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## Characteristics of General Education Reading Interventions Implemented in Elementary Schools for Students with Reading Difficulties

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### Abstract

The implementation of response to intervention requires interventions for struggling students be provided through general education prior to referral for special education. We surveyed elementary teachers (K-3) in one state to examine the characteristics of the supplemental reading interventions that their students receive through general education. Findings reveal differences between grade levels in the amount of time interventions are provided to students, the providers of the intervention, and the material selection for the interventions. No differences between grade levels were noted in the frequency of intervention or instructional group sizes. Three-quarters of the teachers reported providing the supplemental interventions to students in their class. The findings provide insight into the resources utilized by schools to implement supplemental interventions.

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The addition of response to intervention (RTI) as a means to identify students with learning disabilities in the Individuals with Disabilities Improvement Act (2004), has led many school districts to begin considering RTI models for implementation. RTI is a process implemented in schools in which varying levels of intervention are provided for students with learning difficulties, progress is monitored frequently to determine and document students' responsiveness to the interventions, and instructional adaptations are made based on this information; thus, providing information to assist in the identification of learning disabilities (Vaughn & Fuchs, 2003; Vaughn & Klingner, 2007). While descriptions of basic RTI frameworks and guidelines can be found in the literature (e.g., Batsche et al., 2006; Vaughn, Wanzek, Woodruff, & Linan-Thompson, 2007), implementation of RTI requires the school district or individual school to define many aspects of the framework according to specific needs. Among the decisions that schools need to make for basic RTI implementation are: a) the criteria to determine entry and exit into various interventions, b) instructors to provide the interventions, c) materials to be used, d) number of minutes and days per week a student receives the interventions, e) size of instructional groups to be implemented, and f) the duration of initial interventions prior to determining whether a student requires a more intensive intervention. Not unlike current practices in schools, many of these decisions require an examination of student needs as well as an analysis of resources. In addition, these decisions may be standardized within different levels of the RTI model (e.g., Vaughn et al., 2007) or may be changed continually based on individual student needs (e.g., Lau et al., 2006).

RTI models described and examined in the literature often incorporate 3 levels or tiers of instruction (e.g., O'Connor, Harty, & Fulmer, 2005; Sugai & Horner, 2002; Vaughn et al., 2007). In a three-tier model for reading instruction, Tier I typically includes screening of all students at least 3 times per year, implementation of core reading instruction that is based on scientific reading research with use of student data to plan instruction, and ongoing professional development for teachers. The goal of Tier I is to ensure high-quality instruction for all students is provided in the classroom. Tier II involves additional intervention for students who demonstrate difficulties despite instructional efforts in Tier I. Tier II intervention typically includes instruction provided in small groups and more frequent progress monitoring (weekly or biweekly) to ensure the effectiveness of instruction for the students. The third tier, Tier III intervention, is provided to students who continue to demonstrate insufficient progress after receiving the Tier II intervention. Tier III interventions are designed to be more intensive than Tier II interventions by providing instruction in smaller instructional groups, for additional time, and/or with more specialized or individualized instruction. While there is not yet a consensus on when special education referral occurs within an RTI model, it is clear that multiple tiers of instruction are provided through general education prior to referral and that implementation is aimed at identifying appropriate instructional services for students, including the determination of students whose needs may be best met with special education services (Vaughn & Fuchs, 2003; Gresham, 2009). Thus, fully developed RTI models integrate general and special education and identify and integrate school resources to provide effective instruction and intervention.

The largest amount of development and research in RTI has occurred at the elementary (K-3) level and in the area of reading (e.g., Denton, Fletcher, Anthony, & Francis, 2006; O'Connor et al., 2005; Vaughn et al., 2009). Elementary RTI models in the area of reading are built on a substantial research base that has identified the critical elements of early reading intervention, provided extensive information on validated early reading interventions, and suggests that the incidence of reading difficulties can be reduced through early intervention (Blachman et al., 2004; Felton, 1993; Jenkins & O'Connor, 2002; Lovett et al., 2000; Torgesen et al., 1999; Vellutino et al., 1996). The wealth of research on early intervention has resulted in consensus reports providing research-based guidance for effective early reading instruction (National Reading Panel, 2001; Snow et al., 1998). Early reading interventions have demonstrated consistent effectiveness in improving students' outcomes in the basic literacy skills of phonemic awareness, decoding, and word recognition through explicit, step by step instruction in manipulating sounds, letter-sound correspondence, and the use of sound knowledge to decode words in text (Bus & van Ijzendoorn, 1999; Cavanaugh, Kim, Wanzek, & Vaughn, 2004; Gaskins, Gaskins, & Gaskins, 1992; Lovett et al., 2000). There is also evidence that students' fluency, vocabulary, and comprehension outcomes can be improved through early intervention, though these outcomes are often more challenging to effect (Gunn, Biglan, Smolkowski & Ary, 2000; Jenkins, Peyton, Sanders, & Vadasy, 2004). Evidence also suggests that increasing the intensity of effective instruction (e.g., use of smaller groups, more time spent in intervention) may have positive effects on students outcomes (Torgesen et al., 2001; Vaughn, Linan-Thompson, & Hickman, 2003).

Effective RTI implementation requires application of instruction and intervention based on the scientific evidence along with the use of data to make key decisions regarding not only students' instructional needs but also the intensity of intervention in terms of time, frequency, duration, and instructional group size. We were interested in the characteristics of general education reading interventions that are currently being implemented in elementary schools. Although current assessment practices have been examined previously (Madaus, Rinaldi, Bigaj, & Chafouleas, 2009), current reading intervention practices have not been investigated. Examining the features of the general education reading interventions that

schools currently implement can provide some insight into the preparedness and the resources that schools currently have and how they use them in relation to RTI implementation in the area of reading.

The Institute of Education Sciences (IES) and the What Works Clearinghouse recently released a practice guide with research-based guidelines regarding reading intervention in RTI for the primary (K-2) grades (Gersten et al., 2008). The guidelines for Tier II intervention recommend intensive, systematic instruction in small groups for students below grade level as determined by screening measures. Group sizes of 3-4 are suggested. In addition, the recommendation indicates groups typically meet between 3-5 times per week for 20-40 min. The guide suggests that the amount of time in intervention will likely increase through the grade levels as the students struggling with reading require more skills to reach grade level expectations. The expert panel writing this report stated that the evidence for the Tier II guidelines is “strong”, indicating there is causal and generalizable evidence in the literature to support the recommendation. A second recommendation provided in the guide is to increase the intensity of instruction for students who continue to struggle after participating in Tier II intervention. Recommendations for increasing the intensity include providing additional time in intervention, incorporating smaller instructional group sizes (including one-on-one instruction), and providing explicit, individualized instruction focused on high priority skills with extensive practice and high quality feedback. However, the panel states that the evidence for the Tier III intervention recommendations is “low”, indicating the recommendations are based on expert opinion (in this case the panel) that is derived from related findings or theories. In the case of the Tier III evidence, 5 studies meeting the What Works Clearinghouse criteria were obtained, but none of the studies reported statistically significant impacts on reading outcomes for participating students with severe reading difficulties. These guidelines provide initial support for schools in implementing effective interventions within RTI models. However, data on the types of reading interventions that schools are currently implementing has not been reported.

To address the lack of data regarding current school implementations of supplemental reading interventions, we surveyed elementary teachers in randomly selected schools in one state one year prior to mandated implementation of RTI. The following research question was addressed: What are the characteristics (e.g., time, group size, location, implementer, materials, decision-making) of the reading interventions provided currently within general education at each of the early elementary grades (K-3)? These data provide information on how general education is serving students at risk for or with reading difficulties and provide information on some of the resources schools have in place for general education interventions.

## Method

### Participants

To identify participants, we randomly selected 1666 public elementary schools stratified by school district or county in the state of Florida (each county represents one school district in Florida). Thus, we oversampled schools within each county to ensure a sufficient number of responses estimating a 20% response rate. We then sent the survey via email to the 8,969 teachers listed as teaching kindergarten, first, second, or third grade at the school. A total of 1,142 emails bounced back as “no user found” or with replies that the teacher was no longer teaching reading at the K-3 level. Thus, a total of 7,827 teachers received the survey with a total of 1,759 teachers consenting and responding (22.5% response rate). Participation was voluntary and no incentives were offered. However, 717 responders provided only partial responses or data that appeared inaccurate due to contradictions in the responses through

checks built into the survey questions and, thus, their responses were not analyzed. As a result, a total of 1,042 responses were analyzed and are reported here. There were no differences in the partial responses of the 717 partial responders and the matching responses for the final sample of 1,042 full responders. The respondents represent 413 elementary schools (22% of elementary schools in Florida) in 42 districts/counties (63% of districts).

Characteristics for the final sample of respondents are provided in Table 1. The sample included 266 (25.5%) kindergarten, 267 (25.6%) first grade, 248 (23.8%) second grade, 237 (22.7%) third grade teachers, and 24 (2.3%) multi-level classroom teachers. We also collected demographic data on the schools where teacher respondents were currently working to examine the representativeness of the sample to schools in the state. Five hundred ten respondents (48.9%) indicated they worked in Title I schools. The state of Florida “grades” schools yearly based on state performance standards. Seven hundred one (67.3%) of teacher respondents were employed at A schools at the time of the survey with 156 (15.0%) at B schools, 128 (12.3%) at C schools, and 10 (1.0%) at D or F schools. There was no school grade available for the schools employing 47 of the respondents. These demographics are representative of all schools in the state of Florida (57.4% Title I; 55% A Schools; 19% B Schools; 20% C schools; 7 percent D or F schools).

## Survey

Participants completed an investigator-developed survey. The purpose of the survey was to collect information regarding the characteristics and intensity of reading interventions offered through general education for students with reading difficulties. The survey was developed through a three-step process. First, relevant questions were drafted and reviewed by both authors. Second, a critical systematic review of the questions was conducted using checklists of standards for question characteristics provided by Fowler (1996; 2002). As part of the critical review, a researcher who provides training in reading interventions across the state of Florida examined the questions and provided feedback on wording and areas of intervention implementation that helped to inform question selection and answer choices. The survey was then revised based on the information. Third, cognitive interviews were conducted with the revised survey. Cognitive interviews are designed to ensure the survey questions can be consistently understood and answered by the targeted population. Three elementary teachers participated in individual cognitive interviews. The teachers were each asked to take the survey while thinking aloud about the question and their answers. These cognitive interviews provided information on how respondents might interpret the specific words in the questions and answers and whether these interpretations were different than the intended purpose of the question or answer. After each cognitive interview, survey questions were revised if necessary. During the cognitive interviews we looked for consistent understanding of the questions and accurate answers that matched the information respondents shared regarding intervention implementation. When understanding or answering was not in line with the purpose of the question, we elicited additional information from the respondent to assist in revising the question.

The final survey consisted of a total of 24 closed questions with 8 questions related to characteristics of the respondent or school of employment (e.g., Is your school receiving Title I funds?), 4 questions designed to assist respondents in identifying students receiving general education interventions (e.g., How many students are currently receiving special education services for reading? school-based reading intervention other than special education services?), and 12 questions addressing the characteristics of general education interventions (e.g., How many students (receiving school-based reading intervention other than special education services) are receiving intervention for 1 session per week? 2 sessions per week? 3 sessions per week? 4 sessions per week? 5 sessions per week?). Open-ended

fields were included only to further clarify respondent answers of “other” and to allow additional comments at the end of the survey.

## Procedure

All potential participants were sent an email with a link to the consent form. Once the participant consented they were redirected to the survey questions. The survey was set up such that only one respondent per email link could provide answers. After 2 weeks, a reminder email was sent to all potential participants. A second reminder email was sent an additional 2 weeks later. The survey was available online for a total of 6 weeks. Data for each question were then analyzed descriptively to address the research questions. In addition, chi-square analyses were conducted to examine differences in intervention implementation by grade level. Due to the large number of analyses, we applied a modified Bonferroni correction for multiple chi-square tests (Keppel, 1991), correcting for the number of chi-square tests and the degrees of freedom, and set the alpha level at .03. When a significant chi-square was noted, standardized residuals were used to determine the cells (i.e. grade level) with frequencies significantly different than expected.

## Results

Teachers reported a mean of 18.43 students in their classrooms (range = 10-35; mode = 18) with a mean of 5 students (mean of 27.54% of students in classes) below grade level in reading. Of these students, teachers reported a mean of 4.64 students receiving supplemental intervention through general education. Table 2 presents the results for the number and percent of teachers indicating they have students in their class receiving the specific intervention features.

### Time in Intervention

Figure 1 displays the results for the number of times per week that interventions are occurring as well as the amount of time per intervention session. Teacher respondents reported that supplemental interventions often occur daily with 58% of teachers indicating they have students in their class who receive supplemental interventions 5 times per week. Chi-square analyses indicated that there were no differences between grade levels in the proportion of teachers reporting interventions occurring for 1, 2, 3, 4, or 5 sessions per week.

More than half of the classrooms have students receiving interventions for 21-30 min per session and 47% have students receiving interventions for 10-20 min. While the proportion of teachers reporting interventions of 21-30 ( $p = .337$ ) and 41-50 ( $p = .052$ ) min was similar across grade levels, chi-square analyses indicated a significant difference between grade levels for the proportion of teachers reporting interventions occurring at 10-20 ( $p = .002$ ), 31-40 ( $p = .008$ ), and 51 or more min ( $p < .001$ ). Significantly more kindergarten teachers reported interventions of 10-20 min than other grade levels. In addition, significantly more third grade teachers reported interventions occurring for 31-40 min and for 51 or more min than other grade levels.

### Instructional Group Size

Figure 2 presents the results for the instructional group size employed in reading interventions. Small groups of 2-3 (45% of classrooms) or 4-5 (46% of classrooms) students were reported by the most teachers. In addition, 32% of the teachers reported interventions occurring with one instructor and one student. Chi-square analyses indicated no significant differences in the proportion of teachers at each grade level reporting students in

instructional group sizes of 1 ( $p = .843$ ), 2-3 ( $p = .047$ ), 4-5 ( $p = .482$ ), 6-7 ( $p = .043$ ), and more than 7 students ( $p = .072$ ).

### Location and Implementer for Interventions

Figure 3 displays the results for the location of interventions implemented and the person providing the reading interventions. Nearly three-quarters of the classrooms (74%) reported having students who received supplemental interventions in the classroom. More than half the classrooms also reported having students who received interventions outside of the classroom. Chi-square analyses demonstrated a significant difference in the proportion of teachers at each grade level reporting on interventions in and out of the classroom ( $p = .002$ ). At the kindergarten level, significantly fewer teachers reported having students receive interventions occurring outside of the classroom.

Similar to the number of reading interventions occurring in the classroom, 73% of the teachers reported being the provider of reading interventions. Only 34% of teachers indicated they had students who were receiving a reading intervention from a reading intervention teacher or specialist while 42% of the teachers indicated some students were receiving intervention from a paraprofessional or instructional assistant. There were no significant differences across grade levels in the proportion of teachers reporting interventions provided by the classroom teacher ( $p = .283$ ), volunteers/parents ( $p = .081$ ), or other instructors ( $p = .358$ ). However, chi-square analyses indicated significant differences in the proportion of teachers at each grade level reporting students in interventions provided by reading intervention teachers ( $p < .001$ ), other teachers ( $p = .002$ ), and paraprofessionals ( $p < .001$ ). Significantly more third grade teachers reported students with interventions provided by reading intervention teachers. Significantly more kindergarten teachers reported interventions provided by paraprofessionals while fewer kindergarten teachers reported interventions provided by reading intervention teachers in comparison to 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> grade teachers. In fact, 59% of kindergarten teachers reported interventions provided by persons in positions where certification is not required.

### Intervention Materials

In terms of materials for the interventions, most teachers responding to the survey indicated they had students in their classrooms receiving interventions with published intervention programs (60%). More than half of the teachers (57%) reported that homework or reteaching of skills from the core classroom program made up the intervention program for some students. Significantly more kindergarten teachers responded that students receive interventions developed by the teacher ( $p = .001$ ). Teachers indicated that materials/programs for intervention are selected through a variety of methods with 40% of the teachers noting that the chosen intervention materials are selected through a combination of methods including the person providing the intervention selecting the program from those available at the school or district, the person providing the intervention develops a program for the student, and the intervention program matching the core program is selected.

### Intervention Decision-Making

The large majority of teachers also indicated a combination of information was used to make decisions regarding entry into (81%) and exit (75%) out of supplemental interventions. These decisions were most commonly based on students demonstrating failing/passing grades in reading, scoring below/above level on assessments, and teacher recommendation.

Similarly, a large majority of teachers (83%) indicated they were either extremely or somewhat informed about students' progress in interventions. Analyses suggested that significantly more kindergarten teachers answered neutral for the question addressing how

informed they are about student progress in the intervention. There were no other significant differences across grade levels in the proportion of teachers indicating the various levels of being informed. In addition, 74% of teachers reported they were extremely or somewhat confident that students were receiving the support they needed in reading. There were no significant differences in the confidence levels of teachers across the grade levels.

## Discussion

The purpose of this study was to examine the characteristics of early reading interventions (K-3) currently being implemented in general education for students with reading difficulties. Teachers in one state nearing a mandate for RTI implementation were surveyed about the characteristics of the supplemental reading interventions their students were receiving through general education. The findings provide insight into the resources utilized by schools to provide these interventions.

Overall, teachers reported relatively small class sizes of approximately 18 students. This class size aligns with state requirements for K-3 grades to include no more than 18 students. However, the state requirement is being phased in and had not taken full effect when this survey was implemented, thus some larger class sizes were reported. Teachers also reported an average of about 4 students in the classroom receiving supplemental reading interventions through general education. Thus, it appears that schools are currently providing reading intervention to about 20% of their population which is in line with estimates of the percentage of students who may need intervention after receiving effective classroom reading instruction in an RTI model (Harn, Kame'enui, & Simmons, 2007).

## Intervention Intensity

**Time in interventions**—Gersten et al. (2008) found strong evidence in the existing literature on RTI for the recommendation to provide intensive, systematic instruction in small groups to students who are below grade level in reading. The authors recommended intervention implementation 3-5 times per week for approximately 20-40 min (Gersten et al.). Our data suggest that interventions are being implemented in the schools according to these guidelines. We found daily interventions were occurring in the highest number of classrooms with each grade level reporting similar information on the frequency of intervention implementation.

Teachers in this study reported the interventions were most commonly provided with session lengths of 21-30 min. However, the amount of time provided for intervention did differ by grade level. More kindergarten teachers reported having students in their class receiving intervention for shorter amounts of time while more third grade teachers reported having students in interventions for longer amounts of time. Kindergarten reading interventions are likely to be more focused on the basic skills of phonological awareness, phonics, and beginning word recognition with application to short text, and students are likely to need fewer skill gains to meet grade level expectations. Thus, teachers may be able to accomplish the required instruction and practice in a shorter amount of time. In addition, shorter amounts of time may be more appropriate for keeping students at kindergarten age engaged. In contrast, students in third grade are likely to remain engaged for longer periods of time, have more advanced skills to work with lengthier text, and may have more needs than students at risk or with reading difficulties in the younger grade levels. It is also possible that schools are providing longer interventions in third grade due to the state reading outcome tests that begin at this grade level.

An increase in time in intervention is one way to increase the intensity of interventions for students who are not responding to previous models (Torgesen, 2001; Vaughn et al., 2003).

The data suggest these schools seem to have some systems already in place to provide more intensive interventions in later grade levels when students may show more significant reading difficulties after not responding to previous intervention.

**Instructional group size**—Another way to increase the intensity of intervention is to decrease instructional group size (Torgesen, 2001). Teachers most commonly reported having students receiving supplemental reading interventions in small groups of 2-5 students. While this group size is aligned with IES practice guidelines for interventions for students struggling with reading in the primary grades (Gersten et al., 2008), there was no difference reported between grade levels in the proportion of large group, small group, and 1:1 instruction provisions reported. Thus, there does not appear to be an overall increase in intensity of general education interventions through smaller group sizes as the grade levels increase. As students increase in grade level, the students demonstrating insufficient response to previous intervention may need more intensive interventions to meet their needs. Although the increase in time in intervention in third grade was noted above, many of these schools may not have sufficient resources already in place to provide more intensive interventions through the use of smaller group sizes.

### Intervention Providers

Personnel resources can be a challenge for schools when implementing supplemental interventions. Seventy-three percent of the classroom teacher respondents indicated they are providing supplemental interventions to students who are in their classroom. This finding is likely related to the finding that 73% of the teacher respondents indicated they have students in interventions that occur inside the classroom.

There were no differences found between grade levels in the proportion of teachers indicating they are the providers of supplemental reading interventions. Like many states and school districts, the state of Florida has been through several rounds of budget cuts in recent years and this finding may be an effect of fewer resources for reading intervention implementation.

One problem with such a high number of interventions being provided by classroom teachers is the need for the teacher to manage instructional activities for other students in the class while also providing the supplemental interventions. It is imperative that meaningful learning activities are available for students not in the interventions and that management of these activities does not lessen the quality of the interventions being provided. Also, scheduling a reading intervention in addition to core reading instruction in the classroom may be challenging for classroom teachers and could lead to teachers shortening the core reading instruction provided to all students in order to find time to provide the supplemental reading interventions for the students with reading difficulties. These areas of concern would need to be monitored in an RTI implementation.

On the other hand, RTI certainly does not require the implementation of pull-out interventions for effectiveness. Interventions provided by the classroom teacher could increase the alignment of core instruction and intervention instruction and may assist teachers in better following student progress during intervention. In this survey, three-quarters of the teacher survey respondents did indicate they feel as though students are receiving what they need in reading intervention.

There were differences between grade levels in the proportion of teachers reporting providers of intervention other than the classroom teacher. Third grade teachers were significantly more likely to report having students receiving interventions provided by reading intervention teachers. It may be that schools have allocated these limited resources



to the third grade level due to seeing more needs at this grade level, or due to the high stakes testing that begins in third grade.

In contrast, significantly more kindergarten teachers reported having students in their classrooms receiving interventions from paraprofessionals. It may be that schools and teachers are more comfortable having paraprofessionals provide interventions to students with limited reading difficulties and implementing more basic skill instruction. It is also common for kindergarten classrooms to include a part-time or full-time paraprofessional and, thus, this finding may be a result of more access to the resource of a paraprofessional than in the older grades. The IES practice guide for RTI intervention implementation indicates that the research evidence supports intervention provided by non-certified teachers (Gersten et al., 2008). However, the training that the paraprofessionals receive for implementing interventions would need to be monitored in an RTI implementation.

### **Preparedness for RTI Implementation in Reading**

Overall, the schools in this study appear to have the resources already in place to provide small group supplemental intervention, 20-40 min a session, 3-5 times per week for approximately 20% of their population with reading difficulties. RTI implementation does require resources for increasing the intensity of interventions for students who continue to struggle and these schools may need additional resources to provide intervention for longer periods of time and in smaller groups to meet student needs through the grade levels. Given the high number of interventions provided by classroom teachers, it will be important for the schools to carefully follow the scheduling of these interventions, the fidelity of the interventions, and student progress as RTI is implemented to ensure effective instruction and student learning in the general classroom is not interrupted by the implementation of these reading interventions.

### **Limitations**

This study examined the features of supplemental general education interventions being implemented in K-3 through a teacher survey. The instructional content of the interventions was not examined. Thus, the findings provide information regarding current characteristics of general education intervention implementation that are related to intensity and allocation of resources, but we cannot provide information on the quality of intervention instruction that is being implemented. In addition, the survey did not yield detailed information on how decisions are made for individual students regarding intervention implementation. For example, the use of data and student response to instruction is important not only in determining a need for intervention, but also for determining the intensity of intervention provided. While we see some differences in intensity of intervention from these data, we do not know how decisions are made to provide a more intense intervention for a particular student.

The survey yielded a low response rate overall. However, given the historically low rate of return for internet surveys, we anticipated the low rate and oversampled so that the return rate would yield an adequate sample of teachers, schools, and districts. In addition, our sample matched basic characteristics of all elementary schools in the state suggesting the sample yielded a representative sample.

The survey was conducted one year prior to state-mandated implementation of RTI practices for all schools. Although we can provide information regarding the interventions in place at the time of the survey, we do not have comparable data of the interventions implemented under RTI (and whether significant changes occurred). Examining the changes in school intervention implementation as RTI models are used needs further research. Additionally,

these data rely on teacher report of current practices for their students. This type of data collection could introduce error into the data because we did not conduct observations to confirm the teacher reports of intervention implementation.

Despite these limitations, this study provides initial information on the levels of intervention that general education provides for students with reading difficulties. The overall amount of time, frequency, group size, and providers are in line with recommendations from IES regarding intervention implementation (Gersten et al., 2008). Nevertheless, the large amount of interventions being provided by the classroom teacher in the classroom may need to be further examined within an RTI model to ensure effective core instruction is in place along with the appropriate intensity of supplemental intervention to meet student needs. Future research is also needed to assess the generalizability of the findings reported here from one state. While the need for research on effective reading interventions is continuous, it is ultimately the interventions that are actually implemented in schools that make a difference in children's lives and thus, it is important that we continue to be mindful of typical practice in the schools and generate ways to support schools' efforts given the school context and the resources available.

## Acknowledgments

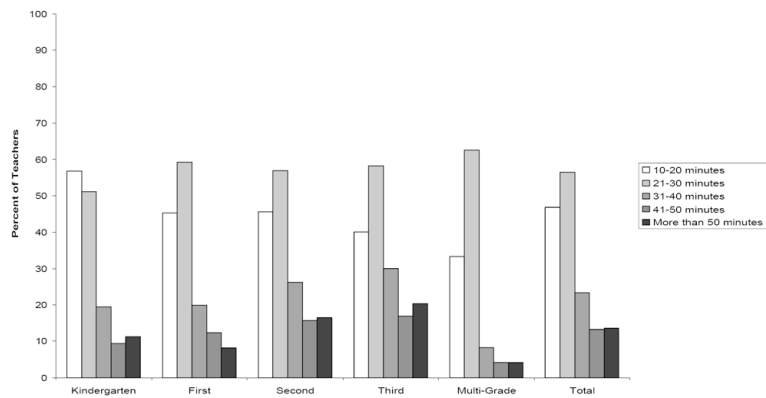
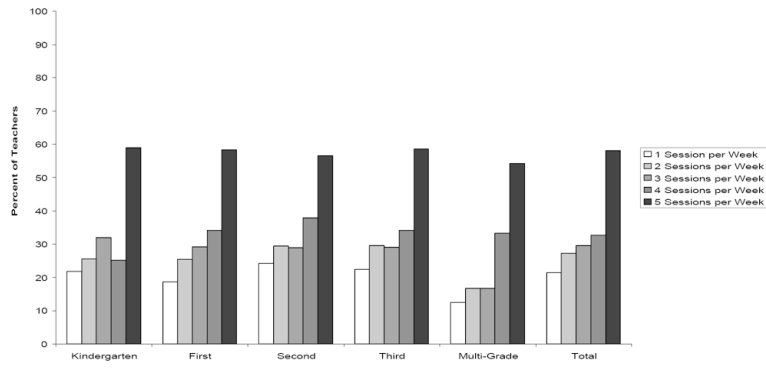
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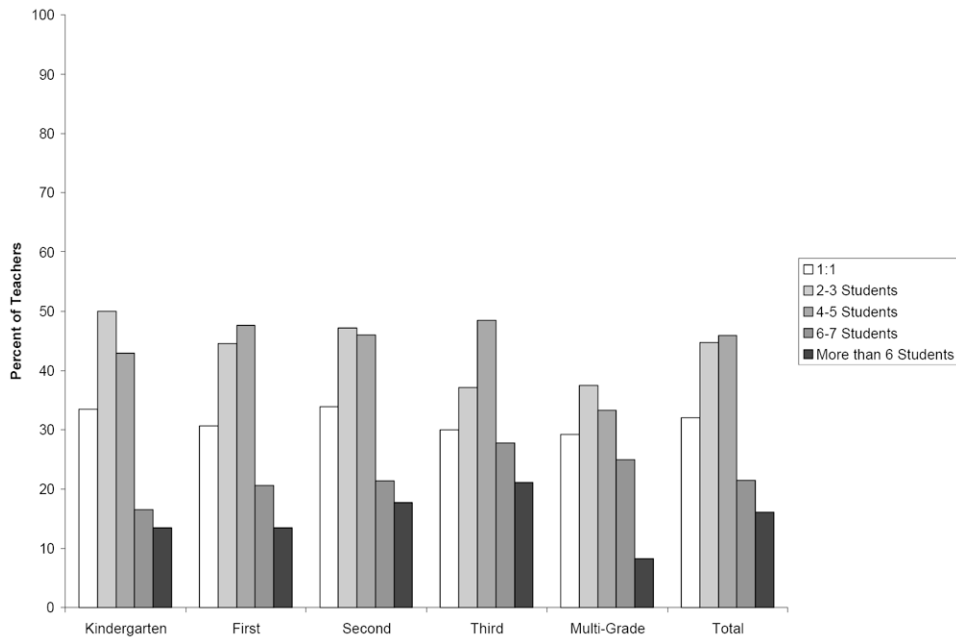
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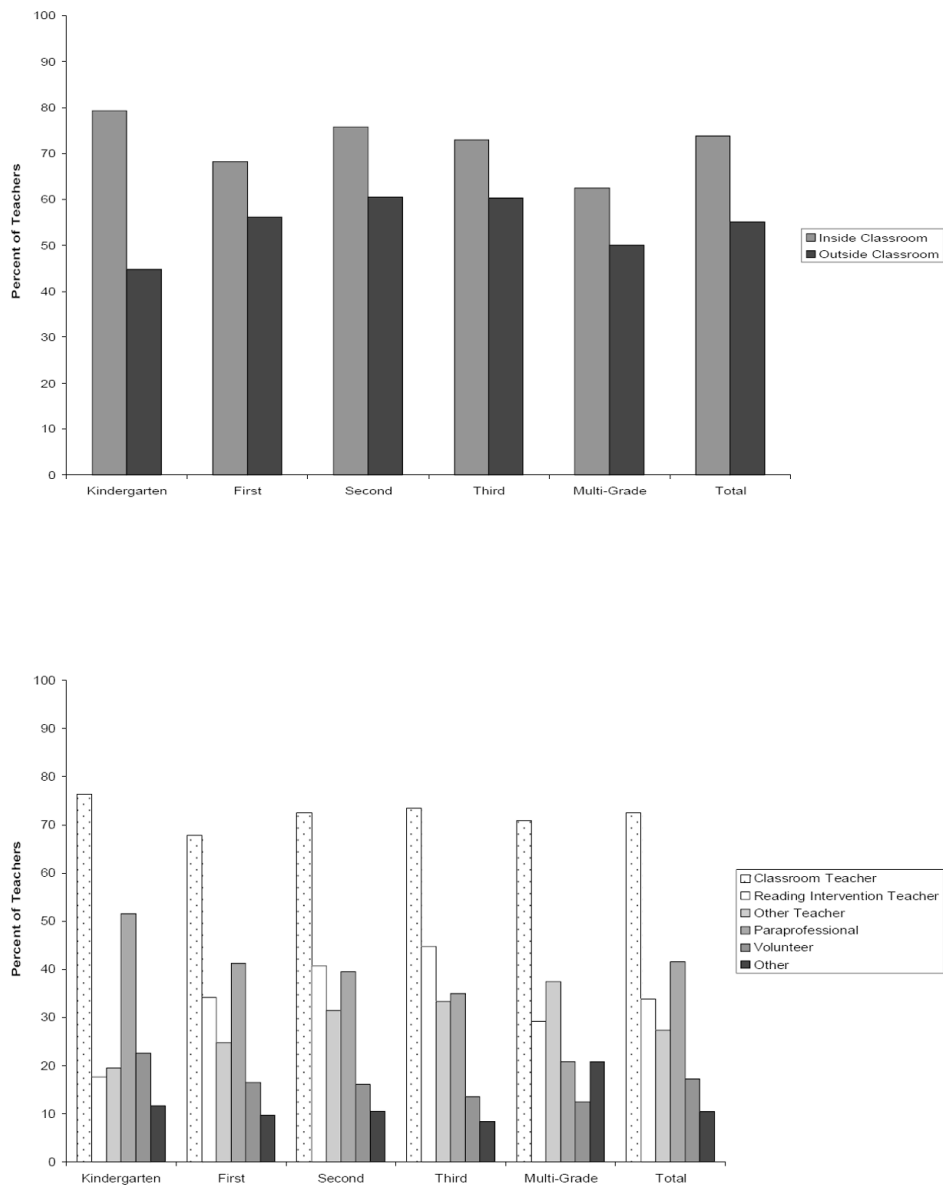
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**Figure 1.** Percent of teachers reporting students in interventions by number of sessions per week (Panel a) and minutes per session (Panel b).



**Figure 2.** Percent of teachers reporting students in interventions by instructional group size.



**Figure 3.** Percent of teachers reporting students in intervention by location (Panel a) and intervention provider (Panel b).

Table 1

Characteristics of Respondents

Grade Level	Title I School <sup>a</sup>	School Size <sup>b</sup>			School Grade <sup>c</sup>			
		3 or fewer classes per grade	4 or more classes per grade	A	B	C	D or F	
Kindergarten ( <i>n</i> = 266)	142 (53.4%)	43 (16.2%)	222 (83.5%)	175 (65.8%)	51 (19.2%)	29 (10.9%)	4 (1.5%)	
First Grade ( <i>n</i> = 267)	136 (50.9%)	40 (15.0%)	227 (85.0%)	171 (64.0%)	40 (15.0%)	38 (14.2%)	2 (.7%)	
Second Grade ( <i>n</i> = 248)	110 (44.4%)	36 (14.5%)	211 (85.1%)	176 (71.0%)	29 (11.7%)	28 (11.3%)	2 (.8%)	
Third Grade ( <i>n</i> = 237)	108 (45.6%)	33 (13.9%)	203 (85.7%)	164 (69.2%)	33 (13.9%)	28 (11.8%)	2 (.8%)	
Multi-Grade ( <i>n</i> = 24)	14 (58.3%)	8 (33.3%)	16 (67%)	15 (62.5%)	3 (12.5%)	5 (20.8%)	0	
Total ( <i>n</i> = 1042)	510 (48.9%)	160 (15.4%)	879 (84.4%)	701 (67.3%)	156 (15.0%)	128 (12.3%)	10 (1.0%)	

<sup>a</sup> 54 (5.2%) respondents indicated they were unsure whether their school was receiving Title I funds.

<sup>b</sup> 3 respondents did not indicate the number of classrooms per grade at their school.

<sup>c</sup> Grades were not available for 47 of the respondents.



**Table 2**  
 Number and Percent of Teachers Reporting Students in Types of Intervention by Grade Level

Intervention Feature	Kindergarten (n = 266)	First (n = 267)	Second (n = 248)	Third (n = 237)	Multi-grade (n = 24)	Total (n = 1042)
<b>Sessions</b>						
1	58 (21.8%)	50 (18.7%)	60 (24.2%)	53 (22.4%)	3 (21.5%)	224 (21.5%)
2	68 (25.6%)	68 (25.5%)	73 (29.4%)	70 (29.5%)	4 (16.7%)	283 (27.2%)
3	85 (32.0%)	78 (29.2%)	72 (29.0%)	69 (29.1%)	4 (16.7%)	308 (29.6%)
4	67 (25.2%)	91 (34.1%)	94 (37.9%)	81 (34.2%)	8 (33.3%)	341 (32.7%)
5	157 (59.0%)	156 (58.4%)	140 (56.5%)	139 (58.6%)	13 (54.2%)	605 (58.1%)
<b>Minutes</b>						
10-20	151 (56.8%)	121 (45.3%)	113 (45.6%)	95 (40.1%)	8 (33.3%)	488 (46.8%)
21-30	136 (51.1%)	158 (59.2%)	141 (56.9%)	138 (58.2%)	15 (62.5%)	588 (56.4%)
31-40	52 (19.5%)	53 (19.9%)	65 (26.2%)	71 (30.0%)	2 (8.3%)	243 (23.3%)
41-50	25 (9.4%)	33 (12.4%)	39 (15.7%)	40 (16.9%)	1 (4.2%)	138 (13.2%)
51+	30 (11.3%)	22 (8.2%)	41 (16.5%)	48 (20.3%)	1 (4.2%)	142 (13.6%)
<b>Group Size</b>						
1:1	89 (33.5%)	82 (30.7%)	84 (33.9%)	71 (30.0%)	7 (29.2%)	333 (32.0%)
2-3	133 (50.0%)	119 (44.6%)	117 (47.2%)	88 (37.1%)	9 (37.5%)	466 (44.7%)
4-5	114 (42.9%)	127 (47.6%)	114 (46.0%)	115 (48.5%)	8 (33.3%)	478 (45.9%)
6-7	44 (16.5%)	55 (20.6%)	53 (21.4%)	66 (27.8%)	6 (25.0%)	224 (21.5%)
7+	36 (13.5%)	36 (13.5%)	44 (17.7%)	50 (21.1%)	2 (8.3%)	168 (16.1%)
<b>Location</b>						
In Class	211 (79.3%)	182 (68.2%)	188 (75.8%)	173 (73.0%)	15 (62.5%)	769 (73.8%)
Out of Class	119 (44.7%)	150 (56.2%)	150 (60.5%)	143 (60.3%)	12 (50.0%)	574 (55.1%)
<b>Provider</b>						
Class Teacher	203 (76.3%)	181 (67.8%)	180 (72.6%)	174 (73.4%)	17 (70.8%)	755 (72.5%)
Read Teacher	47 (17.7%)	91 (34.1%)	101 (40.7%)	106 (44.7%)	7 (29.2%)	352 (33.8%)
Other Teacher	52 (19.5%)	66 (24.7%)	78 (31.5%)	79 (33.3%)	9 (37.5%)	284 (27.3%)
Paraprofessional	137 (51.5%)	110 (41.2%)	98 (29.5%)	83 (35.0%)	5 (20.8%)	433 (41.6%)
Volunteer	60 (22.6%)	44 (16.5%)	40 (16.1%)	32 (13.5%)	3 (12.5%)	179 (17.2%)
Other	31 (11.7%)	26 (9.7%)	26 (10.5%)	20 (8.4%)	5 (20.8%)	108 (10.4%)