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Meeting the Federal Mandates: Research on Effective Reading Instructional Programs and Implications for Classroom Teachers

By Sekhar Pindiprolu, David Forbush, and Lori Marks

Both the No Child Left Behind (NCLB) mandate (2001) and the Individuals with Disabilities Education Improvement Act (IDEA) (2004), call for use of scientifically validated reading instructional practices, curricula, and accountability for successful learning outcomes. This paper highlights one of the reading programs identified as scientifically validated by independent research groups and discusses its implications for classroom teachers. On the other hand, we do not embrace the idea that other reading programs are ineffective. We believe that there is no one single method or program to teach all children effectively. However, we believe that use of programs that have been demonstrated as effective through research may reduce the number of children who are at-risk of failing to read competently.

Research on Effective Reading Programs

The American Association of School Administrators, American Federation of Teachers, National Association of Elementary School Principals, National Association of Secondary School Principals, and the National Education Association recently contracted with the American Institutes of Research (AIR) to evaluate school-wide instructional approaches. AIR evaluated programs that were (a) promoted by their developers as effective in increasing student achievement in low-performing schools, (b) named in the Comprehensive School Reform Demonstration Program, (c) used widely in public schools, (d) cited in popular press, and/or (e) were previously reported to positively effect student learning (see <<http://www.aasa.org/Reform/overview.htm>>). Using the above criteria, AIR personnel evaluated 24 approaches and identified three approaches showing strong evidence

of positive effects on student achievement. They were Direct Instruction (K-6 grades), High Schools That Work (9-12 grades), and Success for All (PreK-6 grades). In a report titled *Reading Programs that Work: A Review of Programs for Kindergarten to 4th Grade*, Schacter (1999) identified Direct Instruction as one of six effective school-wide reading approaches.

The American Federation of Teachers (AFT) produced reports including: (a) *Seven Promising Reading and English Language Arts Programs*, (b) *Three Promising High School Remedial Reading Programs*, (c) *Five Promising Remedial Reading Intervention Programs*, and (d) *What Works: Six Promising School-wide Reform Programs* (<http://www.aft.org/edissues/rsa/promprog/Index.htm>) (under “Building From The Best, Learning From What Works”). The stated goal of the AFT was to inform the public of evidence-based programs promoting reading achievement among school children. Direct Instruction reading programs were the only programs mentioned in all four reports from the AFT. Furthermore, Direct Instruction (upper case initial letters) is an approved program for funding by the U.S. Department of Education and is listed among replicable, research-based, school-wide reform models. On the other hand, direct instruction (lower case initial letters) simply means explicit instruction and can, and usually is, used with other approaches. In this light, direct instruction is generally referred to as “effective instruction” in the research literature. In this study, Direct Instruction includes both a carefully sequenced published instructional curriculum and the specific way of teaching within that program. The following are examples of Direction Instruction

programs: Reading Mastery Plus, Journeys, Corrective Reading, and Horizons.

Adams and Engelmann (1996) reviewed 34 research studies on Direct Instruction (DI) and found DI to increase student achievement. The authors reported that DI produced large gains for regular and special education students at the elementary and secondary levels. The average effect size across the 34 studies was .87. Seven of the studies indicated that DI, with an emphasis on phonics and sight word vocabulary skills, improves reading performance by an average effect size of .69 (Schacter, 1999). In addition, White (1988) reviewed 25 studies employing DI programs with students with disabilities and reported that DI programs increased their academic achievement. Elliot and Sharpio (1990) reviewed interventions for low achieving students and reported strong evidence for the effectiveness of DI. Similarly, Forness, Kavale, Blum, & Lloyd (1997) reported DI to be one of seven evidenced-based interventions that demonstrated increased academic achievement of students with disabilities.

Direct Instruction

The Direct Instruction model consists of a teaching methodology that is carefully designed and sequenced to ensure student achievement. DI supports teachers in their presentation of instruction by providing them with an instructional script designed to ensure instructional delivery that is explicit and systematic. The DI model aims to provide intense, efficient delivery of lessons and targets all children, including children who are failing to master academic skills.

From a theoretical perspective, the skills targeted and the teaching procedures employed in Direct Instruction programs align with the recommendations of the National Reading Panel. DI reading programs pre-test students for grouping purposes, place students at appropriate instructional entry levels based on placement test performance, explicitly teach phonics, introduce concepts and skills in a carefully sequenced manner, and systematically review previously taught material (Stein & Kinder, 2004).

DI programs differ from other programs in two ways: 1) the program design and 2) scripted guidelines for effective presentation of content. DI programs are designed to promote clear teacher-student communication when presenting skills/concepts. The communication component of DI programs is engineered into the instructional design and consists of five principles for sequencing and ordering examples: 1. wording principle, 2. setup principle, 3. difference principle, 4. sameness

principle, and 5. testing principle (Watkins & Slocum, 2004). These principles are applied to develop curriculum and instructional delivery procedures to maximize student understanding and skill acquisition. Unfortunately, in the literature, the term “direct instruction” is often applied incorrectly to programs that use effective instructional presentation strategies, but do not use instructional materials designed in accordance with the five communication principles listed above. DI, on the other hand, consists of both effective instructional presentation strategies and curriculum designed using the communication principles listed above (Watkins & Slocum, 2004).

The Need for Well-Designed Instructional Materials

The importance of well-designed instructional materials was validated by Simmons, Kameenui, and Chard (1998). These researchers examined 29 general education teachers’ perceptions about (a) factors influencing learning of students with learning disabilities, (b) quality and adequacy of instructional materials for students with learning disabilities, and (c) teachers’ ability to modify instructional lessons to meet the needs of diverse learners. Results indicated that (a) teachers identified within-student factors (student academic ability and student motivation) as having significant impact on learning; (b) teachers recognized numerous weaknesses in instructional design, (c) teachers felt confident in their ability to modify instructional plans, and, perhaps of greatest importance, (d) modifications of instructional plans suggested by teachers indicated that some of them may not have sufficient knowledge relative to instructional design to effectively and efficiently make essential changes.

Teachers’ limitations in ability to sequence and design appropriate instructional materials and/or the lack of time to design instructional plans, calls for employing carefully designed curricula to promote the achievement of struggling readers (Fletcher and Lyon, 1998; Moats, 2004). In addition, today’s classroom teachers are faced with many challenges. For example, in some classrooms, students reading range exceeds five grade levels (Simmons & Kameenui, 1996). Simmons & Kameenui also determined that teachers are required to accommodate an increasingly linguistically, socio-demographically, and ethnically diverse student population that calls for identification and implementation of practices that are demonstrated by research to meet the needs of a diverse population.

Educators do not have the resources necessary to provide the one-on-one support that struggling readers need (Allington, 2004) due to the diverse needs of the

population and the large number of students requiring intensive academic support. Additionally, substantially increased teacher workloads paired with increasing student diversity hinder teachers' ability to provide the explicit, systematic, and comprehensive one-on-one reading instruction recommended for struggling readers by the National Reading Panel. Thus, currently a gap exists between the requirements of No Child Left Behind, Individuals with Disabilities Education Act, and the National Reading Panel recommendations. Teacher training and the capacity of teachers to provide intensive evidenced-based interventions to students who struggle with reading is a comprehensive problem.

Possible Solutions

One way to overcome the challenges presented in the federal mandates and to meet the needs of all children is to analyze the current reading "methods" courses and practices offered by institutions of higher education to their pre-service teachers. The institutions are advised to emphasize within their teacher preparation classes the following: (a) instructional design, (b) explicit instructional strategies and (c) how to modify/adapt materials for meeting the needs of students with varying abilities. An overarching goal is to prepare teachers who can evaluate curriculum design and make appropriate adaptations/modifications to meet the needs of all children.

Further, given the research on Direct Instruction, computer-based reading programs that are designed using the "DI principles" may be more effective than traditional strategies for promoting reading skills among struggling readers. DI based-computer programs can serve as additional instructional tools for teachers to meet the needs of all learners and relieve them of the time consuming task of designing/modifying lessons. They can also help parents of struggling readers to provide additional reading support for their children at home. Hence, employing DI computer programs as part of regular reading instruction may be another way to meet the immediate needs of all children and the mandates of NCLB.

Recently, we were awarded a federal grant, "Project Need to Read: Evaluation of Computer Based Reading Programs Paired with Home and School Instruction". The purpose of this grant research is to evaluate computer-based programs for implementation of the Direct Instruction communication principles cited above. In addition, we are charged to examine the effectiveness of different computer programs with children with reading difficulties. However, to enrich our research we want to hear from you! You are invited to participate in this

project with us. Currently, we are working with students, teachers, and parents in Ohio, Tennessee, and Utah. Web sites containing information on Direct Instruction products we are working on are: <www.Utoledo.edu> and <<http://sped.usu.edu/NTR/>>.

We will provide information on computer based reading programs that can be used to provide support for learners relative to the five major components of reading instruction as identified by the National Reading Panel (2000): 1. phonemic awareness, 2. phonics, 3. fluency, 4. comprehension, and 5. vocabulary. In addition, information is available on the effectiveness of these programs when used by parents and/or teachers with struggling and developing readers. A checklist will also be available to help teachers evaluate computer-based reading programs for design and instructional strategies. Teachers can use the checklist to assess the appropriateness of the computer-based programs relative to the needs that are evident in their own learning environment. Further, teachers, you are more than welcome to ask us about programs you are currently using and we will share information that we have on your particular program with you.

Strengthening students basic reading competencies through DI computer based learning strategies empowers them to read more skillfully and, consequently, have the desire to read independently more often. Part of our mission is foster a love of reading so that students will engage in self-selected independent reading, thus, encouraging ever growing levels of capabilities. In this light, as an essential complement to DI, we advocate encounters for all children, especially struggling readers, with engaging literature, including but not limited to: 1. hearing good stories and chapter books read aloud, 2. choral reading, 3. shared reading with a buddy or tutor, 4. experiencing interesting and informative non-fiction, and 4. developing home/school cooperative programs that foster a positive atmosphere in the home for developing reading as a family activity.

Please let us know about computer based reading programs of interest to you and what you perceive as needs in your learning environment. Most important of all for us is to hear from you if you would like to work with us on this grant project. We have access to substantial information relative to helpful materials and want to share this information with you. We will have materials to lend to you for implementation and for you to tell us about the effectiveness of these programs in your learning situation. At the conclusion of our study we will have materials to give to teachers who have contacted us.

We strongly believe we can provide substantial support for you in your efforts to develop effective instruc-

tional strategies for reading instruction for your students, especially those who are struggling. We are just a few keyboard clicks away: Contact Sekhar Prindiprolu at <spindip@UTNet.UToledo.edu>; Lori Marks at (423) 439-7685 or <marks@etsu.edu> for information about the study in Tennessee, or Dave Forbush at (435) 797-0697 or <davidf@cc.usu.edu>, who will be conducting the study in Utah.

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