



# Implementing Evidence-Based Reading Practices in K–3 Classrooms

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**Abstract** Rigorous reviews of reading research over the past 2 decades agree on evidence-based practices in K–3 classrooms. Yet results from the National Assessment of Educational Progress (NAEP) show that about one-third of the nation’s 4th graders are proficient in reading—an inadequate percentage for a nation that demands a literate citizenry and workforce. The first objective of this article is to provide an overview of the evidence-based reading practices recommended in K–3 instruction based on systematic reviews and meta-analyses of classroom instruction and intervention studies. The second objective is to provide a brief overview of essential features of multitiered systems of support for implementing evidence-based reading interventions in grades K–3. The third objective is to provide resources to help practitioners implement evidence-based literacy instruction in primary grade classrooms and in intervention settings.

**Keywords** Reading instruction · Reading intervention · Reading resources · Literacy instruction · Literacy intervention

With only about one-third of the nation’s 4th graders at or above proficient on the National

Assessment of Educational Progress (NAEP; National Center for Educational Statistics 2019) and with the increasing literacy demands of the workforce, it is imperative that reading instruction in K–3 classrooms pullout interventions improve. Educators know how to do this: there are consensus documents (Castles et al. 2018; National Research Council 1998; RAND Reading Study Group 2002; Rayner et al. 2001) and recent rigorous systematic reviews of the evidence base (e.g., Baker et al. 2014; Foorman et al. 2016a; Gersten et al. 2017b; National Institute of Child Health and Human Development [NICHD] 2000). What is needed is the political will and belief in scientific evidence to implement empirically validated instructional practices in the classroom and intervention settings. The focus here is on K–3 reading instruction and intervention because the impacts are strongest in the primary grades (e.g., Foorman and Wanzek 2015; Gersten et al. (2017a). First, we will provide an overview of the evidence base for K–3 classroom reading instruction and intervention and point out systemic implementation issues. Second, we will present resources developed by the Florida Center for Reading Research (FCRR), the Regional Educational Laboratory (REL) Southeast, and national centers to assist practitioners in implementing evidence-based reading practices in K–3 classrooms and interventions. Some resources for prekindergarten are provided as well because the REL Southeast is working to update the National Early Literacy Panel report with a systematic review of language

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and literacy instruction in classrooms with 3- and 4-year-olds.

### Evidence-Based Instructional Practices for K–3 Classroom Reading Instruction

Consensus documents on reading emphasize the importance of print knowledge—phonemic awareness, knowledge of letter names and sounds, word reading, and decoding fluency—to reading comprehension (NICHD, 2000; National Research Council 1998; RAND Reading Study Group 2002; Rayner et al. 2001). However, these documents underemphasize the importance of oral language skills to understanding the written language of text, which consists of such linguistic features as less frequent and disciplinary-specific vocabulary, complex grammatical structures, anaphora, nominalizations, and discourse connectives (Snow 2010). Research has demonstrated that children who enter kindergarten from families of higher socioeconomic status have stronger oral language skills than children who do not (e.g., Hart and Risley 1995). Research also shows that quality preschool programs can accelerate the language development of 3- and 4-year-olds so that the language gap can be reduced (e.g., Campbell et al. 2001). Finally, measures of oral language uniquely predict as well as share variance with decoding in predicting reading comprehension (e.g., Foorman et al. 2018a), meaning that decoding measures predict reading comprehension when the word's pronunciation is linked to a semantic representation.

Thus, it is not surprising that the practice guide from the What Works Clearinghouse (WWC) on foundational reading skills (Foorman et al. 2016a) begins with a recommendation to teach academic language, which has been defined as “the specialized language, both oral and written, of academic settings that facilitates communication and thinking about disciplinary content” (Nagy and Townsend 2012, p. 92). The four recommendations from the guide are:

- Teach students academic language skills, including the use of inferential and narrative language, and vocabulary knowledge. In intervention settings this means combining instruction on reading skills with instruction on academic language skills so that students will understand the meaning of the words, sentences, and text they read. For example, when a

kindergarten teacher is reading a book about wild cats, she might ask about ways that wild cats are different from pet cats. When a child responds, “You can't pet them,” the teacher might ask the child to put the question and response together so that the child says, “Wild cats seem wild because you can't pet them” and then may add more detail such as “. . . and they don't eat cat food and don't live inside.”

- Develop awareness of the segments of sounds in speech and how they link to letters. This includes phonemic awareness and knowledge of letter names and sounds. In intervention settings, explicitly teach students to segment syllables, onset-rimes, and phonemes in spoken words and how these units of sound correspond to letters. At the same time, teach the distinctive features of letters so that students can distinguish one letter from another. Teachers can use Elkonin sound boxes to have students demonstrate letter-sound knowledge by first moving tokens into boxes to represent one-to-one relationships such as /b/, /a/, /t/ for /bat/ and then moving letters into three boxes to represent *bat*.
- Teach students to decode words, analyze word parts, and write and recognize words. This means that in classroom instruction and in interventions students are taught sound-spelling patterns and morphological elements such as prefixes and suffixes. As students are taught to decode words, teach them to encode (i.e., spell) the words so that they can recognize them quickly and use them in their writing. Teachers can use the Elkonin sound boxes described above to introduce many-to-one relationships by asking students to move multiple letters into a single box to represent one sound (e.g., *b-ai-t* for /bait/, *sh-ou-t* for /shout/, or *m-igh-t* for /might/) or introduce silent letters which do not have a box, such as the “silent *-e* in /make/ and the “silent *k-* “in /knee/. To promote a word-analysis strategy, teachers can have students circle the morphemes in multisyllabic words (e.g., unhappiness) and underline other vowels.
- Ensure that each student reads connected text every day to support reading accuracy, fluency, and comprehension. Selection of text for classroom instruction will vary depending on the instructional purpose and students' reading ability. In intervention settings, select instructional-level texts that allow students to practice accurate decoding and encoding, and reread the texts to build fluency. For students

with serious comprehension difficulties, select texts that are clearly written, well-organized, and ideally about topics familiar to students. Students can also be prompted to use their word-reading strategies. For less advanced readers, teachers can say “Look for parts you know,” or “Sound it out. Check it! Does it make sense?” For more advanced readers, teachers can say “You know this word part. Say this part. Now read the whole word.”

### Implementing Evidence-Based Reading Practices in K–3 Classrooms

There are many challenges to implementing evidence-based reading practices at the state, district, and school levels. Rigorous review of district reading plans and instructional materials helps put a systemic plan in place for holding schools accountable for quality instruction (Foorman et al. 2016b). Implementing evidence-based reading practices within a Response-to-Intervention (RtI) and multi-tiered system of support (MTSS) can help ensure successful implementation at the school level. Coyne et al. (2016) identified eight essential features of RtI/MTSS K–3 reading: (1) a commitment to quality K–3 reading instruction as a school’s top priority; (2) a school-wide reading improvement plan; (3) a school literacy leadership team; (4) a comprehensive literacy assessment system to inform decisions about reading instruction or intervention; (5) high quality classroom reading instruction for all students; (6) evidence-based, supplemental, intensive reading intervention for students at risk for reading difficulties (tiers 2 and 3); (7) ongoing coaching and targeted professional development to support administrator and teacher knowledge of reading research, practices, and systems; and (8) a parent engagement program.

Complementing the academic focus of RtI/MTSS is the social and behavioral focus of School-Wide Positive Behavioral Interventions and Supports (SWPBIS; McIntosh and Goodman 2016). Whereas RtI is a framework for using assessment data for improving student outcomes through multiple tiers of evidence-based instruction (i.e., MTSS), SWPBIS is a framework for applying RtI/MTSS principles by creating formal systems of behavioral support for all students at the

classroom and school levels (Sugai and Horner 2009). The RtI/MTSS framework evolved out of special education’s desire to design alternative ways to identify students with learning disabilities and to improve their academic outcomes. In contrast, SWPBIS evolved from applied behavior analysis, positive behavior support, organizational behavior management, community health, and implementation science (Horner et al. 2010).

Results of experimental studies show that SWPBIS is associated with reductions in problem behaviors such as office discipline referrals, suspensions and expulsions, truancy, and bullying, and improved social emotional competence, organizational efficiency, and perceptions of safety (see Horner and Sugai 2015, for a summary). In two large-scale studies, well-implemented SWPBIS was related to improved academic outcomes in reading (Horner et al. 2009) or both math and reading (Pas and Bradshaw 2012). However, another well-implemented, longitudinal, large-scale study found that although SWPBIS significantly reduced suspensions and office discipline referrals, it did not affect reading or math achievement (Bradshaw et al. 2010).

The parallel evolutions of RtI/MTSS and SWPBIS indicate that reading interventions that combine an emphasis on academics *and* behavior make good sense (Lane et al. 2015; McIntosh et al. 2006). Many researchers note that improved early reading skills are associated with decreased disruptive behavior in the classroom (e.g., Blair and Razza 2007; Kellam et al. 1994; Lane et al. 2002). Hagan-Burke et al. (2011) examined this association by conducting moderator analyses on their data from a reading intervention with 206 kindergarten students in 12 schools. They found that explicit, code-based reading intervention moderated the negative impact of externalizing problem behavior and the influence of hyperactivity on end-of-year reading measures. In a randomized study of reading tutoring for K–2 students at academic and behavioral risk, researchers found that for students with the dual risk of reading and behavior problems, individual reading tutoring enhanced reading skills and led to increases in engagement in classroom instruction (Gest and Gest 2005). Finally, in a single-subject design, two students identified with behavioral disorders increased their time on task during reading instruction after participating in a preteaching intervention (Beck et al. 2009).

## Resources and Tools to Improve K–3 Reading Instruction

There are evidence-based tools and resources to assist practitioners in implementing quality K–3 reading instruction in classrooms and in intervention settings. First, the What Works Clearinghouse (WWC; <https://ies.ed.gov/ncee/wwc/>) conducts systematic reviews of reading programs and makes instructional recommendations in practice guides. The foundational reading skills practice guide is one of seven literacy practice guides available from the WWC. Other WWC literacy practice guides focus on reading comprehension and writing skills for younger learners, adolescent literacy and writing for older learners, and Response-to-Intervention (RTI) and English learner instruction for special populations.

Second, popular reading instructional materials for grades K–3 are available for free on the Florida Center for Reading Research (FCRR) website (<http://www.fcrr.org/curriculum/SCAindex.shtm>). These resources consist of lesson plans and complete materials on phonemic awareness, phonics, vocabulary, and comprehension to assist teachers in differentiating instruction in classroom or intervention settings.

Third, the Regional Educational Laboratory (REL) Southeast has many literacy tools and resources on its website, including an Ask-a-REL service where a practitioner can submit a research question and the REL Southeast staff will research the answer and provide a written response (<http://ies.ed.gov/ncee/edlabs/regions/southeast>).

Links to the REL Southeast literacy tools and resources have been compiled into an infographic focused on school improvement ([www.fcrr.org/literacyroadmap](http://www.fcrr.org/literacyroadmap)). The roadmap helps educators at the state and local levels understand the importance of utilizing evidence-based practices. It guides the selection of evidence-based instructional materials and strategies and assists in planning for and evaluating implementation on an ongoing basis.

Specific tools and resources in the literacy roadmap that practitioners have found particularly helpful when implementing evidence-based literacy instruction in grades K–3 are:

1. Professional learning community (PLC) materials and videos for implementing the recommendations in the foundational reading skills practice guide ([www.fcrr.org/plc](http://www.fcrr.org/plc)). The PLC materials are user-friendly and the videos depict teachers utilizing the recommendations in their classrooms. North Carolina State University's Friday Institute has integrated the PLC materials into a MOOC-Ed (<https://place.fi.ncsu.edu/local/catalog/course.php?id=15>).
2. Self-study guide for implementing early literacy interventions (<https://ies.ed.gov/ncee/edlabs/projects/project.asp?projectID=4520>). This guide resulted from a study of the impact of two literacy interventions in grades K–2 (Foorman et al. 2018b) and the recognition that a practitioners' guide to rate their readiness to implement effective early literacy interventions was needed. For example, questions such as "How do we determine in which components of reading are my students struggling?" "How do we determine which students to serve in intervention and where to serve them (in small groups in the classroom or in pullout intervention)?" "How do we determine how many minutes of intervention to schedule?" are asked as a guide for providing interventions that will support students in a variety of settings. Sample bell schedules that maximize intervention times during the school day are provided in the appendix.
3. Summer reading camp self-study guide (<https://ies.ed.gov/ncee/edlabs/projects/project.asp?projectID=463>). Many states require that students who do not achieve proficiency standards on the 3rd-grade ELA test attend summer reading camp as an intervention. This self-study guide assists practitioners in planning implementation of summer reading camps by rating themselves on their readiness in the following areas: selection of teachers and students, instructional time, content and instruction, assessment selection and data use, mentoring and paraprofessional use, camp and classroom environment, and communication with administrators, staff, and parents.
4. Rubric for evaluating ELA instructional materials in K–5 (<https://ies.ed.gov/ncee/edlabs/projects/project.asp?projectID=4506>). This rubric is designed for teams of instructional materials reviewers and includes a facilitator's guide and a companion tool that aggregates ratings and computes interrater reliability. The rubric may help districts and schools to select materials that are evidence-based and best meet their needs.

At present the REL Southeast is developing a Teacher Guide to Supporting Family Literacy Involvement. There is evidence that family involvement supports student behavior and academic success (e.g., National Education Association 2008). There are separate teacher guides, videos, and family activities books for kindergarten, 1st grade, 2nd grade, and 3rd grade. These forthcoming resources will be posted on the REL Southeast website soon, with the kindergarten materials available in January of 2020 and materials for the other grades following shortly thereafter. The goal is to provide evidence-based literacy activities for family literacy nights at school and for teachers to recommend to parents of individual children following parent–teacher conferences.

The REL Southeast is also developing a PLC for preschool teachers based on evidence-based language and literacy practices that support later reading success. As noted above when discussing K–3 reading interventions, focusing on improving language and literacy in preschool has a reciprocal effect with improving behavior (e.g., Sasser et al. 2017). To expand its resources in early childhood, the REL Southeast has created a suite of infographics on Preparing a School Ready Child. The five infographics in the suite provide links to a number of evidence-based resources related to academics, family involvement, and social and emotional well-being of children, as well as other topics related to preparing children to transition to kindergarten. The infographics may be accessed at <http://www.fcrr.org/schoolreadiness/>.

A variety of national centers also offer K–3 literacy resources to educators and families that support evidence-based practices. These include:

- IRIS professional development modules from Vanderbilt University at <https://iris.peabody.vanderbilt.edu/pd-hours/school-district-platform/available-modules/>
- The Meadows Center for Preventing Educational Risk at <https://www.meadowscenter.org/>
- The National Center on Improving Literacy at <https://improvingliteracy.org/>
- The National Center on Intensive Intervention at <https://intensiveintervention.org/>
- Positive Behavioral Interventions & Supports at <https://www.pbis.org/>

## Conclusion

Current K–3 reading instruction is not ensuring reading success by grade 3 for the vast majority of students in the United States. Yet, there are systematic reviews of the literature and meta-analyses that provide consensus on the evidence-based instructional practices needed to create proficient readers. There is also research supporting the integration of the RtI/MTSS framework and its focus on universal screening and evidence-based intervention with the SWPBS framework and its focus on a schoolwide system of behavioral support for all students. Resources such as the WWC exist to assist practitioners in selecting and implementing evidence-based instruction and intervention. FCRR and other national centers have free instructional resources on their websites. Finally, the REL Southeast has created free tools and resources to help practitioners reflect on their instructional decision making, select evidence-based instructional materials, know what to look for in K–3 literacy instruction, and form and lead professional learning communities. Practitioners in classroom and intervention settings have found these resources and tools useful and, therefore, we offer them here in hopes that K–3 literacy instruction can be improved so that *all* students are proficient readers by grade 3.

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