



Primary Prevention in Classroom Reading Instruction

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The Individuals With Disabilities Education Improvement Act of 2004 (IDEA, 2004) contains an enormously important provision—the provision that up to 15% of funds can be used for prevention. The possibility of preventing learning difficulties before they start and of eliminating the need that a student fail before funds for intervention become available are intuitively appealing ideas. Now the challenge is to make prevention at the classroom level successful for all children. The focus in this article is on beginning reading instruction in primary-grade classrooms, with particular attention to (a) evidence-based practices that promote classroom reading success, and (b) the criteria for selecting core reading materials that address the needs of a diverse group of students.

Evidence-Based Practices in Classroom Reading

Consensus Reports of Crucial Elements

Consensus documents are available that describe the components of effective reading instruction (National Institute

of Child Health and Human Development [NICHD], 2000; National Research Council [NRC]), 1998. These components are

- Phonemic awareness and phonemic decoding skills.
- Fluency in word recognition and text processing.
- Construction of meaning.
- Vocabulary.
- Spelling.
- Writing.

These components are the same whether one is discussing classroom reading instruction or instruction for children at risk for reading problems, with the difference being that children at risk for reading disabilities need more explicit and more intense instruction in these elements (Foorman & Torgesen, 2001). Most of these components of effective instruction have been incorporated into the technical assistance for Reading First, the primary-grade portion of No Child Left Behind (NCLB, 2001). However, the language arts components

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of the crucial elements—vocabulary, spelling, and writing—are neglected in many states' and districts' implementations of Reading First, to the detriment of children's later reading comprehension (Dickinson, McCabe, Anastopoulos, Peisner-Feinberg, & Poes, 2003; Mehta, Foorman, Branum-Martin, & Taylor, 2005).

Empirical Investigations of Instructional Practices

Instructional practices exist in a set of nested relations: students nested within classrooms and classrooms nested within schools. At the school level, many

researchers have noted characteristics of schools with outstanding achievement (e.g., Bryk & Schneider, 2002; Denton, Foorman, & Mathes, 2003; Hoffman, 1991; Puma et al., 1997; Shavelson & Berliner, 1988; Taylor, Pearson, Clark, & Walpole, 2000; Weber, 1971): positive social climate, strong instructional leadership, increased amount of time available for reading instruction, high expectations and strong accountability, continuous monitoring of student achievement, ongoing professional development based on effective reading strategies, and integral parental involvement. Characteristics of ineffective schools have also been noted. Seven ways in which ineffective schools differed from their demographically matched peers are described by the National Research Council (1998):

- (1) they were not academically focused;
- (2) the school's daily schedule was not an accurate guide to academic time usage;
- (3) resources often worked at cross-purposes instructionally;
- (4) principals seemed uninterested in curricula;
- (5) principals were relatively passive in the recruitment of new teachers, in the selection of professional development topics and opportunities for the teachers, and in the performance of teacher evaluations;
- (6) libraries and other media resources were rarely used to their full potential;
- and (7) few systems of public reward for students' academic excellence were in place. (p. 130)

At the teacher level, effective classrooms have more time on instructional activities and more engaged students (Fisher et al., 1980; Stallings, 1980); more small-group instruction; good classroom management; and more active instruction (Anderson, Evertson, & Brophy, 1979). Pressley and others (2001) compared academic engagement and classroom literacy performance for first-grade teachers that were most-effective-for-locale and least-effective-for-locale. Classrooms of effective teachers were characterized by excellent classroom management, balanced teaching of skills, scaffolding and differ-

entiated instruction, cross-curricular connections, and encouragement of student self-regulation. Other researchers have found similar "best practices" (Cunningham & Allington, 1999; Hoffman, 1991; Rosenshine & Furst, 1973; Taylor et al., 2000; Wharton-McDonald, Pressley, & Hampston, 1998). In ineffective schools, Stringfield and Teddlie (1991) found unengaging tasks and failure to cover the district-mandated curriculum. A shortcoming of these descriptions of what effective teachers do is the failure to link "best practices" with student achievement. Similarly, at the student-level, characteristics have typically been discussed with respect to such group characteristics as socioeconomic status (SES), ethnicity, and achievement levels rather than in terms of individual differences in learning and achievement.

Because students are clustered in classrooms and classrooms exist within schools, a desirable design for addressing the effect of instructional practices on student achievement is to nest student within classroom within school. Studies using such designs reveal more variability between classrooms within schools than between schools (Hanushek, Kain, O'Brien, & Rivkin, 2005), particularly in urban compared to rural settings (Foorman, York, Santi, & Francis, in press). This increased variability in urban schools appears at least partly due to the tendency to move children together from one classroom to the next (i.e., tracking), thereby creating a peer effect that is distinct from teacher effects. For example, in a study of 210 schools, Foorman and colleagues (in press) found that students with low fluency scores at the beginning of first grade had higher fluency outcomes at the end of second grade if they were in classrooms in which their peers had high fluency scores. Thus, peers' oral reading fluency rate was an intervention all by itself. This peer effect was not evident for word recognition, however. Instead, students' word reading outcomes at the end of second grade were predicted by an interaction between high ability in this skill at the beginning of first grade and being in high-skill classrooms.

Thus, the notion of "best practices" can be understood as an interaction of teacher effects, peer effects, and student effects. The NCLB definition of teacher quality as certification, licensure, and degrees has not reliably predicted gains in student achievement (Desimone, Smith, & Frisvold, in press; Hanushek, et al., 2005; McCoach, O'Connell, Reis, & Levitt, 2006). Teachers' verbal IQ (Hanushek et al.) and oral language proficiency in English and Spanish (Cirino, Pollard-Durodola, Foorman, Carlson, & Francis, 2007) relate significantly to student achievement gains. Additionally, teacher knowledge tends to be significantly related to gains in student achievement when teachers are provided professional development (Foorman & Moats, 2004; McCutchen et al., 2002). Several studies by Foorman and colleagues (Foorman, Francis, Fletcher, Schatschneider, & Mehta, 1998; Foorman et al., 2003; and Foorman et al., 2006); and by Connor and colleagues (Connor, Morrison, & Katch, 2004; Connor, Morrison, & Slominski, 2006) indicate that achievement gains are best explained by interactions between child characteristics and instructional practices.

Foorman and others (1998) examined how the degree of explicitness of letter-sound instruction interacted with students' entering skill in phonemic awareness. They investigated the reading development of 285 first- and second-grade students in 66 classrooms in eight Title I schools, using a multilevel analysis. Thirteen of the teachers were part of an unseen comparison group that represented the district's implicit-code standard instruction. The other 53 teachers participated, with high fidelity, in one of three kinds of classroom reading programs, all of which included a language arts emphasis on writing and read-aloud from quality literature: (a) direct instruction in letter-sound correspondences practiced in controlled vocabulary texts (direct code); (b) less direct instruction in sound-spelling patterns embedded in trade books (embedded code); and (c) implicit instruction in the alphabetic code while reading trade books (implicit code). Students receiving direct code instruction

improved in word reading at a faster rate and had higher end-of-year scores than students in the implicit code group, and this growth effect was moderated by level of phonemic awareness at the beginning of the year. Phonemic awareness ability at the beginning of the year was expected to be less related to outcome in the direct code group because more explicit instruction in the alphabetic principle is effective in developing phonemic awareness skill in all children, thereby minimizing the impact of the level of this skill that students bring to the classroom in the fall.

Foorman and colleagues (2003) found a similar interaction of child characteristics with instructional strategies in an investigation of 4,872 kindergartners in 114 classrooms in 32 Title I schools. Reading curricula in these classrooms varied in the degree of teacher choice and in the degree of incorporation of phonemic awareness and phonics but were all guided by ongoing professional development. Basal readers with less teacher choice and more explicit incorporation of phonemic awareness and phonics had less variable teacher-level means in letter knowledge and phonemic awareness at the end of kindergarten and in reading achievement at the end of first grade. In contrast, a basal with more teacher choice and a moderate number of phonemic awareness activities (mostly in the form of letter-sound instruction) had more variable teacher means but more outliers representing high-scoring children at the end of kindergarten and first grade. Thus, direct systematic phonemic awareness and phonics instruction can raise the performance of low-ability kindergarten students but may constrain the growth of students who have already mastered the alphabetic principle.

In a third study, Foorman and others (2006) explored how teacher's allocation of instructional time and their teaching competencies interacted with students' initial ability to predict literacy outcomes, with curriculum differences controlled. Ratings of teaching effectiveness and time allocation were obtained in 107 first- and second-grade classrooms in 17 high-poverty schools.

Twenty time allocation variables were reduced into seven patterns of literacy activities that were examined as predictors of reading and spelling outcomes. Students' initial reading ability and interactions of teaching-effectiveness ratings by time-allocation components significantly predicted reading and spelling outcomes. For example, higher rated teachers in both grades had students with higher reading comprehension outcomes, and more highly rated second-grade teachers spent more time on vocabulary. Students' word attack outcomes were higher (a) when teachers spent more time reading books than giving directions or preparing to instruct, and (b) when highly rated first-grade teachers engaged in more phonemic awareness and alphabetic skill instruction and less wasted instructional time. Students with high initial reading ability had lower word-reading and spelling outcomes when their low-rated teachers engaged in more time on grammar, mechanics, and spelling instruction. This final result was explained by observations of poor-quality spelling instruction.

With curricular effects controlled (owing to lack of random assignment), the impact of ratings of teaching effectiveness in these 17 high poverty schools were weak (effect sizes between 1% and 4%) and the impact of initial reading ability was moderately strong (effect sizes between 33% and 50%). In this study, the use of reform curricula (Success for All, Reading Mastery, Open Court, and a revised Houghton Mifflin curriculum), coupled with teacher professional development, worked to reduce variability among teachers and to promote student achievement gains.

The research of Connor and colleagues has also found interactions of child by instruction. Their observational system codes whether the teacher or child is directing the child's attention (i.e., teacher-managed activities and child-managed activities) as well as whether the instruction is code-focused or meaning-focused. In a study of first-grade classrooms, Connor et al. (2004) found that students with lower fall decoding and vocabulary scores exhibited greater decoding growth in class-

rooms that spent more time on teacher-managed explicit decoding activities, with small amounts of child-managed meaning-focused activities in the fall that increased across the year. However, the opposite occurred for students that started the year with higher decoding and vocabulary scores. For them, time allocated to explicit decoding instruction had little impact, whereas time allocated to child-managed meaning-focused activities throughout the year resulted in greater decoding growth. In a preschool study, Connor et al. (2006) found that time allocated to teacher-managed (and teacher-child-managed) emergent code-focused activities was related to preschoolers' alphabetic and

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letter-word recognition growth, whereas time allocated to child-managed meaning-focused activities (e.g., book reading) was related to vocabulary growth.

In summary, the studies by Foorman and Connor and colleagues show that “best practices” in primary-grade classrooms are complex interactions of school-level, teacher-level, and student-level effects. Schools reside in urban or rural settings and vary in their access to social and economic capital. Characteristics of principals and teachers vary as they relate to instructional knowledge and skill. Curriculum varies in the degree to which it is scripted and explicit. Teachers' implementation of the curriculum varies in its fidelity as well as its adaptation to the students' entering abilities and changing skill trajectories. The question to ask about beginning reading instruction, then, is not “What are best practices?” but rather “What

instructional activities are appropriate for this student at this phase of his or her reading development to maximize achievement outcomes?” In academically diverse classrooms, teachers will need to become expert in assessing students’ entering literacy levels, differentiating instruction in small groups on the basis of that assessment, and reshuffling group membership on the basis of continual monitoring of student progress. Only in this way will teachers be able to prevent instructional causalities in the general education classroom.

Criteria for Selecting Core Reading Materials for Diverse Classrooms

What Is a Core Reading Program?

For the first 200 years of American history, the selection of text for reading instruction was simple: The Lord’s Prayer and the Bible. Reading was taught by the ABC method, whereby words were spelled before they were pronounced. Later, with the introduction of such spelling books as *Noah Webster’s Blue Back Speller*, words were divided into syllables. The advent of reading series began in 1936 with the *McGuffey Eclectic Readers*. These readers dominated reading instruction for 60 years and combined phonics and whole-word approaches. From the 1920s to 1960, the whole-word, or “look-say,” method dominated the reading series and the famous Scott Foresman “Dick, Jane, Sally, and Spot” was considered the dominant reading series of the time. From the 1960s to the current day, the reading series have shifted from those with a predominantly phonics emphasis to those with a predominantly meaning or literature-based emphasis every twenty years or so. These beginning reading series have come to be called *basal reading programs* because they serve as the “base” for reading instruction. More recently, educators have referred to basal reading programs as the core reading program to distinguish them from intervention programs for struggling readers.

Guides to Evaluating Core Reading Programs

In 2000 the alphabetic subgroup of the National Reading Panel (NRP; NICHD, 2000) concluded their meta-analysis of the impact of phonemic awareness and phonics programs on beginning reading outcomes with the statement that systematic instruction in phonemic awareness and phonics enhanced children’s success in learning to read (see also Ehri, Nunes, Willows, Schuster, Yaghoub-Zadeh, & Shanahan, 2001; Ehri, Nunes, Stahl, & Willows, 2001). Those results from the NRP and results from the vocabulary, reading fluency, and comprehension subgroup of the NRP were incorporated into the implementation of the Reading First component of NCLB. The Reading First legislation emphasized the importance of using scientifically based reading research for making instructional decisions by using this term over 100 times. The term “scientifically based reading research” quickly achieved acronym status (i.e., SBRR).

In support of the SBRR requirement, the U.S. Department of Education sponsors a Web site called the What Works Clearinghouse (www.whatworks.ed.gov) that features evidence-based studies of the effects of curriculum on students’ achievement outcomes. The U.S. Department of Education also funds technical assistance centers in Oregon, Texas, and Florida to help states, districts, and schools implement the requirements of Reading First. Simmons and Kame’enui (2003) at the Oregon Center produced a document in 2002 called “A Consumer’s Guide to Evaluating a Core Reading Program Grades K–3: A Critical Elements Analysis.” This document was used by states and districts as a checklist for selecting reading instructional materials in Reading First schools. The Florida Center created a scoring rubric and rated the six core reading programs that were on the State of Florida’s reading



adoption list (Al Otaiba, Kosanovich-Grek, Torgesen, Hassler, & Wahl, 2005).

The Oregon Center’s Consumer’s Guide suggests that educators select a core reading program by first considering (a) evidence of efficacy established through rigorously designed experimental studies, and (b) relevance to the demographic characteristics of the students who will use the program. At a second stage, the Guide includes an analysis of crucial analyses to help educators determine whether the five major components of reading instruction emphasized by the NRP are adequately addressed: phonemic awareness, phonics, fluency, vocabulary, and reading comprehension. Educators are recommended to review elements (a) in terms of the program’s scope and sequence, (b) within a lesson or series of 2 to 3 successive lessons, and (c) across a series of 10 consecutive lessons (to analyze a “skill trace”). Elements are to be rated as (a) not satisfactorily meeting the criterion, (b) partially meeting or exceeding the criterion, or (c) consistently meeting or exceeding the criterion.

The Florida Center's rubric consists of the following categories:

1. Are all five components from the NRP present and prominent?
2. Is instruction within each component explicit and systematic?
3. Is the sequence for instruction organized sequentially?
4. Is student material coordinated with the teacher's guide?
5. Is instruction across components clearly linked?

Staff members from the Florida Center, who were highly knowledgeable in reading content and pedagogy, independently rated the six basal programs under consideration for adoption in Florida during 2002 to 2003 according to the presence (yes/no) and quality (acceptable/not acceptable) of these five categories. Interrater reliability was 100%. Reviewers also noted how the program aligned with SBRR. Al Otaiba and colleagues (2005) found that core reading programs aligned with Reading First shared common features: (a) a clearly articulated statement of SBRR, (b) explicit instructional strategies, and (c) consistent organizational and instructional routines.

Determining Pedagogical Adequacy of Core Reading Programs

By asking educators to rate essential elements within and across lessons, Oregon's Consumer Guide and Florida's rubrics prompt educators to consider whether core reading programs are based on sound principles of learning. That step is crucial in deciding whether a core program will provide the right pedagogical content for a diverse classroom of students. Simply put, teachers need to ask whether the content of the teacher's guide is research based and clearly organized and whether the text in the pupil edition allows their students sufficient practice to master the instructional strategies covered in the lessons.

Several researchers have developed techniques for quantifying the information in the teacher's and pupil editions (Foorman, Francis, Davidson, Harm, & Griffin, 2004; Hiebert, 2002; Stein,

Johnson, & Gutlohn, 1999). Hiebert's model uses the percentage of words within a text that come from different word-frequency zones and that have particular vowel patterns to establish text difficulty. Stein and colleagues analyzed sound-spelling patterns of the text in the pupil edition and phonics support materials from the first half of first grade from seven basal series submitted for 1996 California adoption. On the basis of instructional strategies presented in each lesson, words in the text selections were categorized as Dolch List sight words (Dolch, 1948), story sight words, wholly decodable words, and nondecodable and noninstructed words. Only one of the seven basal series had a majority of words (i.e., 52%) that were wholly decodable. When the percentage of sight words (i.e., Dolch List and story words; 46%) was added, this program yielded a 98% accuracy rate, which meant that 98% of the words could be correctly identified given the instructional strategies provided in the lessons in the teacher's edition. In the other six programs, the words in the text selections were primarily sight words (34%–60%), with less than 15% wholly decodable. Accuracy rates ranged from 43% to 68% in those programs, assuming students actually learned the sight words. Stein and others also analyzed decodability in the phonics readers and found the percentage of wholly decodable words to be somewhat higher in those six programs (32%–50%). These percentages were similar to those found by Beck and McCaslin (1978) in their analysis of meaning-emphasis basal programs from the 1970s.

Foorman and colleagues (2004) developed a relational database to analyze the lexical, semantic, and syntactic variability in the text selections used in six basal reading programs published between 1995 and 2000. Like Stein and others (1999), they examined the letter-sound correspondences and sight words taught and their connection with the text selections. Unlike Stein and others, however, Foorman and colleagues computed decodability based on *consistency* of sound-spelling relations rather than simply *regularity* of spelling patterns. For example, the vowel team *ai* might

have been taught only as the "long a" sound as in *maid*. If so, then the word *said* would be counted as nondecodable when presented unless it was taught holistically as a sight word. Another example is multisyllabic words. Counting as decodable the untaught, inconsistent variants of multisyllabic spelling patterns (e.g., silent letters as in *answer*, vowel insertions as in *wasn't*, or consonant doubling as in *happy*) would lead to inflated decodability and accuracy rates.

Foorman and colleagues (2004) also went beyond the phonics analysis of Stein and others and analyzed the semantic and syntactic features of text selections by analyzing words in the texts for their oral and printed vocabulary levels and by calculating the percentage of sentences with embedded clauses and prepositional phrases. The vocabulary demands of all but one of the programs were well above the oral and printed vocabulary of most first graders, giving teachers an opportunity to expand students' oral vocabulary (but possibly confounding an emphasis on decoding instruction). Another program stood out compared with the others in the linguistic complexity of its sentences.

Adoptions in Texas and in California tend to determine the content of basal reading programs across the country because one fifth of the nation's public school students live in those two states. The 2000 and 2002 adoptions in those states mandated 75% to 80% decodable texts for first-grade reading programs. Only one program in the Foorman and others' (2004) analysis met that mandate at the type (unique words) and token (repetition of words) level. Another program met the mandate at the token level. This latter program also provided the highest accuracy rate at first and last presentation of word types (62.16% and 75.97%, respectively). Teaching a phonics strategy at the *first* presentation of a word would seem highly desirable. Also, repeating the word more than once would seem advantageous. Yet Foorman and colleagues (2004) found that 70% of the words students encountered in text were nondecodable singletons, with

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only 20% repeated two to five times. Little research exists on the number of repetitions of a word needed to master its recognition. Reitsma (1983) found that four to six repetitions of relatively unfamiliar words was sufficient to increase the speed of word recognition a few days later, but his students were already readers.

Foorman and colleagues (2004) found that the relatively high decodability rate at the token level for several of the basal reading programs was achieved by teaching one third of the words holistically. Holistic instructional strategies are used with high-frequency (e.g., *great*) and irregular (e.g., *yacht*) words and with difficult words added to make text selections more interesting (e.g., *hippopotamus*). This strategy of using holistically taught words to boost accuracy rates and heighten interest has the obvious drawback of increasing demands on memory.

Thus, Foorman and colleagues' (2004) analysis of the lexical, semantic, and syntactic features of six first-grade basal reading programs shows great variability in the approach taken to achieve decodability and the extent to which text selections could be expected to yield accurate phonological recoding of words. This finding is consistent with Juel and Roper/Schneider's (1985) conclusion that "[t]he types of words which appear in beginning reading texts may well exert a more powerful influence in shaping children's word identification strategies than the method of reading instruction" (p. 151). To help educators evaluate the appropriateness of a core reading program for a particular classroom of diverse learners, publishers should be required to reinstate the scope, sequence, and cumulative vocab-

ulary list (with oral and printed word frequency noted, as well as the location of the word in the lessons). Explanations of how phonological-orthographic inconsistencies are handled need to be provided (e.g., fox-box vs. frog-cost; past tense and plurals), as well as multisyllabic parsing strategies. State adoption committees could also require electronic files that would allow the computation of decodability and the number of repetitions of holistically taught words. Such information would help educators decide whether the core reading program provides the pedagogically sound content needed if classroom instruction is to meet the needs of diverse learners and prevent reading difficulties.

Conclusion

The provision of up to 15% of IDEA funds to be used for prevention of reading difficulties allows educators an enormous opportunity to enhance general education classroom reading instruction. Research exists that shows the complex interactions of students by instructional strategies that promote reading success within diverse classrooms. This research indicates that "best practices" need to be differentiated to meet the needs of individual students at particular phases of reading development. Rubrics and guides exist to help educators select core reading programs that are research based and well organized. Analyses of the lexical, semantic, and syntactic variables in the text selections of the core reading programs indicate, however, that the research on reading instruction has not necessarily penetrated the pedagogical design of core reading programs, and that no research exists to answer such important questions as "How many repetitions of a word are needed to ensure mastery?" or "What are the appropriate trade-offs between oral and printed vocabulary demands in text?" But the fact that we recognize the importance of asking such questions shows that the science of reading is permeating the instructional core of primary-grade classrooms, an essential step if teachers are to have the materials needed to differentiate instruction to meet the needs

of diverse learners and prevent reading failure.

References

- Al Otaiba, S., Kosanovich-Grek, M. L., Torgesen, J. K., Hassler, L., & Wahl, M. (2005). Reviewing core kindergarten and first-grade reading programs in light of No Child Left Behind: An exploratory study. *Reading and Writing Quarterly, 21*(4), 377-400.
- Anderson, L., Evertson, C., & Brophy, J. (1979). An experimental study of effective teaching in first-grade reading groups. *Elementary School Journal, 79*, 193-223.
- Beck, I., & McCaslin, E. S. (1978). *An analysis of dimensions that affect the development of code-breaking ability in eight beginning reading programs* (LRDC Rep. No. 1978/6). Pittsburgh, PA: University of Pittsburgh, Learning Research and Development Center.
- Bryk, A. S., & Schneider, B. (2002). *Trust in schools: A core resource for improvement*. New York: Russell Sage.
- Cirino, P., Pollard-Durodola, S. D., Foorman, B. R., Carlson, C. D., & Francis, D. J. (March, 2007). Teacher characteristics, classroom instruction, and student literacy and language outcomes in bilingual kindergarteners. *Elementary School Journal, 107*(4), 341-364.
- Connor, C. M., Morrison, F. J., & Katch, L. E. (2004). Beyond the reading wars: Exploring the effect of child-instruction interactions on growth in early reading. *Scientific Studies of Reading, 8*(4), 305-336.
- Connor, C. M., Morrison, F. J., & Slominski, L. (2006). Preschool instruction and children's emergent literacy growth. *Journal of Educational Psychology, 98*(4), 665-689.
- Cunningham, P. M., & Allington, R. I. (1999). *Classrooms that work: They can all read and write* (2nd ed.). New York: Longman.
- Denton, C., Foorman, B., & Mathes, P. (2003). Schools that 'beat the odds': Implications for reading instruction. *Remedial and Special Education, 24*, 258-261.
- Desimone, L., Smith, T., & Frisvold, D. (in press). Teacher quality, evidence-based practice, and students in poverty. In A. Gamoran (Ed.), *Will "No Child Left Behind" help close the poverty gap?* Washington, DC: Brookings Institute.
- Dickinson, D. K., McCabe, A., Anastasopoulos, L., Peisner-Feinberg, E. S., & Poes, M. D. (2003). The comprehensive language approach to early literacy: The interrelationships among vocabulary, phonological sensitivity, and print knowledge among preschool-aged children. *Journal of Educational Psychology, 95*(3), 465-481.
- Dolch, E. W. (1948). *Problems in reading*. Champaign, IL: Garrard.
- Ehri, L., Nunes, S., Willows, D., Schuster, B. V., Yaghouh-Zadeh, Z., & Shanahan, T.

- (2001). Phonemic awareness instruction helps children read: Evidence from the National Reading Panel's meta-analysis. *Reading Research Quarterly*, 36(3), 250-287.
- Ehri L., Nunes, S., Stahl, S., & Willows, D. (2001). Systematic phonics instruction helps students learn to read: Evidence from the National Reading Panel's meta-analysis. *Review of Educational Research*, 71(3), 393-447.
- Fisher, C., Berliner, D., Filby, N., Marliave, R., Cahen, L., & Dishaw, M. (1980). Teaching behaviors, academic learning time and student achievement: An overview. In C. Denham & A. Lieberman (Eds.), *Time to learn* (pp. 7-32). Washington, DC: National Institute of Education.
- Foorman, B. R., Chen, D. T., Carlson, C., Moats, L., Francis, D. J., & Fletcher, J. (2003). The necessity of the alphabetic principle to phonemic awareness instruction. *Reading and Writing*, 16, 289-324.
- Foorman, B. R., Francis, D. J., Davidson, K. C., Harm, M., & Griffin, J. (2004). Variability in text features in six grade 1 basal reading programs. *Scientific Studies of Reading*, 82(2), 167-197.
- Foorman, B. R., Francis, D. J., Fletcher, J. M., Schatschneider, C., & Mehta, P. (1998). The role of instruction in learning to read: Preventing reading failure in at-risk children. *Journal of Educational Psychology*, 90, 37-55. [Reprinted in *Major themes in education*. D. Wray (Ed.), (2004), London: Routledge.]
- Foorman, B. R., & Moats, L. C. (2004). Conditions for sustaining research-based practices in early reading instruction. *Remedial and Special Education*, 25(1), 51-60.
- Foorman, B. R., Schatschneider, C., Eakin, M. N., Fletcher, J. M., Moats, L. C., & Francis, D. J. (2006). The impact of instructional practices in grades 1 and 2 on reading and spelling achievement in high poverty schools. *Contemporary Educational Psychology*, 31, 1-29.
- Foorman, B. R., & Torgesen, J. K. (2001). Critical elements of classroom and small-group instruction promote reading success in all children. *Learning Disabilities Research and Practice*, 16(4), 202-211.
- Foorman, B. R., York, M., Santi, K. L., & Francis, D. J. (in press). Contextual effects on predicting risk for reading difficulties in first and second grade. *Reading and Writing*.
- Hanushek, E. A., Kain, J. F., O'Brien, D. M., & Rivkin, S. G. (2005). *The market for teacher quality*. (Working paper 11154). Cambridge, MA: National Bureau of Economic Research.
- Hiebert, E. H. (2002). Standards, assessment, and text difficulty. In A. E. Farstrup & S. J. Samuels (Eds.), *What research has to say about reading instruction* (3rd ed., pp. 337-369). Newark, DE: International Reading Association.
- Hoffman, J. V. (1991). Teacher and school effects in learning to read. In R. Barr, M. L. Kamil, P. B. Mosenthal, & P. D. Pearson (Eds.), *Handbook of reading research* (Vol. 2, pp. 911-950). New York: Longman.
- Individuals With Disabilities Education Improvement Act of 2004 (IDEA), Pub. L. No. 108-446, 118 Stat 2647-2808, (2004).
- Juel, C., & Roper/Schneider, D. (1985). The influence of basal readers on first-grade reading. *Reading Research Quarterly*, 20, 134-152.
- McCoach, D. B., O'Connell, A. A., Reis, S. M., & Levitt, H. A. (2006). Growing readers: A hierarchical linear model of children's reading growth during the first 2 years of school. *Journal of Educational Psychology*, 98(1), 14-28.
- McCutchen, D., Abbott, R. D., Green, L. B., Beretvas, S. N., Cox, S., Potter, N. S., et al. (2002). Beginning literacy: Links among teacher knowledge, teacher practice, and student learning. *Journal of Learning Disabilities*, 35, 69-86.
- Mehta, P. D., Foorman, B. R., Branum-Martin, L., & Taylor, W. P. (2005). Literacy as a unidimensional multilevel construct: Validation, sources of influence, and implications in a longitudinal study in grades 1 to 4. *Scientific Studies of Reading*, 9(2), 85-116.
- National Institute of Child Health and Human Development (NICHD). (2000). National Reading Panel-Teaching children to read: Reports of the subgroups (NIH Pub. No. 00-4754). Washington, DC: U.S. Department of Health and Human Services.
- National Research Council. (1998). *Preventing reading difficulties in young children*. Committee on the Prevention of Reading Difficulties in Young Children, Commission on Behavioral and Social Science and Education, C. E. Snow, M. S. Burns, and P. Griffin (Eds.). Washington, DC: National Academy Press.
- No Child Left Behind Act of 2001, Pub. L. No. 107-110, (2001).
- Pressley, M., Wharton-McDonald, R., Allington, R., Block, C. C., Morrow, L., Tracey, D., et al. (2001). A study of effective first grade literacy instruction. *Scientific Studies of Reading*, 15(1), 35-58.
- Puma, M. J., Darweit, N., Price, C., Ricciuti, A., Thompson, W., & Vaden-Kiernan, M. (1997). *Prospects: Final report on student outcomes*. Washington, DC: U.S. Department of Education, Planning and Evaluating Service.
- Reitsma, P. (1983). Printed word learning in beginning readers. *Journal of Experimental Child Psychology*, 36, 321-339.
- Rosenshine, B., & Furst, N. (1973). The use of direct observation to study teaching. In R.M.W. Travers (Ed.), *Second handbook of research on teaching* (pp. 122-183). Chicago: Rand McNally.
- Shavelson, R. J., & Berliner, D. C. (1988). Evasion of the education research infrastructure: A reply to Finn. *Educational Researcher*, 17, 9-11.
- Simmons, D. C., & Kame'enui, E. J. (2003). *A consumer's guide to evaluating a core reading program grades K-3: A critical elements analysis*. Retrieved December 19, 2006, from http://iris.peabody.vanderbilt.edu/rti03_reading/cons_guide_instr.pdf
- Stallings, J. A. (1980). Allocated academic reading time revisited, or beyond time on task. *Educational Researcher*, 9, 11-16.
- Stein, M., Johnson, B., & Gutlohn, L. (1999). Analyzing beginning reading programs: The relationship between decoding instruction and text. *Remedial and Special Education*, 20, 275-287.
- Stringfield, S., & Teddlie, C. (1991). Observers as predictors of schools' multi-year outlier status. *Elementary School Journal*, 9, 357-376.
- Taylor, B. M., Pearson, P. D., Clark, K., & Walpole, S. (2000). Effective schools and accomplished teachers: Lessons about primary-grade reading instruction in low income schools. *Elementary School Journal*, 101(2), 121-165.
- Weber, G. (1971). *Inner-city children can be taught to read: Four successful schools* (CGE Occasional Paper No. 18). Washington, DC: Council for Basic Education. (ERIC Document Reproduction Service No. ED 057 125)
- Wharton-McDonald, R., Pressley, M., & Hampston, J. M. (1998). Literacy instruction in nine first-grade classrooms: Teacher characteristics and student achievement. *Elementary School Journal*, 99, 101-128.

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