process with four major tenets: (a) the zone of proximal development (ZPD), (b) semiotic mediation, (c) concept development, and (d) internalization. By choosing an instructional level text, teachers keep students in the ZPD. That is, students should be able to successfully read and comprehend the

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challenging text with the assistance of the teacher. Indeed, Parker and Burns (2014) examined the instructional hierarchy and found that intervention texts on students' instructional level had a more positive impact on word recognition automaticity, confirming early speculations on the instructional hierarchy (Haring & Eaton, 1978).

Before, during, and after the reading, the teacher engages students in discussions regarding prior knowledge, the text itself, and strategies for successful comprehension. These interactions are analogous to semiotic mediation; in this case, language serves as the mediating device. Semiotic mediation has been observed in peer-led literature circles in Grades 3 and 4, but no direct link to reading comprehension has been made empirically (Young, 2014; Young & Mohr, 2016a).

In addition, throughout the guided reading session, students develop concepts about how to process the text. Because the goal is to develop strategic and independent readers, teachers work with students until they can internalize these strategies. Once internalized and employed with ease, students have completed the process on that particular level. Internalization is an oft used metaphor in reading instruction, most commonly referring to the acquisition of reading strategies (Davis, 2011). An experimental study (Sadeghi, Afghari, & Zarei, 2016) of 52 university students confirmed the Vygotskian notion that internalization is important to learning, and in this case, reading comprehension. The study utilized a method called shadow reading, where students listened to a passage, reread it out loud, and then summarized the text. The treatment participants outperformed the control on the reading comprehension task. However, the researchers did not claim that strategies were internalized, only that the meaning of the text was internalized, which is the main goal of reading. Thus, perhaps internalization should be better viewed as the ability to internalize the relative meaning of texts.

The tenets of social constructivism, which are of particular importance to guided reading can also be found in the gradual release model (Gallagher & Pearson, 1983). Teachers apply scaffolds so that students can successfully read a challenging text. The instructionally leveled text is essentially within the students' ZPDs. Ideally, after providing sufficient instruction before reading, the students can then read the text successfully. However, the teacher can also guide students during the reading of a text, and provide assistance where needed. Thus, after several sessions, the old instructional level becomes the new independent level, and the teacher then chooses a more challenging text for instruction. It is an iterative process of gradual release. Teachers continuously teach on a students' instructional level, which is ever increasing. Through that process, the ability to read higher level texts is internalized.

Hilden and Pressley (2007) trained five teachers in transactional strategy instruction, and the teachers' task was to use the gradual release model to help students regulate their own strategy use. After one year, students' reading abilities had increased as well as the prevalence of their self-regulated strategy use. The study served as an example of how the gradual release model was used successfully. Ideally, the process also benefits students in guided reading.

Empirical research on guided reading

There are few quantitative studies that examine the effects of guided reading on students' reading abilities. According to Denton, Fletcher, Taylor, Barth, and Vaughn (2014), guided reading is widely used but has a limited research base. It is cause for concern when a widely used educational practice has little empirical support for its implementation in the classroom. In fact, only one quantitative study provides support for the use of guided reading over other approaches. In a quasiexperimental study (Kamps et al., 2007) involving first- and second-grade students, an experimental group received direct instruction in small-groups ($n = 176$) and a comparison group engaged in balanced literacy and a large group pullout program ($n = 142$). Students in the experimental group outperformed students on nonsense word reading and oral reading fluency, especially students identified as English language learners. The study is rare in that it provides empirical support for this use of guided reading over alternative instructional approaches. Of the remaining empirical studies conducted, researchers found guided reading to be effective, but not significantly different from other interventions (Denton et al., 2014; Nayak & Sylva, 2013). Other researchers found that some alternative methods yielded larger effects than guided reading on students' reading ability (Tobin & Calhoon, 2009; Walpole, McKenna, Amendum, Pasquarella, & Strong, 2017).

Guided reading is equally effective

Using an experimental design, the Denton et al. (2014) randomly assigned 162 second-grade students to one of three conditions: (a) guided reading, (b) explicit instruction, and (c) a control group. Main effects were detected on several measures, including letter identification, word attack, and passage comprehension. However, the effects were often small when the guided reading condition was compared with the typical instruction received in the control group. In addition, when considering the two experimental conditions, the guided reading and explicit instruction conditions did not differ significantly, thus indicating that either approach is viable. Statistically speaking, both conditions only produced marginally higher effects than regular instruction. To confirm the inferential analysis, according to the descriptive statistics, students did appear to benefit more from the supplemental instruction of either guided reading or explicit instruction. Similar results were found by Nayak and Sylva in 2013.

In Hong Kong, 205 9- and 10-year-olds were randomly assigned to three groups: (a) guided reading, (b) e-book reading, and (c) a no-treatment control group. The guided reading group outperformed the no-treatment control group on measures of reading comprehension and accuracy and the results were statistically significant. The e-book intervention group performed significantly better in reading accuracy when compared with the control group. However, the guided reading group and the e-book reading group results did not differ significantly on either measure (Nayak & Sylva, 2013). Thus, the study did support the use of guided reading over typical school instruction, but it was not superior to e-book reading. Therefore, either of the interventions is a viable option for reading improvement.

Guided reading is less effective

Walpole et al. (2017) implemented a program called Bookworms in grades three, four, and five in three schools. The program utilized challenging text with a focus on increased reading volume. Four comparison schools implemented traditional guided reading. Results indicated that the treatment schools outperformed the comparison schools on measures of reading comprehension at all three grade levels. Grades 3 and 5 outperformed the comparison on the reading fluency measure. Bookworms is described as an aggressive approach that targets vocabulary, content knowledge, and strategy use. In this case, the program was instructionally superior to the traditional guided reading where students were matched to instructional level texts.

Similar results were found in a study conducted by Tobin and Calhoon (2009), and their analysis did not support the use of guided reading over an alternative program. In the quasi-experimental study, students in a guided reading condition ($n = 60$) were compared with students in alternative program called Horizons Fast Track A-B ($n = 47$). The Horizons program follows an explicit teaching model and focuses on four or five skills per day. Results were in favor of the Horizons group, which had a large effect ($d = .92$) on first-grade students' word recognition automaticity (words read correctly per minute). Research indicates that automaticity is correlated with reading ability and reading comprehension (Therrien, 2004), indicating the data are valid, but a direct measure of reading ability would have made the study more compelling.

Furthermore, a closer examination of the method employed by Tobin and Calhoon (2009) revealed that the guided reading implementation differed from the framework described by Fountas and Pinnell (1996). In their (Tobin & Calhoon, 2009) implementation of "guided reading," the teacher began by building the students' background knowledge as a whole class, and then met with individual groups. Which texts were used and the nature of the subsequent guided reading lessons were not described, so the results should be interpreted with caution.

Moreover, the only aspect of reading assessed by Tobin and Calhoon (2009) was an incomplete measure of fluency. The researchers measured accuracy and rate, but failed to measure prosody, which is considered an important component of reading fluency (Rasinski, 2010; Young, Valadez, & Gandara, 2016b). The findings on the impact on fluency was confirmed by another study conducted in the Netherlands (Oostdam, Blok, & Boendermaker, 2015). Students in Grades 2–4 made gains in reading fluency, but no significant effect on comprehension was detected. Although guided reading should, indeed, increase students' reading fluency, the main goal should be to promote successful independent reading of grade level texts (Ford & Opitz, 2011). Thus, additional measures of reading would have strengthened Tobin and Calhoon's (2009) study.

Guided reading is ineffective?

In one study, results indicated that guided reading was actually ineffective. Bruce's (2010) doctoral dissertation utilized a single-subject experimental design to determine the effects of guided reading on 43 at-risk fourth-grade students. Bruce employed quasiexperimental single-group interrupted time-series design, and analyzed two outcome measures with a repeated measures analysis of variance (ANOVA). There was no significant difference between pre- and posttests for reading ability or attitude. Though, there are inherent limitations in a single-group design, the study does purport that guided reading was not an effective intervention for the at-risk students involved in the study.

Still, it is difficult to accept the empirical evidence that provides little support for the use of guided reading, but the results are cause for concern and certainly warrant further exploration. Therefore, the current study sought to reexamine guided reading as an instructional tool by answering the following research question: What are the effects of increased duration and more targeted approach to guided reading on second-grade students' independent reading levels as measured the Developmental Reading Assessment, Second Edition (DRA2; Beaver & Carter, 2006)?

Method

This study utilized a quasiexperimental pre/posttest design. Quantitative data were collected at the beginning and the end of an academic school year. Both the treatment and comparison conditions received some form of guided reading instruction throughout the school year. The treatment group, however, received more individualized guided reading instruction and met with the teacher more frequently. Differences and similarities among the groups and the specifics of the guided reading instruction are described subsequently.

Participants

The 79 subjects were chosen as a nonprobability sample from six different second-grade classrooms in a Title 1 school in the southern United States. The elementary school's demographics comprised 63% Hispanic, 20% White, 13% Black, and 3% of the students were two or more races. Of these students, 43% were English language learners. Seventy-seven percent of the students in the school participated in the free or reduced lunch program. The treatment group ($n = 41$) included 60% boys and 40% girls, and the demographics were 65% Hispanic, 23% White, and 12% Black. The comparison group ($n = 38$) included 65% boys and 35% girls and was 62% Hispanic, 22% White, and 16% Black. Thus, demographically, the groups were relatively similar.

School context

The district encouraged use of the balanced literacy model, and provided instructional planning guides. The balanced literacy model required read-alouds, shared reading, guided reading, and independent reading. Though, implementation varied, all classes incorporated many elements of the program (Table 1). The instructional planning guides included a framework for daily whole-group reading lessons based on the 5E model throughout the year. The 5E model is a lesson framework that moves through a series of steps: (a) engage, (b) explore, (c) explain, (d) elaborate, and (e) evaluate (Boddy, Watson, &

Aubusson, 2003). Each week had a different instructional focus for reading instruction—most of these weekly themes revolved around reading comprehension strategies. For example, a teacher may spend a week on making predictions or inferring. The guides also suggested texts that supported the objectives for the day, and described how the lessons could follow the 5E model.

Both the treatment and comparison contexts also implemented some form of guided reading. Students were homogenously grouped initially based on their DRA2 independent reading levels. The groups were dynamic and changed frequently based on student growth as measured by weekly running records. The running records were taken on-the-go in the context of students' guided reading groups. Another similarity is that a new book was chosen each time the groups met unless the group was unable to complete the book from the day before or if the group was reading a novel. The comparison differed, however, in that guided reading was used less frequently, and was typically reserved for students who demonstrated the most need for supplemental reading instruction. Conversely, in the treatment, nearly every student met in guided reading more frequently (Table 2).

Comparison context

The comparison group was taught by a departmentalized teacher with four years of experience and included three intact classrooms. That is, the teacher taught three different sections of language arts or social studies and the students rotated with their peers to science, writing, and mathematics where they were taught by different teachers. The classroom followed the balanced literacy model and utilized the instructional planning guide in the 5E format. For balanced literacy, the teacher began with read-alouds, which were embedded in the 5E lessons. Each read-aloud covered the required objectives, which were typically weekly reading comprehension strategies. During the read-alouds, the teacher would use the think aloud strategy to model the use of the strategies.

Following the lesson, the teacher engaged students in guided practice of the comprehension strategies. This was conducted in various ways depending on the day. The teacher then conducted a shared reading lesson in which students participated in the strategic processes. Then, students engaged in independent reading. Students self-selected "just right books" and read for 30 minutes. The teacher often conferred with students about their reading during this time. Finally, the students engaged in workstations or centers. The centers typically consisted of making words and writing words based on the district's word work matrix, social studies research where students would read and report on required concepts, a poetry station where groups of students read poetry together, and a comprehension practice station. Although these differed slightly throughout the year, the students always engaged in stations that targeted word study, social studies, comprehension, and fluency.

During the workstations, the teacher typically met with two guided reading groups. The group who struggled the most were met with daily, and the other groups were met with on a rotating basis. Thus, on average, the most struggling group met five times per week, and the remainder of the groups met with the teacher at least once per week.

The nature of the guided reading lessons was usually tied to the weekly comprehension goal. For example, if the comprehension strategy was making predictions, the teacher would teach this in a variety of ways in the context of guided reading. The teacher built background knowledge regarding the topic, often beginning with the question, "What do you know about _____?" Groups who read lower-level books often engaged in a picture walk as well to build background knowledge. During the reading, the teacher asked individual students to read aloud, listening for accuracy and fluency. After the reading, the teacher would assess the students on their use of the comprehension strategy, as well as engage students in a general discussion of the text. Though basic, it included the common tenets of guided reading instruction (Fountas & Pinnell, 1996) that included before-reading, during-reading, and postreading activities.

Treatment context

The treatment classes were taught by a departmentalized teacher with three years of experience teaching Grade 2. Similarly, the teacher taught three different intact classrooms. The language arts block included many of the required components of balanced literacy and district requirements were observed in the treatment classroom. First, every class began with a read aloud, and much of the time the teacher used the read aloud to teach reading comprehension strategies per the instructional planning guide, which typically lasted for approximately 10–15 minutes.

Table 1. Comparison of 90 minute reading block.

Treatment	Comparison
Read aloud/mini-lesson (10–15 min) Independent reading (30 min)* Workstations (45 min)[a]	Read aloud/mini-lesson (10–15 min) Guided practice (15–20 min) Independent reading (30 min) Workstations (30 min)[a]

[a]Time when guided reading groups were pulled.

Table 2. Frequency and duration of guided reading in treatment group versus comparison group.

	Treatment	Comparison
Duration of each guided reading session (approximately)	15 min	15 min
Time spent daily with guided reading groups (approximately)	75 min	30 min
Yearly participation of above grade level readers (average)	1,890 min	540 min
Yearly participation of on level readers (average)	2,160 min	540 min
Yearly participation of struggling readers (average)	2,700 min	810 min
Yearly participation of severely struggling readers	2,700 min	2,700 min
Frequency of guided reading groups for above grade level readers	2–5 times/ week	Once per week
Frequency of guided reading groups for on level readers	3–5 times/ week	Once per week
Frequency of guided reading groups for other struggling readers	Daily	1–2 times/ week
Frequency of guided reading groups for the most struggling readers	Daily	Daily

However, little emphasis was placed on shared reading, and it was conducted sporadically. Students also engaged in 30 minutes of independent reading.

Most of the language arts block (90 min) was spent in guided reading (usually 1 hr). Because the groups were dynamic and changed frequently due to student growth, throughout the school year the number of groups ranged from four to six, and the number of students in each group ranged from two to six. Each guided reading group typically lasted around 15 min. The objectives and texts changed daily, but the overall framework remained the same.

Students were called during independent reading and workstations. The groups who struggled the most were called during independent reading. This choice was made by the teacher because the teacher noticed that the more struggling students lacked the stamina to read independently for the entire 30 min. Thus, the teacher pulled the lowest two groups during that time, so essentially the two lowest groups engaged in 15 min of guided reading and 15 min of independent reading. Three more groups were pulled during workstations. The reasoning behind this was the fact that workstations were set up so students could practice, and the higher groups may have required less time to practice. Thus, during the 45 min of workstations, the teacher pulled the next highest three groups. When there were only five groups, every group met in guided reading groups daily. Sometimes during the year, there were six groups, so two highest groups were pulled on a rotating basis. In this case, the four lowest groups were met with five times per week, the second highest group met in guided groups three times per week, and the highest group met with the teacher twice per week.

Planning the guided reading lesson for the treatment group

First, the teacher selected a text based on the relative instructional reading level for each group. The teacher read the text and considered developmentally appropriate objectives based in three aspects of reading: comprehension (C), accuracy (A), and fluency (F). The lesson plan format used was a graphic organizer that helped the teacher identify the goals, introduce the book, scaffold the students' comprehension by frontloading text structure and vocabulary, monitor students' success on objectives, and list possible follow-up teaching points. Following is a sample lesson beginning with the description of the planning process (Figure 1).

In this example, the text chosen was *Miss Nelson Is Missing!* (Allard & Marshall, 1977), which is a guided reading level L, or midlevel Grade 2. Pinnell and Fountas (2008) delineate particular goals that are developmentally appropriate for each reading level from A to Z. There are many options for comprehension at this level, so choosing the objective for comprehension should be purposeful and based on the teacher's careful reading of the text. Because Miss Nelson exhibited complex feelings ultimately resulting in a decision to assume the role of Viola Swamp, a stern substitute, the teacher believed it was important that students be able to infer the feelings and motivations of the characters.

For accuracy, the reading of the text revealed many multisyllabic words with inflectional endings and affixes; for example, the word misbehave is conjugated in different ways (misbehaved, misbehaving). Thus, the teacher chose to focus on analyzing multisyllabic words as the accuracy goal. The text supports this goal, and it should be relatively easy to incorporate into the guided reading lesson.

Guided Reading Lesson Plan **Date: _____**

<table>
<tr><td colspan="2">Title of Text: Level:
Students in Group:</td><td rowspan="3">Follow Up Lessons
C:

A:

F:</td></tr>
<tr><td>Goals
C:
A:
F:</td><td>Frontloading</td></tr>
<tr><td>Introduction/Summary</td><td>Notes</td></tr>
</table>

Figure 1. Guided reading lesson plan.

The fluency goal chosen for the guided reading lesson was to read dialogue with appropriate expression that reflects the voices of the characters. Not only do the teacher and students in *Miss Nelson Is Missing!* all have their own unique voices in the text, the main character had two very different voices. One, a sweet and caring teacher, the other a grumpy and rigid substitute teacher.

For the introduction, the teacher wrote a relatively detailed summary. The detail was aimed to support the students' comprehension; the thinking behind this was that the teacher had deliberately chosen a text above the students' instructional reading level, and therefore support was necessary. After writing the introduction, the teacher read through the book again looking for aspects of the text that may be troublesome for the students. This could have been new or complicated text structure, irregularly spelled words, advanced spelling patterns such as diphthongs, or new vocabulary. Essentially, anything that could have disrupted the flow of reading or cause confusion. The teacher wrote the page numbers next to the aspects for easy location when introducing the book.

The next box was dedicated to monitoring. The C, A, or F was placed here to make sure the teacher could easily assess the objectives during the reading. For example, if the teacher wanted to monitor for pronunciation of specific multisyllabic words or expressive reading during intense dialogue, the teacher could write down the page number to quickly assess the objectives. The box was also often used for any notes the teacher took during the lesson.

For the final step in the planning process, the teacher considered possible follow-up lessons to choose from based on the informal assessment of the objectives. Thus, the teacher planned potential lessons for an accuracy, fluency, and comprehension which aligned with the goals. The lessons were planned just in case students struggled with a particular objective. For the accuracy follow-up, the teacher planned to write down the conjugations of *behave* and discuss the changed meaning when adding the prefix *mis-* or how to quickly and accurately decode words with different endings, such as *-ed* or *-ing*.

When considering a follow-up for the fluency objective, the teacher planned to have quick Readers Theater performances. Each of the students would be assigned as characters, such as Miss Nelson, Viola Swamp and students in the class, and read their parts aloud. The teacher planned to discuss the possible voices, noting the characteristics and the suggested tone for each character. The kids in the story shift their tone from naughty to scared, and end in relief. The teacher would then discuss how these changing tones may influence the oral renderings of the dialogue. In addition, the voice of Miss Nelson and Viola Swamp differ greatly. The teacher would quickly assign parts and coach students to read with appropriate expression that matched the intended meaning of the text.

In the case that students struggled with the comprehension goal, the teacher planned to conduct a quick think aloud, and audibly describe the teacher's thinking process regarding inferring characters' feelings and motives. The teacher would read selected excerpts and vocalize what the characters may be feeling and how their motives influenced their actions. The teacher may then lead a discussion with the students to confirm their understandings.

Conducting the guided reading lesson for the treatment group

The teacher began by describing the objectives and introducing the book. Following the introduction, the teacher directed the students' attention to any aspects of the texts that might be troublesome and frontloaded the vocabulary. This process took only 2 or 3 min, as it is recommended that students spend the majority of the time in guided reading actually reading (Pinnell & Fountas, 2008). The teacher required all of the students in the group to read silently unless asked to read aloud short sections of the text. When listening to individual students, the teacher did a quick running record on the back of the lesson plan, which included a miscue analysis and notes regarding reading behaviors. The teacher also monitored the students' progress on the objectives.

When the students completed the text, the teacher chose a follow-up lesson based on the informal assessment during the lesson. The teacher noticed that students did not read dialogue with the appropriate expression, and thus chose to conduct a short Reader's Theater on a few pages with extensive dialogue. The follow up lesson took only 3–4 min, and students were sent back to the workstation or independent reading, so the teacher could call the next group. The next group received an entirely different lesson. However, the same effort and process was used when planning the lesson, which included the meticulous selection of goals that matched the students' needs and the text used in the lesson.

Instrumentation

The students were assessed at the beginning, middle, and end of the year using the DRA2 (Beaver & Carter, 2006). The assessment consisted of leveled texts with accompanying assessment documents. To render an accurate DRA2 level, the student needed to demonstrate proficiency on a variety of measures, including 95% or greater reading accuracy, adequate words read correctly per minute based on Hasborouk and Tindel's (2006) fluency norms, and adequate reading comprehension as measured by the DRA2 retelling rubric.

A test of concurrent validity compared the Gray Oral Reading Test-5 (Wiederholt & Bryant, 2001), DIBELS Oral Reading Fluency (Good, Kaminski, & Dill, 2002), and Gates-MacGinitie (MacGinitie, MacGinitie, Maria, & Dreyer, 2002) assessments to the DRA2, and correlation coefficients ranged from .60 to .76, which is considered large to very large in magnitude (Hopkins, 2002). In other words, the DRA2 yielded similar results to other established reading assessments when administered concurrently. A measure of predictive validity coefficients ranged from .51 to .89, indicated that it does indeed predict similar outcomes on other well-known assessments, including the Group Reading Assessment and Diagnostic Evaluation (Williams, 2001), and the DIBELS Oral Reading Fluency Test-6th Edition (Good et al., 2002). Thus, the DRA2 was considered a reliable measure of students' reading level.

Each student was assessed with the DRA2 at the beginning and end of the school year by the teacher of record. The teacher of record was trained to administer the DRA2 by the language coordinator and also served as the campus trainer for DRA2 administration. In terms of inter-rater reliability, another

Table 3. Means and standard deviations for the DRA2.

	Pretest		Posttest	
Condition	*M*	*SD*	*M*	*SD*
Treatment ($n = 41$)	15.05	8.99	30.15	8.10
Comparison ($n = 38$)	20.29	10.70	27.16	12.43

second-grade teacher randomly administered the DRA2 to 10% ($n = 8$) of subjects and the ratings were identical ($\kappa = 1.00$, $p < .0001$).

Results

The quasiexperimental study examined the effects guided reading on students' DRA2 scores. The subjects were pre- and posttested using the DRA2. First, the researchers analyzed the assumptions for the repeated measures ANOVA. Lavene's F was insignificant, $F(1, 77) = 1.08$, $p = .301$; therefore, the groups were assumed to have equal variances. Box's M significance value was $> .001$ ($p = .012$), indicating that within-group covariance matrices were equal. There were no statistically significant differences among the two groups on the basis of the pretest measures; thus, pre-experimental equivalence was assumed and the following analysis is considered robust (Tabachnick & Fidell, 2001). The pretest and posttest means and standard deviations for DRA2 are summarized in Table 3.

A 2 Treatment × 2 Time repeated measures ANOVA revealed statistically significant (Wilks' λ) main effects on students' DRA2 scores. These main effects were qualified by an interaction between the treatment and treatment by time. Results are summarized in Table 4.

As can be seen in the graph of the estimated marginal means (Figure 2), the interaction occurred when the treatment group, whose pretest means were lower, increased more rapidly, eventually outperforming the comparison on the posttest.

To further understand the nature of the effects and for practical significance, a post hoc simple effect size analysis was conducted. For the guided reading treatment group, the mean difference effect size was 3.66, indicating a very large effect (Cohen, 1992), and the magnitude of the effect was 2.73 times larger than the mean difference effect size in the comparison, which was 1.34.

Discussion

As noted in previous educational research (Young & Rasinski, in press), when examining quasi-experimental studies conducted in real classrooms, it is desirable to see large effects in both treatment and comparison groups. In this case, the results revealed a large effect in the comparison ($d = 1.34$), indicating that the balanced literacy approach implemented by the teacher was, indeed, effective. However, when compared with the treatment condition that provided guided reading more frequently, the treatment had a far greater effect ($d = 3.66$) on students' reading ability. The magnitude of the treatment effect positively shifted the group mean by 3.66 standard deviations.

Although both approaches seem to be viable, the approach in the treatment was more individualized and the groups met more frequently, which were likely important contributors to the differences in effects. Students in the treatment group received guided reading instruction for about 75 min on a weekly basis. Over the course of the school year, the teacher conducted approximately 13,500 min of guided reading. In the comparison classroom, the teacher conducted much less, totaling approximately 5,400 min. It is clear that as the time spent in guided reading increased so did the positive effects on students' reading abilities. Therefore, it is recommended that students, regardless of level, be met with as frequently as possible. This study also described the variations in guided reading planning, implementation, frequency, and duration in detail. Arguably, the treatment class received a more sophisticated and rigorous type of guided reading instruction, which likely also contributed to the larger effects on students' reading ability.

The findings in this study do not necessarily corroborate previous empirical findings (Bruce, 2010; Denton et al., 2014; Tobin & Calhoon, 2009). However, it is worth speculating on the potential reasons for differing results. First, this was a yearlong study that compared relatively similar approaches. Both conditions utilized the balance literacy model, and thus aimed to detect only the difference between a model with a strong emphasis on guided reading and a model with less emphasis on guided reading. In addition, previous studies typically compared two approaches that were vastly different. For example, Tobin and Calhoon (2009) compared a purchased intervention program with guided reading and found little difference between guided reading and alternative intervention methods. It seems, however, classrooms that do engage in some type of supplemental instruction typically outperform business as usual classrooms (Denton et al., 2014). Finally, perhaps the most

Table 4. Repeated measures ANOVA results for the DRA2.

	df	*F*	η_p^2	Observed power	Significance
Treatment	1	424.53	.85	1.00	$< .001$
Treatment × Time	1	59.58	.44	1.00	$< .001$

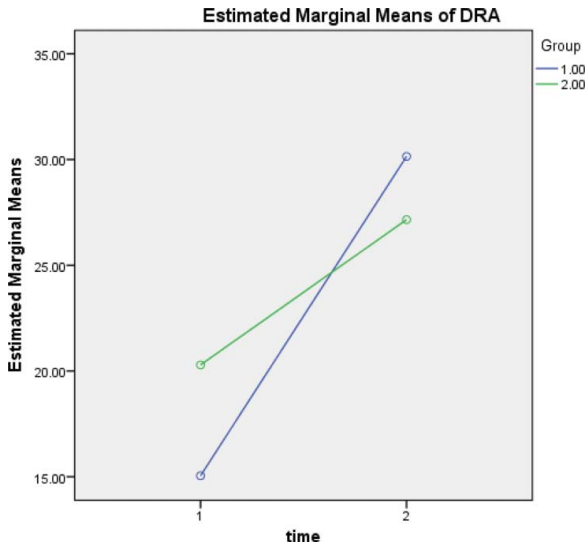

Figure 2. Graph of estimated marginal means across time (Group 1 = Treatment; Group 2 = Comparison).

influential factor was that the guided reading implementation was vaguely described in several of the previous studies, lacking descriptions of delivery, frequency, and duration. Thus, it was unclear whether guided reading was implemented in a manner that would yield significant results.

These results support the theoretical underpinnings of guided reading. From a Vygotskian perspective, the notion of working within the ZPD and guiding students to independence was successfully demonstrated in the study as students increased to higher reading levels. Thus, the study confirmed previous research on using instructional levels to increase reading achievement (Parker & Burns, 2014). Of course, it is important to note that leveling text should not be used excessively or emphasized to the degree that "reading level" becomes the goal of reading (Hoffman, 2017). Still, in the context of guided reading, it appears that ZPD aligns well with the concept of "instructional levels" and the practice of leveling should be continued.

Other tenets of social constructivism, semiotic mediation and internalization, might have also had an impact. Most notably, semiotic mediation and internationalization are often used metaphorically with the acquisition of strategies. However, in this study, the internal strategic reading processes used by the student were not measured in this study, and thus the contributions are unclear. One might surmise, however, that the ability to read at higher levels was internalized and also demonstrated on the posttest. Then, perhaps, as noted in Sadeghi et al.'s (2016)) study, the view of "internalization" from a reading researcher's perspective could be widened to be more holistic. In other words, rather than focusing on only internalization of strategy use, the focus should also be on the student's overall reading ability. That is, has the student internalized the ability to read at more sophisticated levels? If yes, then perhaps strategy usage is a moot point, especially because the complex nature of reading encompasses far more than mere strategies.

Finally, in that same vein, concept development (Vygotsky, 1978) could also be viewed more holistically. Repeated exposure to varying books and genres may have developed reading as a concept itself. That is to say, students may have conceptualized particular text structures and used their varied reading experiences as a foundation for comprehension. As students incorporate their evolving concept of reading into new and more challenging text, they become more proficient. Still, further research on the tenets of social constructivism is needed to determine how each impacts reading growth.

Limitations and further research

Although statistically speaking the groups were sufficiently equivalent and comparable, it should be noted that the treatment group started the school year with a lower mean DRA2 score ($M = 15.05$) than the comparison group ($M = 20.29$). Previous research on homogeneous grouping (Barr & Dreeben, 1991) suggests that students performing below the expectation typically benefit more in homogeneous groups. Conversely, students who perform above the expectation do not benefit as much, and heterogeneous grouping appears to have a more significant impact. It is possible that this phenomenon was observed in this study. However, as seen in the graph of estimated marginal means, not only did the treatment group begin lower, they completed the study with higher mean DRA2 score. So, at the point of interaction, the groups were performing similarly, but the treatment continued to have a greater impact. Thus, it is arguable that regardless of their pretest scores, the treatment would have had a similar effect on both groups.

There are certain limitations inherent in quasi-experimental research due to the lack of random sampling. However, this study has high ecological validity as the research was performed in actual classrooms. Because of the ecological validity, the research speaks directly to teachers in similar contexts and provides evidence that the time and effort spent meeting with small groups is worthwhile.

Another limitation of this study was the lack of control for potentially confounding variables such as IQ, previous academic experiences, subtests of reading competencies such as vocabulary knowledge or decoding skills, or external factors such as economic status. Of course, every classroom is likely to have some sort of confounding variable, and guided reading is not a one-size-fits-all method, and likely will not work for every student. Still, the results of this study are promising.

Future research on guided reading should focus on implementation by providing specific details and how it impacted students' reading achievement. There is a certain ambiguity that surrounds the term *guided reading*, and in an effort to become more consistent and report relevant results, the procedures should be well documented. In addition, the research design could be strengthened by either employing an experimental design or a stronger quasiexperimental design, perhaps using matched pairs. In addition, though the present study had high statistical power, additional subjects are often desirable.

Finally, as a limitation for generalizability and for a word of caution, a large amount of time was spent in guided reading in both of the classrooms. Thus, other aspects of the balanced literacy program, namely shared reading and interactive reading, were often neglected. However, especially in the case of the treatment classroom, the guided reading instruction was based on rigorous objectives and the instruction was delivered by a teacher who was not only well trained, but regarded as a highly qualified teacher. Thus, these results are certainly possible to achieve if the guided reading is delivered consistently by a trained instructor. This confirms previous assertions that the role of the teacher is essential for effective guided reading (Iaquinta, 2006).

Implications

The results of this study suggest that increased time spent in guided reading can have a large positive effect on students' reading ability. In addition, careful planning of guided reading lessons appears to be more effective. Although the treatment lesson description seems time intensive and complicated, repeated construction of the intricate plans eventually became more automatic and less time consuming. According to the results, the students benefited greatly from the extra time spent planning. Of course, it may seem intuitive that more intentional lessons yield more gains. Teachers should engage in careful planning and attention to objectives while considering the

needs of individual students. Therefore, teachers are tasked to determine which instructional approaches and activities could be condensed or eliminated to spend time planning for more effective practices, such as guided reading.

That said, another important implication is that guided reading is not the only answer. Various empirical studies described other powerful ways to increase reading achievement (Hilden & Pressely, 2007; Nayak & Sylva, 2013; Tobin & Calhoun, 2009; Walpole et al., 2017). Thus, teachers need to judiciously implement effective instruction based on student needs and monitor student progress frequently and empirically. If an approach is not working, then it should be altered or eliminated and replaced with a promising new approach. The teacher in the study continued to reevaluate and refine instruction to maximize the effect on student achievement, a goal that should be universal among teachers.

Conclusion

Increased rigor, frequency, and duration of guided reading instruction can have a positive effect on second-grade students' independent reading levels. For years, researchers and educators have claimed that guided reading works (Fawson, & Reutzel, 2000; Fountas & Pinnell, 1996; Gambrell, Malloy, & Mazzoni, 2011), and this study further corroborates those claims. Though the data are impressive, what was truly impressive were the gains made by the actual students in the treatment classes. Some students increased from kindergarten reading levels to above grade level reading by the end of the year. This research may make a difference in the field, but the treatment made a significant difference for many of the students involved. A second-grade classroom with a mean DRA2 score of midlevel Grade 1 participated in daily guided reading and increased to an above-grade-level mean by the end of the year. Some of the students who might have failed actually succeeded. Guided reading continues to be a viable and effective option for teachers.

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