Research In, Research Out: The Role of Research in the Development and Scale-Up of Success for All

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Success for All (Slavin & Madden, 2001) is a comprehensive reform program for elementary schools. Intended to ensure students' success in reading by preventing them from falling behind in the early grades, Success for All provides schools with extensive professional development in reading instructional methods with strong evidence of effectiveness, as well as student reading materials designed to facilitate daily use of research-based instruction. The program also includes cross-grade grouping strategies, parent involvement programs, and one-to-one tutoring for struggling students. Table 1 summarizes the main elements of the approach.

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Success for All represents one of the most interesting and controversial research developments of recent years. Since it began in 1987, Success for All has been the subject of more than 50 matched experimental-control comparison studies, carried out by researchers throughout the U.S. Borman, Hewes, Overman, & Brown (2003), reviewing research on comprehensive reform models, identified 46 studies of Success for All and an essentially identical program called Roots & Wings, and found a combined effect size of +0.20. This number of well-controlled studies was somewhat more than those on the Direct Instruction program (Adams & Engelmann, 1996), and far more than those for all other comprehensive reforms. A longitudinal followup study found that students who had begun Success for All in the early elementary grades and continued no later than grade 5 were still reading significantly better than former control students in the eighth grade, and were about half as likely to have been retained or assigned to special education (Borman & Hewes, 2003). Currently, a randomized evaluation of Success for All is under way, involving 41 schools across the country. Using

hierarchical linear analyses, second-year results show significant positive effects of the program on reading measures (Borman, Slavin, Cheung, Chamberlain, Madden, & Chambers, 2005).

The Success for All elementary reading program is currently being implemented in more than 1100 schools in 47 states. Current Success for All schools have used the program for a median of five years (Slavin & Madden, 2004). These schools are mostly high-poverty Title I schools serving many African American, Hispanic, and White students in urban and rural districts. Until 1998, the program was part of Johns Hopkins University, but at that time it was moved to a nonprofit organization, the Success for All Foundation.

The Importance of Research in Success for All

One of the key policy objectives of Success for All has been to move educational practice toward a focus on evidence. Since 1986, Slavin (2006) has written and revised an educational psychology textbook, reviewing research on all of the major topics that relate to effective practices in education: learning, instruction, grouping, motivation, classroom management, assessment, school organization, parent involvement, leadership, provisions for struggling students and for English language learners, and so on. Many principles of effective practice have long been accepted by most researchers, and are included in all educational psychology texts. Yet they are unknown, unused, or misused by educators.

The researchers who developed Success for All and have worked on it for many years share a belief that educational outcomes will never change on a serious scale until the core technology of teaching, down to daily lessons and teacher behaviors and up to school and district organization, comes to embody well-validated principles of practice. Slavin (2003) contrasts the

constant progress of evidence-based fields such as medicine, agriculture, and technology to the faddishness of education.

Success for All was intended to be an example of what education reform would be like if it were based on evidence and then continually evaluated itself to progressively improve. It was also designed to demonstrate how research-based practices could scale up to serve a meaningful number of students, as a direct challenge to the famous Rand Change Agent study (Berman & McLaughlin, 1978) that for thirty-seven years has served as the touchstone for those who believe that externally developed programs cannot be replicated in schools, that each school must find its own unique path to reform.

Uses of Research in Success for All

Since it was first conceived, Success for All has been designed as a means of creating conditions in which teachers would use the results of rigorous research every day. Each of the major components of the program was designed to operationalize practices known from research to increase the achievement of students at risk. At the outset, and again as the program developed, SFA researchers have carried out reviews of research in many areas relevant to practice to inform us about effective strategies.

As the program developed, we continued to focus on using research to learn from the teachers and principals implementing it and, most importantly, to learn how program implementation, variations, and conditions affect student outcomes.

Finally, we have carried out a large number of studies to evaluate program outcomes, and have encouraged third party organizations and individuals to do such studies. There are now more than 50 matched experimental-control comparisons (and one large randomized study)

evaluating Success for All. These have involved at least 40 researchers throughout the world, in many different institutions.

The following sections discuss each of these uses of research in the Success for All program of research.

Evidence Bases for Success for All Components

Each of the components of Success for All was incorporated into the program after a review of the literature in the area involved. The following sections briefly present the evidence base for the main SFA components.

Cooperative Learning

Cooperative learning, or peer-assisted learning, refers to a set of instructional methods in which students work in small groups to help one another master academic content. Cooperative learning methods are central to Success for All at all levels, from pre-kindergarten to grade 8.

Research on the achievement effects of cooperative learning finds that cooperative methods are effective if there is a group goal that students can achieve only if all group members make academic progress. Slavin (1995) reviewed this research and found a median effect size of +0.32 (+0.21 for standardized tests) for studies of cooperative methods that incorporated group goals and individual accountability. These studies involved grades 2-12, a wide variety of subjects, and a wide variety of investigators. Other reviewers (e.g., Rohrbeck et al., 2003; Johnson & Johnson, 1999; Webb & Palincsar, 1996) came to similar conclusions about the effectiveness of cooperative learning if it incorporates these essential elements.

Cognitive Strategy Instruction

In addition to cooperative learning, the upper elementary and middle school components of Success for All make extensive use of cognitive strategy instruction, teaching students to use specific skills to enhance their comprehension of narrative and expository texts. The key strategies emphasized, and their research bases, are as follows.

Summarization. Having students summarize information they have read is one of the most consistently supported of all cognitive reading comprehension and study strategies (Brown & Day, 1983; Taylor & Beach, 1984). Armbruster, Anderson, & Ostertag (1987) successfully evaluated a particular form of summarization in which fifth graders analyzed social studies content into three boxes: Statement of a problem, actions taken to solve the problem, and results of the actions. Malone & Mastropieri (1992) found that summarization was made more effective if students with learning disabilities were also taught to monitor their own summaries using a checklist.

Graphic Organizers. A particularly promising form of summarization is having students represent ideas and connections among ideas in graphic forms. For example, Berkowitz (1986) had sixth graders write the title of a passage in the middle of a sheet of paper, and then add main ideas and supporting details around the passage title as they encountered them in the text. This strategy increased comprehension and retention of the content. Similarly, Baumann (1984) had sixth graders conceptualize the main idea of a paragraph as a tabletop, and then to identify supporting details as the table's legs. "Web" strategies, in which students link concepts as they read, have been widely used and generally found to be effective.

Story Grammar. Another form of facilitated summarization that has been successfully evaluated is having students identify story grammar in narratives. That is, students identify the main characters, setting, problem, attempted problem solutions, and final solutions. Short &

Ryan (1984) found this strategy to help fourth graders understand text. Idol (1987; Idol & Croll, 1987) had upper-elementary children use a "story map" that focused on the same story grammar elements, and this helped poor readers (but not proficient readers) to comprehend the content.

Imagery. Gambrell & Bales (1986) had poor readers in fourth and fifth grades make pictures in their minds to understand the content of stories. For example, in reading a story about pigeons they visualized how pigeons who were blindfolded might find their way home. Imagery has also been extensively studied as a mnemonic device for learning paired associates, as in learning names in other languages for objects (Pressley, Levin, & Delaney, 1982; Hattie, Biggs, & Purdie, 1996).

Question Generation. Another robust strategy for comprehension and vocabulary development is teaching children to generate their own questions about material they are reading. For example, Davey & McBride (1986) taught sixth graders to develop "think-type" questions as they read. This strategy helped students understand and recall the key ideas. King (1994) successfully used a similar strategy, and question generation is a central feature of reciprocal teaching, described below. A variant focused in particular on vocabulary development is "question the author" (Beck & McKeown, 2001), in which children are taught a strategy for expository text in which they ask why an author included certain information or explanations.

Activating Prior Knowledge. Good readers automatically bring prior knowledge to bear on new, related content, but poor readers may not do so. Several studies have found that children can be successfully taught to ask themselves what they already know about a given topic and then relate this to the current text, and that this increases comprehension (e.g., Hansen & Pearson, 1983; Dewitz, Carr, & Patberb, 1987). This strategy is widely used as part of the

common KWL strategy, in which students are asked before reading what they already know about a topic (K), what they want to learn (W), and later, what they learned (L).

Peers as Strategy Partners. A variety of cooperative learning methods have been used to develop students' comprehension skills. For example, Dansereau (1988) and O'Donnell (1996) have studied "cooperative scripts," in which students take turns summarizing and evaluating each other's summaries. Meloth & Deering (1992, 1994) found that peers could help each other acquire cognitive strategies. Fantuzzo, Polite, & Grayson (1990) developed and evaluated reciprocal peer tutoring strategies to help students study complex material. In each of these methods, students are given specific guidance in how to help a partner or teammate learn the content and develop a strategy.

Vocabulary Strategies. Vocabulary development strategies are of importance for all students, but especially for English language learners (Fitzgerald, 1995; García, 2000; Blachowicz & Fisher, 2000; Coady & Huckin, 1997). Particularly promising vocabulary strategies include those described by Chamot & O'Malley (1996), Calderón (2001), and Padrón (1992). Neuman & Koskinen (1992) found that use of captioned television related to books students were reading significantly improved their vocabulary and comprehension performance.

Self-Regulation. Metacognitive strategies typically grouped under the term self-regulation can be taught and used as reading comprehension strategies (Paris & Paris, 2001). A large body of research has shown the achievement benefits of self-regulatory strategies such as goal setting (Schunk & Schwartz, 1993), using self-verbalization to talk oneself through a problem (Schunk & Cox, 1986), and self-monitoring by recording one's progress (Zimmerman, Bonner, & Kovach, 1996).

Vocabulary Strategies Instruction

Perhaps the most robust findings in the field of literacy is the high correlation between vocabulary and reading comprehension (Cunningham and Stanovich, 1997; Dickinson & Tabors, 2001; Stahl, 2003). This is particularly true for English language learners (Saville-Troike, 1984, Calderón et al., 2004). Garcia (1991) found that vocabulary knowledge was more important than prior knowledge, when examining the factors that influenced reading test performance for a sample of 5th and 6th grade Latino students. For this reason, Success for All emphasizes vocabulary development strategies throughout the grades.

Findings from the National Reading Panel (2000) indicate that various methods improve students' vocabulary. For example, promising vocabulary strategies include those described by Beck & McKeown, (2002), Scott and Nagy (1997), Stahl (2003), Carlo et al. (2004), Calderon (2001), and Padron (1992). In a longitudinal study (Calderon, August, Slavin, Madden, Cheung, and Duran, 2004), the reading performance of Latino students transitioning from Spanish to English instruction was enhanced by a combination of high frequency and multiple, repeated exposures, rich instruction of vocabulary in which words are applied to multiple contexts, pre-instruction of vocabulary to facilitate text comprehension, and restructuring of materials or procedures to bolster comprehension.

Preschool and Kindergarten

The Success for All Foundation created *Curiosity Corner* and *KinderCorner*, comprehensive preschool and kindergarten programs, based on recent brain research and research on cognitive development indicating that early education is crucial in getting children off to a good start in life (Bowman, Donovan, & Burns, 2001; National Research Council and

Institute of Medicine, 2000; Magnuson, Meyers, Ruhm, Waldfogel, 2003). In addition to short-term effects on academic achievement, long-term effects of several early childhood programs include fewer arrests, fewer teen pregnancies, and higher employment (Gilliam & Zigler, 2000).

Many studies have shown short- and long-term impacts of participation in high-quality preschool programs in comparison to no preschool experience (see, for example, Barnett, Frede, Mosbasher & Mohr, 1987; Berreuta-Clement, Barnett, Schweinhart, Epstein, & Weikart, 1984). Further, there is evidence that center-based preschool programs are more effective and cost-effective than programs that only intervene with the child's family (Bryant & Ramey, 1987; White, Taylor, & Moss, 1992).

Curiosity Corner and *KinderCorner* support teachers in their efforts to achieve the specific emerging literacy skills outlined by the National Reading Panel (2000) and the National Research Council (2000). The programs include specific research-proven strategies for promoting young children's vocabulary and oral language development, phonemic awareness, letter recognition, understanding of narrative, and conventions of print (Neuman, Copple, & Bredekamp, 1999; Snow, Burns, & Griffin, 1998; Whitehurst, Epstein, Angell, Payne, Crone, & Fischel, 1994).

Each classroom has Learning Labs set up with developmentally appropriate, high-quality children's books, manipulatives, a variety of papers and writing tools; meaningful environmental print, and concrete directions for teachers on how to facilitate learning in these learning centers (Burns, Griffin, & Snow, 1999).

Dynamic Assessment Portfolios provide snapshots of the child at particular times, indicate how the child is continually growing and changing, and include information across the domains of the child's development. The portfolio assessment that *Curiosity Corner* teachers are

trained to use is a tool that organizes an array of assessments to provide a broad picture of the child.

Studies of the Abecedarian Project (Ramey & Ramey, 1998*)* and of the Chicago Parent-Child Centers (Reynolds, 1998; Reynolds & Temple, 1998), among others, find that sustained interventions beyond the preschool years have a substantially greater longitudinal impact on children's reading and other measures of school success than preschool alone. These studies imply that a quality preschool experience is necessary but not sufficient for substantial and lasting achievement benefits.

The *Curiosity Corner* curriculum and objectives directly align with *KinderCorner* and *Reading Roots,* the first grade reading program, in a way that enables teachers to continuously scaffold conceptual knowledge, oral language, vocabulary, phonological awareness, and mastery of the shapes and sounds of the alphabet. Emergent skills fostered in *Curiosity Corner* are the basis for early reading skills taught in *KinderCorner* and *Reading Roots*.

Beginning Reading Instruction

Success for All beginning reading instruction incorporates all of the critical elements outlined by the National Reading Panel (2000): phonemic awareness, phonics, vocabulary, fluency, and comprehension. Literacy instruction begins with phonemic awareness in which students isolate initial, final, and medial sounds, blend sounds to make words and segment words into their separate sounds, based on the work of Adams, Foorman, Lundberg, and Beeler (1998). The systematic phonics instruction uses mnemonic key pictures, alliterative phrases, letter writing cues, and animations to help children learn letter sounds. Initial instruction focuses on letter sounds and only after they have been introduced, letter names are taught. As soon as a few

phonemes have been taught, students begin blending them together to read CVC words. Video segments with puppets model blending simple words.

The program then introduces simple decodable stories in which every word (other than a handful of sight words) is composed of letters that the children have already learned. Students engage in discussions about the stories to enhance their comprehension. They learn about purposes of reading, making predictions, summarizing, and about the elements of narratives. This approach was developed from research on effective practices in beginning reading by Adams (1990). Video skits introduce the vocabulary of the stories to the children before they read the stories to increase their comprehension of them. Neuman and Koskinen (1992) used captioned television to helped English language learners learn key vocabulary and comprehension skills.

The multimedia segments used in the program, the phoneme animations, puppet blending segments, and vocabulary skits, are based on research on the effectiveness of multimedia (Mayer, 2001; Mayer & Moreno, 2003). Research on educational programs such as *Sesame Street* (Fisch & Truglio, 2000; Rice, Huston, Truglio, & Wright, 1990) and *Between the Lions* (Linebarger, Kosanic, Greenwood, & Doku, 2004) has shown positive effects of educational television for the reading and language development of young children.

Upper-Elementary and Middle School Reading

The upper elementary reading program used in Success for All, called Reading Wings, and the middle school reading program, The Reading Edge, are based on the research cited above on cooperative learning and cognitive strategy instruction, but also on an earlier program called Cooperative Integrated Reading and Composition (CIRC). Several studies at the

elementary level (Stevens, Madden, Slavin, & Farnish, 1987; Stevens & Slavin, 1995) and at the middle school level (Stevens & Durkin, 1992) have found positive effects of CIRC on reading comprehension. A bilingual form of CIRC designed to help English language learners transition from Spanish to English reading has also been found to be effective (Calderón, Hertz-Lazarowitz, & Slavin, 1998).

Writing

Success for All uses a process writing approach, called Writing Wings, based on the work of Graves (1984) and Calkins (1984). That is, students work together in small teams to help each other plan, draft, revise, edit, and "publish" compositions in various genres. Success for All adds to this specific instruction in cognitive writing strategies, such as use of graphic organizers and visualizations.

Research has supported the effectiveness of writing process models in general (Hillocks, 1984; Harris & Graham, 1996). More specifically, the Success for All writing programs for grades 1-8 are based on a program called Cognitive Strategy Instruction in Writing (CSIW; Englert, Raphael, Anderson, Anthony, & Stevens, 1991). In the context of a process writing model, CSIW provides explicit instruction on writing structures (e.g., comparison/contrast), "Think Alouds," to verbally model thinking about composition, and construction and revision of text. Research on CSIW has found it to significantly enhance the development of proficient writers (Englert et al., 1991).

Classroom Management

Throughout grades K-8, Success for All uses a preventive approach to classroom management that emphasizes cooperative learning, a rapid pace of instruction, high success rates among children, and means of making certain that students always have meaningful work to do. This approach is based on the work of Good et al. (1983), Evertson, Emmer, & Worsham (2003), and Hawkins, Doueck, & Lishner (1988).

Grouping

The grouping strategy used for Success for All in grades 1-8 is an adaptation of the Joplin Plan, in which students are placed in reading classes according to their reading level, not their age. That is, a 2-1 reading class may contain some advanced first grades, a lot of on-level second graders, and a few third graders. Research on this approach has found it to enhance student reading achievement (Slavin, 1987; Gutierrez & Slavin, 1992).

Tutoring

One-to-one tutoring is the most effective form of instruction known. A review of research on this topic by Wasik & Slavin (1993) found effect sizes approaching +0.75 for tutoring programs using certified teachers. Smaller but still impressive effects have been found in studies of tutoring done by paraprofessionals (Morris, Shaw, & Perney, 1990). Success for All provides tutoring to struggling students in grades 1-3 using a model patterned on Reading Recovery, the most extensively evaluated tutoring program (see Pinnell, Lyons, DeFord, Bryk, & Seltzer, 1994).

English Language Learners

From its early days, Success for All has had a strong emphasis on teaching children who are acquiring English (Slavin & Madden, 1999; Cheung & Slavin, 2005). Two formats are available. A Spanish bilingual program provides instruction in Spanish, with a transition to English completed by third grade for most students. The other is an English language development approach, which emphasizes vocabulary development, oral language, and assistance for ELLs. We have not taken a position on which of these is best, although a recent review (Slavin & Cheung, in press) suggests that paired bilingual models, in which children are taught in English and Spanish, may be optimal.

The Success for All approaches to programming for ELLs builds on children's strengths in their native language, using vocabulary development strategies adapted from those of Carlo et al. (2004), Fitzgerald (1995), Calderón (1999), and many others, as described previously.

Research on Outcomes of Success for All

It is not enough that programs be based on well-validated principles. The program itself must be rigorously evaluated in comparison to similar control groups. Success for All researchers have carried out many large scale, longitudinal studies of the program, as have many others. As noted earlier, Borman et al. (2003) identified a total of 46 experimental-control comparisons evaluating Success for All, of which 31 were carried out by third-party investigators. A mean effect size of +0.20 (combining Success for All and Roots & Wings) was obtained across all studies and measures. A longitudinal study by Borman & Hewes (2003) found that students who had been in Success for All elementary schools were, by eighth grade, still reading significantly better than former control group students and were about half as likely to have been retained or assigned to special education.

Since the Borman et al. review, a number of additional studies of Success for All have been carried out. Most importantly, a national randomized evaluation of Success for All is under way. A total of 41 schools were randomly assigned to use Success for All either in grades K-2 or in grades 3-5. The primary grades in 3-5 schools were used as controls, as were the intermediate grades in K-2 schools. First-year results found positive effects for students in kindergarten and first grades on measures of word attack (Borman, Slavin, Cheung, Chamberlain, Madden, & Chambers, 2005). Second-year analyses found significant impacts on three of the four reading measures used (Borman et al., 2005). This first large-scale randomized evaluation is particularly important in today's policy environment, which is strongly supporting randomized experiments (Whitehurst, 2002). Taken together, there are now more than 50 experimental-control studies of Success for All involving more than 200 schools throughout the U.S.

The Culture of Data-Driven Decision Making in SFA

In addition to the formal research efforts described above, the entire culture of SFA is one that revolves around the continuous use of student achievement data as the basis for decision making, both at the school and Foundation levels. Schools are expected to conduct their own informal research on their practice with SFA by collecting and analyzing student data. At each school, educators examine the 8-week and quarterly assessments of their students' progress and make changes in practice accordingly. SFA schools now also have available to them additional assessments, called 4Sight (Slavin, Chambers, Holmes, & Madden, 2005), that are benchmarked to their particular state standards. As one teacher in an SFA school explained: "We have ongoing

data collection… If we see, oh my gosh, half of my kids aren't really getting this, then even within the program they give us reteaching lessons…" (Datnow & Park, 2005, p. 15).

In addition to informing their practice, school-level assessment data are used by educators to support SFA's effectiveness and continuation, particularly in the face of political challenges from district staff or from skeptical teachers. A facilitator in one SFA school stated, "…one of the things they cannot deny is that it's working for our children and because the data is there and they can see it…it's not just us talking, it's the numbers and the database that we have." At this school, having data on students' progress enabled the school to validate their commitment to SFA (Park, 2005, p. 16).

From Program Monitoring to Goal-Focused Implementation

A common misperception about SFA is that it is a completely "scripted" program that does not allow for flexibility on the part of local educators. Indeed, early qualitative studies on SFA found that even though most teachers found the program beneficial for students, some still complained about the constraints on their autonomy (Datnow & Castellano, 2000; Datnow, Hubbard, & Mehan, 2002). Historically, SFAF has in fact had a strong focus on fidelity to the model and, as one SFA staff member explained, earlier on, there was more of an emphasis on "*doing* the program." This was particularly the case for the new SFA schools that were just learning the mechanics of the model.

However, after years of experience with the model and with working with mature implementation sites (which comprise most of the SFA schools), the SFA Foundation allows adaptations to the model if they are aimed towards improving student outcomes and meeting the individual school's goals. This shift in stance towards fidelity to implementation allows the

schools greater freedom in making adaptations that are geared towards student outcomes. SFAF calls their new approach "goal-focused implementation."

To be sure, program fidelity is still expected on a number of key dimensions (e.g., the reading curriculum, cross grade grouping, full time facilitator). However, SFAF's measure of the quality of implementation differs as it now provides space for some innovative practices arising from the needs of specific schools. The theory is that program fidelity should serve program effectiveness rather than fidelity for its own sake. In a study by Datnow & Park (2005), an SFA facilitator explained how the relationship between trainers and teachers had become one characterized by support:

> …When we first started… they would come in and watch the teachers, "are you following the schedule? Are you doing Adventures in Writing on Day 3?"... And they've lightened up on it. Now they come in and they are looking and listening to the kids and seeing, "okay, what's the conversation the kids are having? Are they using the strategies?"… Not so much, "here's a schedule." And I think it has been beneficial for the teachers and for them. It lets teachers have some flexibility….But I think they are more focused on what the student outcomes are and supporting teachers so that those kids have those outcomes.

A teacher at an SFA school reiterated: "They trust our judgment that we are doing the program, that we are following the components, and if we add something, if we lengthen it, if we shorten something, if I do it on the wrong day, it's not taking away from the overall comprehension of the program." An SFAF staff person confirmed: "If you can do meaningful sentences this way and still get the same outcome, then all the more power to you, but it really takes an understanding and an acceptance of what the rationale is behind the activity."

This shift from a focus on pure fidelity – which was heavily based on feedback received from schools –to one focused on schools' needs appears to have substantially changed the relationship between the SFAF staff and the educators in the schools they work with (Datnow & Park, 2005). Previously, SFA trainers were seen as "SFA police" focused on visible details of implementation (e.g., Are the "Word Walls" posted in the classrooms?), but now they are seen as valuable sources of instructional support. Another change is that whereas in the past, trainers would meet only with administrators or with whole staffs to share the results of their "implementation checks," they now meet one-on-one with teachers to help them improve their practice. Overall, as a result of this change, the relationship between educators and the SFAF appears to be more collaborative rather than evaluative. The shift to "goal-focused" rather than simply fidelity-focused implementation is a significant exemplar of a change in the program that is the result of the valuing of practitioners' experiences with SFA.

Feedback Loops between Schools and the SFA Foundation

As the above discussion implies, there is a frequent exchange of information between and among staff in the SFAF and educators in SFA schools. Several processes have been put into place to enable feedback loops and ongoing dialogues between school educators, trainers, other SFA Foundation staff, and the SFA directors. The topics of these discussions range from implementation issues, successes or problems with particular program components, and the degree to which SFA is helping meet schools' goals. At the most simple level, trainers gather information about how the program is working when they visit local schools, and they share this knowledge with other foundation staff on a regular basis. At one school in Datnow & Park's

(2005) study, the principal, teachers, and SFA facilitator all mentioned taking part regularly in this type of dialogue. A teacher observed:

> It's kind of like formal versus informal research, because some of the component meetings we have with our trainers… We sit down and she asks us questions, 'are you comfortable? Do you need more training? What do you like? What don't you like?' And so she's kind of doing informal research.

This "informal" research leads to both changes at the local level and changes ultimately in the overall program. Undoubtedly, SFAF has more interaction with some schools than others, depending on their maturity in program implementation and on the number of days that schools contract with SFAF for training. Some schools, particularly those that are involved in research studies related to SFA, might experience an even tighter feedback loop with the Foundation (Datnow & Park, 2005).

In any event, the SFA Foundation has instituted several new efforts to enhance feedback loops between the Foundation and all of its member school. First, SFA trainers can be available on speaker phone to address questions and gather feedback during teachers' monthly "teacher learning community" meetings that occur in each school. Second, phone interviews with educators in particular schools take place, particularly when the Foundation staff is interested in finding out how a new component of SFA is working. A teacher in Datnow & Park's (2005) study explained:

> We've been on conference calls to Maryland in the past, just talking. They want to know how the questioning is going… So they are listening to us, and they want to know…So you feel like they are going into classrooms, talking to teachers to find out what is working and what is not. So I really feel like the research is coming from us.

The SFA Foundation also holds focus groups among teachers at the annual SFA "experienced sites" conferences, giving practitioners an opportunity to share the knowledge they have gained in working with the model. All of these processes are designed to achieve a smooth feedback loop between schools and the SFA Foundation.

Support to SFA Schools and the Role of Trainers

Understanding how SFAF is structured with respect to the training and support of schools is important to further making sense of the links between research and practice and the feedback loops within the organization. In the period of 1995-1998, the total number of schools using SFA quadrupled, having sextupled in the three years prior (Slavin & Madden, 1998). During this period, the number of SFA schools grew so significantly that developers felt they could no longer efficiently support schools from their original location at Johns Hopkins University. The goal was to maintain quality of support to as the quantity of schools grew. The decision was then made to launch the Success for All Foundation (SFAF), a non-profit organization (Slavin & Madden, 1998). At the same time, SFAF added layers of organizational complexity and morphed into a new structure.

As of 2005, there were approximately 150 SFA regionally-based trainers across the country, most of whom work out of their homes. This arrangement, as Slavin and Madden (1998, p. 14) explain, "gives us far more control and assurance to fidelity than does engaging regional training sites in universities or other existing agencies, which may have their own agendas and constraints." Trainers work with anywhere from 5-20 schools each, depending on the number of contracted days per school. SFAF recruits trainers from schools, usually former SFA teachers and facilitators, who have expert knowledge in how the model works in a particular local

context. Overseeing the 150 trainers are 15 area managers, who also deal with district relations and respond to trainers questions regarding school adaptations of SFA. Area managers are supported by a team of expansion and outreach staff. Two "implementation officers" oversee the area managers and outreach personnel. While some staff members are located at the foundation offices in Baltimore, others are spread around the country.

Training has always been seen as strength of the SFA program, especially in comparison to that provided with other comprehensive school reform models (Bodilly, 1998; Datnow, Hubbard, & Mehan, 2002). Efforts have been made to continually improve training support to schools. In keeping with the commitment to goal-focused implementation, professional development is now based on school self-identified areas of need, rather than generic support. As one SFA facilitator in Datnow & Park's (2005) study explained, "When [our trainer] comes in to sit with [the principal], she asks us, 'what are the needs of your school? What training do you want from us? What support?" So it's not just them dictating what support it's going to be." This statement by a principal also gives insight into the level of collaboration between SFAF trainers and educators in her school: "I think we have always felt a give and take and that we are accepted as peers and colleagues…that they are interested in what we say and that there's a response to that." Efforts are also made to match schools to trainers with relevant expertise and background. As one administrator explained, "They're like a perfect match for our school. The people, their personalities, their backgrounds in bilingual [education] you know, for ELD [English Language Development]…. I think they tried to match the person to the school because they are just perfect for us."

In addition to providing support in the implementation of SFA, the advent of the No Child Left Behind (NCLB) Act has meant that trainers now serve as policy mediators, helping

schools gain the knowledge to meet state and federal mandates. Trainers help schools understand how they can meet NCLB mandates, providing them with knowledge that some districts do not. Trainers also work with educators to help them use SFA to meet state curriculum standards. This process is very localized, based on individual school needs. SFAF has also recently developed benchmark SFA assessments that schools can use five times a year. These benchmark assessments are linked to state assessments. While obviously reflecting a change in response to the policy climate, this change was also made very much in response to educators' requests, who wanted assessments that related better to state measures.

The role of SFA trainers in the continual development of the model is also important to consider, especially with respect to feedback loops. Annual conferences are held for trainers where they convene to share strategies for working with schools and discuss successful and unsuccessful program adaptations they have observed. During these conferences, trainers also engage in discussion about current research that is related to SFA, but not on SFA per se. For example, trainers might learn about new research on strategies for teaching English language learners. Trainers then use this research when they are meeting with school educators to help them understand why particular program components are necessary. Information is also shared among SFAF staff on a continual basis through phone and email communication.

Summary

Essentially, the continual development of SFA is a story of how developers, trainers, researchers, and practitioners work together. There is considerable formal research informing the program and its continual development. However, while there is a reliance on rigorous, quantitative research methods in informing model development, there is also a very strong

commitment to learn from teacher practice. SFA seeks a constant interplay between teachers' practice and research. The knowledge of SFA trainers, many of whom were former SFA teachers, is also integral to the continual development of the model and its implementation strategies.

Policy Implications of Research on Success for All

The policy implications of research on Success for All go far beyond a recommendation that educators use this program. The process by which Success for All was developed, evaluated, and disseminated is one that should be applied to develop programs at all levels of education, in all subjects, and to solve all kinds of problems. Educational policies need to change substantially to support the continued development of Success for All itself and, more importantly, other program that may have even greater impacts.

1. Substantially Increase Support for Research and Development

Success for All has benefited from sustained (though modest) funding for research and development over its 18-year history. If evidence-based reform is to take hold, there must be funding available for many more such efforts. Given its potential importance, funding for research in education is shockingly low, and much of what is spent goes for routine data collection, technical assistance, and other activities that are not research. It is difficult to separate out, but funding for development, evaluation, and dissemination of programs and practices for K-12 education is surely less than $100 million per year across all agencies, and may be less than $50 million. In contrast, the U.S. Department of Education spends about $1 billion per year just on support for after school programs. For half this amount, $500 million per year, researchers

and developers could substantially advance knowledge about practical, effective programs for all types of schools.

2. Fund development of new programs

There are still too few promising programs in the pipeline. Researchers and developers need funding to develop new replicable programs based on current understandings of how children learn, current technologies, and current needs. In particular, the Department of Education should hold "design competitions" in which developers are challenged to create programs of all kinds to solve central problems of American education: reading, math, science, and social studies programs at all grade levels, programs for English language learners, solutions for children with reading disabilities, dropout prevention programs, school-to-work programs, classroom management programs, assessment methods, schoolwide reform models for preschool, elementary, and secondary schools, and much more. In each case, a number of developers should be supported to create, pilot, and ultimately evaluate promising models. As the work progresses, additional projects should be added and ones that are not working as hoped winnowed out. As part of the development process, there is a need for basic research, including correlational, descriptive, and small-scale experimental research, to provide a base for development of research-based programs.

3. Fund evaluation of existing and new programs

IES is now funding an impressive array of rigorous evaluations of educational programs and practices, but much more remains to be done. Ideally, developers should have funding to do their own evaluations as they are preparing to scale up their programs, but then independent,

third-party evaluators need support to do their own high-quality evaluations. In today's context, a "rigorous evaluation' means one in which schools are assigned at random to use a given program or to use an alternative control program, with measurement of achievement at pre and posttest and of implementation throughout the experiment.

4. Provide incentives for schools to participate in research

One cost-effective way to carry out randomized experiments evaluating educational programs would be to provide a competitive preference in school funding programs for schools willing to be assigned at random to use a given program immediately or one year later. For example, schools applying for funding to implement comprehensive school reform programs, secondary reading programs under the new "Striving Readers" initiative, K-3 reading programs under Reading First, or after-school programs under 21st Century Community Learning Centers, would be given a better chance of success if they agree to participate in randomized evaluations. In this way, the cost of the research would just be the data collection and analysis, not the program implementation (which usually consumes the majority of the funding for randomized field research).

5. Provide incentives for schools and districts to use programs validated in rigorous research

Success for All is one of a small set of replicable programs with strong evidence of effectiveness, and many more will be validated in the coming years. District and school leaders need clear information on the findings of this research, but information alone will not suffice, as large textbook and technology companies will continue to demonstrate that marketing is more powerful than evidence. Yet the federal government has many levers it can use to promote

adoption of programs validated in rigorous research. For example, it can give competitive preferences to schools that use proven programs in discretionary grants. It can insist that schools failing to meet adequate yearly progress (AYP) standards for three years choose a proven model. It can ask schools not meeting AYP to explain in their Title I plans why they feel it is important to continue to use programs with no evidence of effectiveness when well-validated alternatives exist. The necessary language for this policy already resides in No Child Left Behind, but it would be necessary to redefine programs and practices "based on scientifically-based research" as ones that have been evaluated in comparison to control groups and found to be effective in increasing student achievement.

6. Maintain the integrity of proven programs

If evidence-based programs are emphasized in educational policy, there needs to be some oversight to ensure that the programs being adopted are essentially the same as the ones that were proven to be effective. For example, a program that was successful with extensive training and followup could not be considered "evidence-based" if it were later disseminated with minimal professional development.

7. Encourage states to base policies on research

So far, the evidence-based policy movement has been almost entirely a federal initiative. State departments of education need to embrace this dynamic if it is to take hold on a wide scale. For example, the states now control a fund that amounts to 4% of their Title I funding to help schools meet adequate yearly progress standards. No Child Left Behind encourages them to use

this money to help schools adopt proven programs, but this is unlikely to happen unless the states dedicate themselves to evidence-based policies.

Conclusion

The solutions to America's educational problems must draw on our nation's greatest strength, the ingenuity, inventiveness, and technological capacity of the American people. America leads the world in medicine, agriculture, and technology because of its unequaled national capacity to create new solutions. This dynamic has not taken hold in education, but there is no reason that it cannot do so. The research, development, and dissemination of Success for All provides one example of how research could ultimately transform educational practice. Educational policies at all levels should encourage the use of proven programs that already exist and help develop and evaluate many more. With a modest investment of, say, $500 million per year in R&D, our country can bring about a revolution in education. This will be beneficial to all children, but especially to those who are least well served by today's schools.

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Table 1

Major Elements of Success for All

Success for All is a schoolwide program for students in grades pre-K to six which organizes resources to attempt to ensure that virtually every student will acquire adequate basic skills and build on this basis throughout the elementary grades, that no student will be allowed to "fall between the cracks." The main elements of the program are as follows:

***A Schoolwide Curriculum*.** Success for All schools implement research-based reading, writing, and language arts programs in all grades, K-6. The reading program in grades K-1 emphasizes language and comprehension skills, phonics, sound blending, and use of shared stories that students read to one another in pairs. The shared stories combine teacher-read material with phonetically regular student material to teach decoding and comprehension in the context of meaningful, engaging stories.

In grades 2-6, students use novels or basals but not workbooks. This program emphasizes cooperative learning and partner reading activities, comprehension strategies such as summarization and clarification built around narrative and expository texts, writing, and direct instruction in reading comprehension skills. At all levels, students are required to read books of their own choice for twenty minutes at home each evening. Cooperative learning programs in writing/language arts are used in grades 1-6.

***Tutors*.** In grades 1-3, specially trained certified teachers and paraprofessionals work one-to-one with any students who are failing to keep up with their classmates in reading. Tutorial instruction is closely coordinated with regular classroom instruction. It takes place 20 minutes daily during times other than reading periods.

***Quarterly Assessments and Regrouping*.** Students in grades 1-6 are assessed every quarter to determine whether they are making adequate progress in reading. This information is used to regroup students for instruction across grade lines, so that each reading class contains students of different ages who are all reading at the same level. Assessment information is also used to suggest alternate teaching strategies in the regular classroom, changes in reading group placement, provision of tutoring services, or other means of meeting students' needs.

***Solutions Team*.** A Solutions Team works in each school to help support families in ensuring the success of their children, focusing on parent education, parent involvement, attendance, and student behavior. This team is composed of existing or additional staff such as parent liaisons, social workers, counselors, and assistant principals.

***Facilitator*.** A program facilitator works with teachers as an on-site coach to help them implement the reading program, manages the quarterly assessments, assists the Solutions Team, makes sure that all staff are communicating with each other, and helps the staff as a whole make certain that every child is making adequate progress.