Benefiting from Comprehensive School Reform:
A Review of Research on CSR Implementation*

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This chapter examines what happens when schools engage in a process of comprehensive school reform (CSR). Although this process often begins with a decision by schools to adopt a research-based "model" or "design" for school improvement, decades of research on planned educational change suggest that simply adopting a model or design, in itself, will not guarantee successful utilization of that model inside schools. Instead, successful school improvement results from a confluence of circumstances that must and *can be* orchestrated by external change agents (like CSR model providers), district and school leaders, and teachers and students working in cooperation with one another to implement a process of whole-school reform. The purpose of this chapter is to give the reader a sense of the strategies used by schools that have successfully engaged in this process.

To address the question of how comprehensive school improvement works in schools, we review previous research on CSR program implementation and present some original analyses of data from our own research. We begin by discussing the emergence CSR as a policy instrument supporting improvement in American schools. This discussion shows that current initiatives aimed at getting schools to adopt "research-based" practices for school improvement have a long history in American education, a history from which educational researchers, policy makers, and school personnel have learned a great deal about how to make planned educational change more successful. To illustrate what has been learned, and how it applies to current efforts to promote CSR in schools, we next review the extensive literature on planned educational change in education, paying special attention to recent studies of CSR implementation. Our purpose here is to describe the many factors that impinge on adoption and implementation of externally-developed, research-based, models of comprehensive school reform, and to lay out some of the factors that promote successful use of such models in practice. Finally, in order to illustrate how CSR works in practice, we present some early findings from a study of CSR model implementation that we are conducting under the auspices of the Consortium for Policy Research in Education. Our chapter concludes by formulating some general lessons that can be drawn from this work.

In discussing these issues, we will not sugarcoat the process of comprehensive school reform. As this chapter demonstrates, efforts at comprehensive school reform are time-consuming and difficult, and they proceed with uneven success across schools. However, our chapter shows that *successful* school change is possible and depends to a considerable extent on the actions taken by: (a) external providers of design-based, technical assistance; (b) local school personnel; and (c) district personnel who provide support to local school change efforts. In particular, our chapter suggests that the process of CSR will be most successful when external change agents work to produce clear, specific, and high quality designs for change and provide extensive implementation support to local schools; when local school communities coalesce around the central aims of the research-based model of school reform they are trying to implement and actively learn over a period of years how to utilize that model in their own context; and when district personnel provide a stable and supportive policy environment clearly aligned with the aims of the practices being developed.

As it turns out, these principles of successful change are not new. In fact, the role of external change agents (like CSR model providers) in stimulating and supporting planned educational change in schools, the centrality of local school personnel to the successful implementation of research-based practices, and the importance of district leadership in promoting successful institutionalization of instructional improvement efforts, have been remarked upon and studied for decades in the voluminous literature on planned educational change in the United States. What *is* new, however, is that educational researchers, policy makers, and successful education practitioners have begun to arrive at a more complex understanding of the specific steps that must be taken to assure successful implementation of whole-school change efforts. As a result, there is now a new generation of thinking about how to stimulate and support programs of *comprehensive* change in schools.

To describe this evolution in thinking, our chapter begins with a review of previous efforts to support planned educational change in American education, showing how two important ideas—the belief in utilization of research-based practices as a key to school reform and the gradual evolution of the federal government's Title I program toward a focus on schoolwide reform—served as catalysts for passage of the Comprehensive School Reform Demonstration Act in 1997, which emphasized the utilization of research-based, "whole-school" designs for promoting instructional improvement in American schools.

<u>Catalysts in the Movement Toward Comprehensive School Reform</u>

Since World War II, efforts to improve instruction and student achievement in American schools have largely revolved around two major ideas (for a review, see Firestone and Corbett, 1988: 322). One has been the goal of moving research-based models of practice out of experimental and demonstration contexts into local schools.   Over time, many strategies have been developed to achieve this purpose, all of which involve attempts to integrate educational research, development, dissemination, and utilization (for a review, see Keeves, 1990). For convenience, we label these strategies as part of a larger "RDDU paradigm" in American education (i.e., the **r**esearch, **d**evelopment, **d**issemination, **u**tilization paradigm).

In its earliest form, the RDDU paradigm viewed planned educational change as a linear sequence of steps beginning with research on a practical problem, moving through the development of new research-based education practices in experimental and demonstration sites, and culminating in the dissemination and utilization of research-based practices in local schools. Since that time, however, many different approaches to moving research into practice have motivated successive waves of federal education policy, beginning with the ambitious curriculum reforms of the 1960's, continuing through the development of various federal programs during the 1970's and beyond, and culminating in today's emphasis on the adoption and utilization of "research-based" practices in the No Child Left Behind Act of 2001. As we discuss below, the problem of moving research-based practices into schools has proven far more complex than early proponents of the RDDU model anticipated, and as a result, an enormous research literature on the dynamics of planned educational change has developed that is of direct relevance to the problem of comprehensive school reform.

A second idea shaping the contemporary emphasis on comprehensive school reform arises out of the federal government's evolving strategies for using the Title I program as a

lever for change in America's high-poverty schools. In its initial stages, Title I simply provided local school systems with additional funds to operate programs for disadvantaged students, under the optimistic assumption that, given additional resources, local schools would not only target funds toward the disadvantaged, but also succeed in improving educational outcomes for such students. However, these early assumptions proved as nettlesome as those guiding the early RDDU model. For example, in the earliest days of the Title I program, some schools used Title I resources as a kind of general aid program, leading to increased regulatory guidance from the federal government about how to "target" Title I services toward specific groups of pupils within schools. But this led to the tendency for schools to use pullout and other supplemental programs that had little broad impact on school operations and did little to promote systemic change within schools. Therefore, over the years, the Title I program has begun to move away from an emphasis on targeted assistance and toward an emphasis on schoolwide change, especially in schools serving high proportions of economically disadvantaged students.

Today's movement toward "comprehensive" school reform has its roots in these two seminal, post-war ideas about how to stimulate instructional improvement in American schools. As a result, the CSR movement can benefit from decades of research on planned educational change and from decades of research on, and shifts in, the federal government's Title I program. To illustrate how these two seminal ideas about educational improvement emerged over several decades, we turn now to a brief history of the trends just discussed and to a discussion of how these trends contributed to current thinking about comprehensive school reform.

RDDU as a Strategy for Educational Change

Decades of experience with the RDDU model in education suggest that research-based innovations are not easily implemented inside schools. This problem was first recognized in evaluative studies of the ambitious curricular reforms undertaken in the 1960's. At that time, a number of pioneering studies of curriculum innovation came to the conclusion (unsurprising today, but stunning at the time) that teachers' use of new, research-based curriculum materials was extremely varied. Darling-Hammond and Snyder (1992: 63), for example, cite a finding from one such study, which examined implementation of the innovative BSCS biology curriculum in schools. As they note, the study "revealed that teachers teaching the same lesson from the same [BSCS] course versions to classes of similar ability levels taught so differently that 'there really is no such thing as a BSCS curriculum … in the schools.'"

Around the same time, education researchers and policy makers started conducting large-scale, social experiments as a way of testing the effects of innovative educational programs on student outcomes (Cross, 2004: 46). In the early 1970's, for example, the federal government sponsored a set of ambitious experiments examining the effects of planned variations in the federal government's Head Start and Follow Through programs—two programs aimed at improving the educational experiences of pre-school and early elementary aged children. Like the evaluative studies of curricular implementation, these massive studies came to the conclusion that planned educational programs were implemented quite variably in local settings, so much so, in fact, that many researchers began to doubt that

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faithful implementation of research-based practices would ever occur inside schools (see, for example, the essays in Rivlin and Timpane, 1975).

Perhaps the most significant study reaching this conclusion, however, was the RAND study of Federal Policies Supporting Educational Change, also known as the RAND "change agent" study (Berman and McLaughlin, 1975). This study, which looked at the implementation of several different federal education programs designed to spur educational innovation (including Title III of ESEA, the Right-to-Read program, Vocational Education, Part D, and Title VII, Bilingual Education) came to the conclusion that none of these programs was being implemented faithfully in local schools. So prevalent was this lack of faithful implementation, in fact, that the RAND researchers abandoned the notion of "high fidelity" implementation altogether in their report and instead discussed three outcomes of implementation efforts: non-implementation, co-optation (where an innovation is so completely adapted to the local context that it loses all distinctiveness), and mutual adaptation (where an innovation is adapted to the local setting *but* where the local setting also is adapted to the innovation). In this study, non-implementation and co-optation were found to be far more prevalent than mutual adaptation, with the result that many observers viewed the RAND study as signaling the near impossibility of faithfully implementing externally-designed innovations. Firestone and Corbett (1988: 324), for example, note that as a result of the RAND change agent study, "the proposition that centrally developed innovations [c]ould …[never]… be implemented locally became widely accepted and publicized by academics, policy makers, and even the popular press…and federal funding for such efforts dropped dramatically…In its place emerged a 'let a thousand flowers bloom' theory [of educational change] that stressed local invention…and the development of a built-in 'capacity' to improve at the school or district site."

As it turns out, however, the RAND change agent study was but one of many studies of planned educational change conducted in the 1970's and 1980's, and more importantly, it produced a unique and especially pessimistic set of findings. As Firestone and Corbett (1988: 324) note, the federal programs studied by RAND researchers were grants programs that provided relatively small amounts of funding with only very broad guidelines for use in local schools and districts, and local educators were expected to find their own innovations and secure technical assistance for program implementation on their own. Other studies of planned educational change conducted around the same time showed that more ambitious and clearly specified programs, offering much more intensive support for implementation to local educators, in fact achieved much higher levels of faithful implementation than did the programs studied by RAND (see, for example, Crandall and Loucks, 1983; Emrick et al., 1977; and Louis et al., 1981).

Moreover, buried within the massive, five volume report of the RAND change agent study were a number of insights about factors promoting more successful and lasting implementation of planned educational change efforts—insights that have been confirmed repeatedly in successive waves of research on educational change. For example, the RAND researchers, like many after them, found that in addition to the characteristics of the local setting, the implementation strategy used by external change agents and the scope of the innovative project affected implementation outcomes. In particular, where teachers received more training, had frequent and regular meetings associated with such training, were asked to make more (rather than less) extensive changes in practice, were provided with well-

developed materials ready for use, and were given opportunities to participate in day-to-day decisions about program implementation, implementation outcomes were more favorable. Moreover, innovative projects were more likely to be continued in sites where project goals and district goals were aligned, where superintendents had more longevity, and where principals were more supportive of the innovation (Berman and Pauly, 1975). These findings are perfectly in line with the results of other studies of planned educational change conducted around the same time, studies that Firestone and Corbett (1988: 324) interpreted as showing that "centrally supported assistance strategies combining a mix of quality products and effective assistance in a manner responsive to local concerns [can] promote local change."

Evolution of the Title I Program

This brief review suggests that research on planned educational change provides one line of evidence about what is required to successfully implement research-based practices in schools. But another set of developments in American education suggests that these practices should be used as part of a *comprehensive* process of school improvement that is schoolwide in scope, ambitious in aims, and attentive to the alignment of many different aspects of a school's educational program.

This idea has been especially prominent in recent efforts to use the Title I program as a lever for change America's high-poverty schools. As originally conceived, the Title I program was intended simply as an additional revenue stream for schools serving high percentages of economically disadvantaged students. Cross (2004: 29-30) quotes Samuel Halperin, a federal education official, as saying, "In 1965, everyone had a naïve view of education. We felt… all you needed to do was give [educators] some tools and some dollars and good things would happen. They didn't need a lot of specifics…it was assumed the right thing would happen." Later evaluations of the Title I program, however, proved this assumption incorrect. In some cases, Title I monies were misused in local districts, and over time, after successive evaluations of the Title I program showed negligible program effects on student achievement, dissatisfaction with the program became endemic (Cross, 2004: 30).

While there have been many changes to the Title I program since its inception in 1965—including major provisions emphasizing high academic standards and accountability for student performance—the direction of change most relevant to this chapter is the movement away from Title I as a model of targeted assistance toward its use to stimulate *schoolwide* programs of instructional improvement. Ironically, the current emphasis on schoolwide change resulted from early interest in preventing the use of Title I funds as general aid to local school systems, which led the federal government to develop various guidelines and fiscal accounting practices encouraging school systems to target Title I instructional services through use of pullout and targeted in-class service delivery models. Over time, however, in-depth evaluations of the Title I program, and much writing about the delivery of compensatory education services to students, found shortcomings in this model of targeted service delivery (for a review, see Rowan and Guthrie, 1989). The problem, it appears, was not so much the use of pullout and in-class arrangements *per se* as it was the lack of coordination that often resulted in schools when a targeted service delivery model was in place. Indeed, at least one study found that student achievement was higher in Title I schools that had higher levels of schoolwide coordination of curriculum, instruction, and remedial services.

Concerns about lack of coordination inside Title I schools, plus a growing literature on the characteristics of effective schools more generally, led to an important change in the Title I program with passage of the Hawkins-Stafford Amendments to Chapter 1 (now Title I) in 1988. This change made it much easier for schools to operate "schoolwide" models of Title I service delivery. In essence, schoolwide models allowed schools to blend Title I and other funds together in order to better coordinate compensatory and regular education instructional programs and to provide Title I services to *all* students in a school. In 1988, the threshold for operating such a program was set at schools with 75% of students qualifying for Title I assistance, but in 1994 this threshold was changed to 50%. By 1996, roughly 50% of all schools eligible to operate schoolwide programs under Title I were doing so.

The theory of action underlying Title I schoolwide programs was that schools using this model would develop more comprehensive (and less fragmentary) strategies for instructional improvement (Wong and Meyer, 1998). Building on research on effective schools, it was assumed that schoolwide programs would stimulate an integrated set of changes to many different aspects of a school's educational program (Desimone, 2002). In one sense, the strategy was to "let a thousand flowers bloom" by letting each school work on its own to achieve these aims. Subsequent research, however, showed that the desired process of school reform was occurring in only some of the schools pursuing the Title I schoolwide option. Moreover, research on the effects of schoolwide programs on student achievement was inconclusive, with improvements in achievement occurring in some jurisdictions, but not others (Wong and Meyer, 1998).

Despite these uneven results, practicing educators, policy makers, and researchers were enthusiastic about the move toward schoolwide programs. To be sure, the results of the program were uneven. But practicing educators believed schoolwide programs allowed more flexible use of Title I funds and produced a better fit of Title I-funded activities with the rest of the school's educational program (Wong and Meyer, 1998). Meanwhile, some prominent researchers were arguing that the use of Title I funds on a schoolwide basis would give high-poverty schools more latitude to fund an array of proven, replicable, schoolwide improvement programs (Slavin, 1999). Finally, policy makers were proud that 90% of the schools initially operating schoolwide programs had attained the achievement gains required to maintain their status in the program (Wong and Meyer, 1998).

<u>The Emergence of Comprehensive School Reform</u>

Our discussion suggests that current ideas about comprehensive school reform have their roots in two main ideas in American education. One is the continuing quest to move research-based practices into schools; the second is the idea that this will occur best when undertaken in conjunction with a *schoolwide* process of change that integrates new practices with many other aspects of a school's educational program. In this section, we show how these two ideas came together with particular force in the 1990's as a result of two further developments—the founding in 1991 of the New American Schools Development Corporation, and the authorization by Congress in 1997 of the Comprehensive School Reform Demonstration program.

New American Schools

Arguably one of the most important developments in American education during the past decade was the founding of the New American Schools Development Corporation (NASDC) as a private, non-profit corporation in 1991. Spawned as part of President George H.W. Bush's *America 2000* initiative, NASDC (now New American Schools, hereafter NAS) developed under the leadership of David Kearns, Chairman Emeritus of the Xerox Corporation and former Deputy Secretary of Education. This was an extraordinary private-public partnership that raised more than $130 million in contributions from the nation's top businesses and foundations to foster development of "a new generation of American schools."

As Berends, Bodilly, and Kirby (2002: xv) note, NAS founders believed that past reform efforts in schools were too often "programmatic" in orientation, that is, focused on particular subgroups of students, isolated subjects, or selected grade levels in a school. Like many before them, the NAS founders decried this fragmented approach to school improvement and wanted to invent more comprehensive approaches to school improvement. In the words of Berends et al. (2002: xv, emphasis in original), " NAS's core premise was that all high-quality schools possess, de facto, a unifying design that…integrates research-based practices into a *coherent* and *mutually-reinforcing* set of effective approaches to teaching and learning for the entire school."

To promote the proliferation and adoption of such designs, NAS decided in 1991 to fund the development of several new, "break the mold" designs for whole-school reform through a grants competition. After selecting 11 design teams from a competitive request for proposals that was responded to by over 600 applicants, NAS then began with a development phase of one year, during which time design teams created their whole-school designs; a demonstration phase of two years, during which time designs were implemented in a small number of demonstration sites; and a scale-up phase of five years in which the designs were implemented in a wider set of school districts that were chosen by NAS to cooperate in this phase of work.

Launched with a great enthusiasm, the NAS initiative met with the same uneven results as most previous efforts to reform American schools. Hatch (2000) provides a particularly interesting assessment of the initiative, acknowledging both its achievements and its disappointments. One interesting development, consistent with the process of venture capitalism after which NAS modeled its activities, was that 4 of the original 11 design teams failed to survive the arduous process of moving out of the development phase and into the scale-up phase. A second development was that only half the schools participating in the scale-up phase ended up implementing the designs at the rate anticipated by the design teams, confirming that even thoughtful attention to the problem of implementation provides only an uncertain guarantee of success (for more detail on these findings, see the report by RAND researchers Berends, Bodilly, and Kirby, 2002).

Despite the uneven successes, the creation of NAS and the bringing to scale of 7 new designs had a major impact on American education. For one, this major effort spawned a whole new "theory of action" in the area of school improvement—due in no small part to the exemplary efforts of RAND researchers, who both articulated the NAS theory of action,

and evaluated its results (for a review of the RAND team's work, see Berends, Bodilly, and Kirby, 2002). For example, the RAND team's work spawned a whole new language for thinking about school reform. It coined the idea of comprehensive "designs" or "models" for school improvement; it put the term "design teams" into wider use to describe organizations that both create school improvement designs and provide technical assistance to help schools implement these designs; it further articulated the logical underpinnings of "comprehensive" or "whole-school" improvement; and it provided a substantial body of research showing the conditions under which such a theory of action seemed to work in practice. Moreover, all of this effort—by NAS, its design teams, the jurisdictions involved in the scale-up phase, and the RAND research team—led to a further expansion of CSR. By 1997, NAS-sponsored design teams were working with 685 separate schools, and their successes had led to the creation of even more "design teams" outside the umbrella of NAS, and to the adoption of CSR designs by even more schools across the country (Hatch, 2000).

The Comprehensive School Reform Demonstration Act

All of this was aided by a second important development—the 1997 passage by Congress of the Comprehensive School Reform Demonstration Act. Initially, this legislation authorized the expenditure of up to $145 million, providing individual schools up to $50,000 to implement comprehensive designs for school improvement (Hatch, 2000). Funding for the program was subsequently expanded, and with the passage of No Child Left Behind in 2001, the term "demonstration" was dropped from the act. At that point, authorized expenditures were raised to $310 million. Today, a database maintained by the Southwest Educational Development Laboratory shows that 5160 schools have received funding under the CSR program and that over 800 different "models" or "designs" have been implemented.

The emergence of a federal program did still more to articulate the logic of comprehensive school reform and hasten its adoption by schools across the country. In particular, the current law requires schools receiving CSR funds to demonstrate that they have addressed eleven attributes of a "comprehensive" school improvement program. For convenience, these attributes can be described as follows. First, schools using CSR funds must provide for meaningful parent and community involvement in the process of planning for, implementing, and evaluating CSR, and they must identify resources (in addition to the CSR program) that will be used to support and sustain their efforts. Second, schools using CSR funds must employ proven educational methods derived from scientifically-based research, methods that have a proven record (or strong evidence) of improving student achievement. Third, schools using CSR funds must make every effort to integrate these research-based methods into a comprehensive design with aligned components that has the support of teachers, administrators, and staff at the school and that includes measurable goals and benchmarks for student achievement. Fourth, schools using CSR must seek out and use an external partner with experience and expertise in schoolwide reform and work with that partner to get high-quality technical support and assistance for ongoing, high-quality professional development for teachers and staff. Finally, schools using CSR funds must make plans for evaluating progress toward implementation and student results, annually.

The stimulus this CSR legislation provided for comprehensive school reform is nothing short of remarkable. Today, we estimate that somewhere between 10% and 20% of all

elementary schools in the United States have adopted an external model of CSR or are working with their own locally-developed model. And this has stimulated the growth of technical assistance for CSR, as well as a growing research and practice literature on it. Today, many different agencies are working to provide schools with information and guidance about how to engage in CSR, including not only a growing list of "model providers," but also NAS, the National Clearinghouse on Comprehensive School Reform (NCCSR), all of the regional educational laboratories, the AFT, and a variety of non-profit research and development agencies such as the American Institutes for Research and RAND.

These organizations have published many guidebooks describing the main features of various CSR models, promulgating research evidence on the effectiveness of these models, and/or providing advice about how to select a CSR model. There is also a growing research literature describing how CSR unfolds in practice and charting the effects of various CSR efforts on student achievement (reviewed below). Most of this literature, it should be noted, focuses on the largest and most widely-disseminated CSR models (like the Accelerated Schools Program, America's Choice, the Coalition of Essential Schools, Co-Nect, Core Knowledge, Direction Instruction, Expeditionary Learning/Outward Bound, Modern Red Schoolhouse, the School Development Program, Success for All, and others). But it is important to remember that many, many other CSR models exist, some locally-developed.
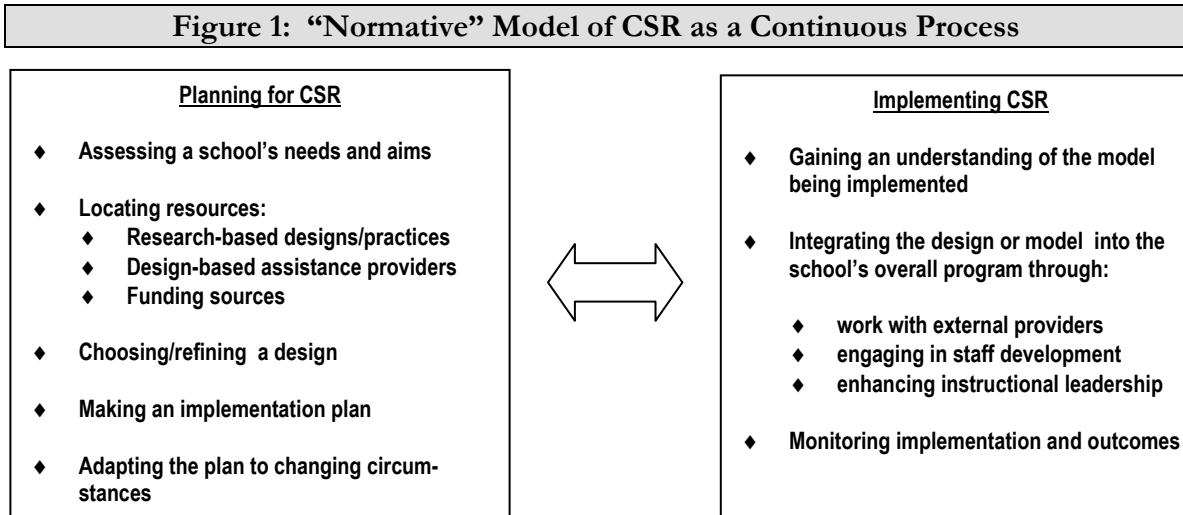
A Normative Model of the CSR Process

The previous section demonstrates that a new theory of comprehensive school reform emerged during the 1990's. Much of the writing about this theory, however, has been "normative" in perspective—that is, oriented to making recommendations about how to proceed when undertaking CSR. In this section, we review this normative literature, along with empirical research suggesting the various ways in which schools often fall short of implementing the theory in practice as well as studies confirming the efficacy of the model.

Figure 1 (next page) shows our version of the "normative" model of CSR. The figure is meant to portray CSR as a *continuous* process of improvement unfolding over time. In the model, a school enters the CSR process (on the left hand side of the figure) at the planning stage, assessing its needs and aims, scanning the environment for research-based practices or models of whole-school reform that meet these needs, and locating external assistance providers with proven records of providing support to schools. The initial planning phase concludes with the choice of a model and a plan and budget for implementing that model. The right hand side of Figure 1 describes an idealized implementation phase. Here, schools begin integrating their chosen model into their ongoing educational program by working with an external provider, engaging in staff development, and working to adjust other elements of the school program in support of new practices. Finally, Figure 1 suggests that CSR is a *continuous* process. The two-way arrow running between the left and right hand boxes of Figure 1 is meant to suggest a feedback loop that feeds information about implementation and effects on student achievement back into the planning process to produce a new cycle of planning and implementation.

In our view, this "normative" model captures the intent of CSR legislation, as well as the large practice literature providing schools with guidance about how to engage in CSR. But, as we are about to see, many schools end up departing from this model in significant

ways. Thus, the next two sections of this chapter discuss some of the research literature showing common ways that schools depart from the normative model in practice and also how such departures affect implementation outcomes.

Figure 1: "Normative" Model of CSR as a Continuous Process

Planning for CSR		**Implementing CSR**
♦ **Assessing a school's needs and aims** ♦ **Locating resources:** 　♦ **Research-based designs/practices** 　♦ **Design-based assistance providers** 　♦ **Funding sources** ♦ **Choosing/refining a design** ♦ **Making an implementation plan** ♦ **Adapting the plan to changing circum-stances**	⟺	♦ **Gaining an understanding of the model being implemented** ♦ **Integrating the design or model into the school's overall program through:** 　♦ **work with external providers** 　♦ **engaging in staff development** 　♦ **enhancing instructional leadership** ♦ **Monitoring implementation and outcomes**

The CSR Planning Process

There is no shortage of guidance about how to engage in the CSR planning process. The large literature on planned educational change, especially, emphasizes the importance of planning in any process of school change (e.g., Crandall et al., 1986; Louis and Miles, 1990; Fullan, 1991). Because of this, anyone undertaking a CSR planning process would be advised to consult one or more of the many guidebooks and planning tools now available to assist in planning for CSR. Among the guides that we have found helpful is Stringfield (1998). The reader also can consult the web sites of any regional education laboratory or the National Clearinghouse on Comprehensive School Reform (NCCSR) to obtain a wealth of additional information on the CSR planning process, as well as links to even more planning resources. In the paragraphs that follow, we discuss some of the most salient features of this literature.

As we shall see, the practice literature repeatedly emphasizes development of an inclusive planning process, one that that mobilizes a cross-section of parents, staff, teachers, and administrators at a school. Moreover, the literature suggests that planning should begin with a needs assessment targeting a school's improvement goals, proceed to careful research on alternative "designs" or research-based practices, including a search for external assistance providers, and then proceed to building a plan for implementation and evaluation of progress. The general literature on planning reminds us that this is best thought of as an *evolutionary* process in which initial plans are open to modification on the basis of serendipitous events and/or information gathered from monitoring of implementation progress (Louis and Miles, 1990). The practice literature also reminds us that in order to successfully "install" a new set of practices or a research-based design inside a school, school leaders will have to attend to the tricky problem of altering a school's organizational culture in ways that support new designs and practices (Fullan, 1991).

<u>Due Diligence in Planning</u>

The empirical literature on CSR shows how difficult this planning process can be. One problem is that CSR planning is often rushed in schools—probably because of a felt need to improve student achievement scores quickly, but also because of pressure from district offices. Yet hurried planning has been found to negatively affect CSR implementation (Datnow and Stringfield, 2000; Berends, Bodilly, and Kirby, 2002). The benefits of due diligence in planning are many. A slower and more deliberative process allows schools to consider more carefully the match between external designs and a school's current programs and practices, as well to consider the match of external designs to a school's organizational "culture" more broadly. For example, Bodilly (1996), Datnow (2000), and Datnow and Stringfield (2000) all have found that careful matching of external designs to school needs, culture, and existing programs increases implementation success. Equally important, a careful planning process allows teachers and administrators to better understand the demands of specific changes. Hall and Hord (1987), for example, describe the need for those working at change to understand the personal consequences of such efforts during the earliest stages of a reform initiative. Among the important concerns at this stage will be the amount of time required by the change effort, the specific activities to be undertaken, and other practical issues. Addressing these issues is especially important in schools with "crowded" reform agendas, where teacher and administrator overload can be a real problem (Desimone, 2002). In fact, careful consideration of teacher needs at the earliest stages of CSR has been found to increase implementation success (Nunnery et al., 1997).

Research on planned educational change also emphasizes the *evolutionary* nature of planning—the idea that planning is not simply a "front end" activity, but is done constantly over the long haul. One reason for this emphasis is that change efforts—and especially complex efforts such as CSR—require significant lengths of time to achieve full implementation (upwards of 5-10 years by many accounts). As the RAND studies of NAS design implementation showed, a significant number of schools will achieve only partial implementation of complex designs after a period of three to four years (Berends, Bodilly, and Kirby, 2002). Implementation also can be slowed by teacher, student, and leader turnover (Muncey and McQuillan, 1996; Ross, Troutman, et al., 1997; Stringfield et al., 1998). Yet, in the current education policy environment, school systems often demand immediate payoffs from school reform, leading to occasions where complex change efforts are given insufficient time to succeed, and where planning veers from one direction to another without continuity. Successful change efforts, on the other hand, are continuous—not discontinuous. Moreover, they make realistic assessments of the time it takes to produce fundamental organizational change (Fullan, 1991).

<u>Inclusiveness of the Planning Process</u>

Another departure from the normative model occurs when planning takes place in a highly politicized context. Desimone (2000), for example, argues that a more inclusive process adds legitimacy to the CSR process, thus enhancing implementation success. Research evidence supports this view. Nevertheless, it appears that in many schools, broad inclusion of many different constituencies in the earliest stages of CSR is often absent. For example, we know that in many schools, administrative pressure, rather than broad participation by

the school community, drives the reform process (Huberman and Miles, 1984; Datnow, 2000). To some extent, administrative pressure is an important element in stimulating change efforts, as Fullan's (1991) idea about the need for administrative pressure and support suggests. But as Datnow (2000) notes, asymmetrical power plays can negatively affect both the legitimacy of CSR within a school, and its subsequent implementation.

In fact, empirical research on CSR implementation confirms the importance of inclusive practices. Research on CSR implementation in Memphis, for example, showed that parent and community involvement in planning and implementation produced more positive implementation outcomes (Ross et al., 1997; Smith et al., 1997). Other studies point to a need for district representation at all stages of the CSR process. For example, Bodilly and Berends (1999), Cook et al. (1999), Muncey and McQuillan (1996), and Stringfield, Datnow and Ross (1998) have all reported that district support and guidance played a key role in successful implementation of CSR efforts. Districts can be especially important at the earliest stages of the CSR process by providing information about alternative CSR designs (Bodilly, 1998), and by providing input into the pace, direction, and form of change (Desimone, 2000).

Obviously, inclusion of teachers at early stages of CSR planning is important as well. The general literature on planned educational change places repeated emphasis on teacher "buy-in" as a key to successful school reform (e.g., Berman and McLaughlin, 1975; Fullan, 1991; Louis and Marks, 1998). The CSR literature also emphasizes this practice, emphasizing the role of teachers in choosing an external design for school improvement, usually through a faculty "buy-in" vote (Bodilly, 1996; 1998; Datnow et al., 1998; Ross, Henry et al., 1997; Stringfield et al., 1997). But Datnow (2000) has found that "buy-in" votes can be inauthentic expressions of teachers' real feelings, especially when power plays by administrators affect voting behavior. Moreover, there are many other ways in which teachers can and should be included in an authentic process of participation. Decades of research on planned educational change suggest the importance of teachers having full information on planned educational changes (Hall and Hord, 1987). At the earliest stages, especially, teachers need to understand the practical demands of a reform effort, how change efforts relate to their current values and work practices, the opportunities they will be given to learn new practices, the incentives and sanctions that will brought to bear during the change process, and so on. All of this argues for inclusion of teachers at *every* step of the CSR process—but especially in the early processes of needs assessment, researching alternative designs for change, selection of a design to be implemented, and choice of external agents to provide implementation assistance.

Obtaining Information on CSR Designs and Design-Based Assistance

The CSR literature also calls for local schools to obtain rich information about alternative research-based models for change and about the organizations that provide design-based assistance to schools. In this section, we discuss this literature.

To begin, the CSR literature contains much practical guidance about how to analyze the fit of different "models or "designs" to a school's specific situation *prior* to model adoption. Attention to model fit within the local context makes sense, since the general literature on planned educational change demonstrates that successful innovations are classroom

friendly, well-defined, practical, and relevant to teachers' needs and interests (Huberman, 1983). Of special note, however, is the emphasis placed in the CSR literature on finding out about the *research* base for CSR models prior to implementation. Because of this emphasis, several guidebooks have been written compiling the research evidence standing behind the most well-known CSR models (Hermann, 1999; Northwest Regional Educational Laboratory, 1998). In addition, Stringfield (1998) has offered useful advice about how to evaluate the research base of reform models.

There are formidable problems associated with evaluating the research basis for most CSR models, however. For one, only a handful of the hundreds and hundreds of such models now in use have been evaluated by "scientific" standards (Hermann, 1999; Borman et al., 2003). Moreover, practitioners usually do not have sufficient information or training to judge the quality of scientific evidence lying behind claims for effectiveness made by designers. On the other hand, analyses of the state of research on particular CSR models might not make as much of a difference to the actual choice of CSR models as many analysts think, or CSR legislation requires, since a great deal of research suggests that even where strong scientific research exists, it is seldom the determining feature driving adoption of innovations by working professionals. Instead, it appears that professionals in applied settings filter research evidence through the lens of their own theories-in-use, so that the more consonant the evidence is with their existing preferences, the more likely it is to be accepted and put into use (Dunn, Holzner, and Zaltman, 1990).

None of this is meant to de-emphasize the importance of searching for information about models and practices. But it does suggest two things. First, those seeking to evaluate and build support for the adoption of particular CSR models in a given school setting would do well to do more than look for "scientific" evidence of effectiveness—which in most cases will be scarce or ambiguous. Stringfield (1998), for example, presents a number of strategies, not only for evaluating the evidentiary claims about a CSR model's effectiveness, but also for assessing its fit to a school, the experiences of prior adopters, the philosophical underpinnings of the model, the practical demands it will make on implementers, the costs and feasibility in the local setting, and so on. This is sound advice, suggesting that scientific evidence of effectiveness should serve as a necessary criteria for program selection, but that once a set of effective programs have been selected, other factors can be taken into account in selecting a final program to be implemented in a particular school setting.

Similar advice pertains to the choice of external providers of design-based assistance. Since assistance providers are usually closely associated with a particular CSR model, the adopter needs information about what services will be received, the track record of the assistance providers in similar contexts, and so on. A particularly useful practical guide to working with assistance providers was developed by NAS (2000). This document (available on the NAS web site) lists guidelines for assuring the quality of design-based assistance, has a toolkit for engaging in a selection process, and even includes a standard contract that can be used in negotiating a service agreement.

Developing an Evaluation Strategy

Although the CSR literature places emphasis on gathering information about models and model providers prior to adoption, it is important to remember that teachers and school

administrators will be in a much better position to evaluate the impact of a CSR model *after* it has been put into use in their school. As Hall and Hord (1987) note, after some period of use, the concerns of adopters usually evolve from practical concerns (how long will take to make a change? what do I have to do in the process?) to concerns about the impact of the change on tasks and outcomes. This is another reason to stress the *evolutionary* nature of CSR planning, for sound judgements about the fit and impact of an innovation in a particular local context are much better determined after the innovation has been put in use. Only after the innovation has been put into use can school professionals truly judge its fit and impact in the local setting and begin the process of mutual adaptation between the external model and local context that is the hallmark of comprehensive school reform.

An important part of this process is formative evaluation for continuous improvement. The CSR literature, for example, repeatedly recommends the establishment of benchmarks for implementation and student outcomes as part of any CSR effort. Schools that have adopted an externally-developed CSR model supported by a design-based assistance provider should expect the external provider to have developed such benchmarks, based on the provider's experience in many schools. The provider also should have a strategy for using those benchmarks in a process of formative evaluation. In many cases, progress toward benchmarks will be assessed by staff from the external provider, but as Ross (2000) notes, school improvement teams can also develop their own set of benchmarks and evaluation tools, either to supplement those used by external assistance providers, or if pursuing a "home-grown" model. The benchmarking process begins by outlining all of the components of a design or model to be implemented, along with a sense of how long it will take to achieve particular levels of implementation for each component, and rubrics describing different levels of implementation. Schools can then use a variety of methodologies described by Ross (2000) to assess progress toward the benchmarks—including questionnaires, focus group and individual interviews, and school and classroom observation protocols. In addition, schools should establish expectations about student outcomes, and by law, schools receiving CSR funds need to evaluate student outcomes on an annual basis. Again, Ross (2000) provides relevant guidance on this issue.

Of course, the process of formative evaluation is both time-consuming and useless if results are not used to plan for further action. Ross (2000) suggests that given the time commitments and challenges faced by teachers and leaders in CSR efforts, the process of formative evaluation might be accomplished better by external providers, third-party evaluators, or district personnel than by school staff. He also suggests strategies for feeding evaluation findings back to the school as a means of stimulating continuous improvement. The effectiveness of using results from formative evaluations is well established in the general literature on planned educational change (Fullan, 1991). When fed into naturally-occurring work groups such as grade level teams, school improvement teams, or other faculty groups, evaluative information on processes and outcomes directly addresses the concerns of innovation users about the practicality and consequences of their change efforts, and (if the process is working well) can enhance the commitment of school staff to the change process. As Crandall et al. (1986: 34) note, "The commitment of teachers increases as they simultaneously see themselves master the practice and perceive that their students are doing better." Moreover, information from formative evaluations is a critical part of what Miles (1992) called the development of problem-coping strategies within a process of evolutionary planning—a sustained "mindfulness" leading to further diagnosis and action-taking.

<u>Resource Considerations</u>

The final element of a CSR plan discussed in this chapter is budget development.
Several studies of CSR have noted the obvious centrality of resources to implementation
success (for a review, see Desimone, 2002). Reflecting on the NSAS experience, Glennan
(1998) found that design implementation is vitally affected by resource constraints, and that
implementation is weaker or ends with lack of resources. Similarly, Berends, Bodilly, and
Kirby (2002) note that lack of funding was the single most important reason teachers im-
plementing NAS designs cited for dropping a design. The Memphis studies of NAS design
implementation support these findings, showing that schools with the most implementation
success were those that had both an organizing principle around which to allocate resources
and more resources to work with (Ross, Troutman, et al., 1997; Smith et al., 1997). Desi-
mone(2000) suggests that allocation of sufficient resources is taken by teachers as a sign of
organizational commitment to the CSR process. This is supported by Berends' (2000) find-
ing that teachers who reported having more resources also reported higher commitment to
the CSR process.

Because of the importance of resources to design implementation, the CSR practice
literature contains useful advice about how to allocate resources in support of CSR efforts.
Odden's (2000) discussion of this issue is particularly helpful. Working from a set of budget
assumptions, Odden demonstrates that the first-year costs of adopting several promising
NAS-supported designs can be covered using a variety of funding strategies. But each of
these strategies involves a change in the current staffing and resource allocation patterns
used in schools. The strategies developed by Odden (2000: 11), for example, closely follow
recommendations of the NAS design teams that he analyzed, and they call for a significant
restructuring of roles within schools. In particular, NAS designs often expand the role of
classroom teachers to include some of the responsibilities previously performed by various
categorical and student personnel specialists in schools, whom Odden recommends be
dropped from school budgets. To offset the increased demands on teachers arising from
these changes, NAS designs typically reduce class size, so that the expanded teacher role is
accompanied by a reduced student load. Moreover, funds formerly devoted to various
school specialists are now used to employ additional instructional leaders and to significantly
increase staff development.

Overall, the strategies discussed by Odden (2000) can be difficult to implement in
some settings. First, they require the loss (or at least reclassification) of some jobs. More-
over, his strategies work best in sufficiently-funded schools—not in schools that are re-
source starved and lack the funds that Odden's re-allocation strategy depends on. Moreover,
it is quite possible that Odden's figures underestimate at least one important cost of school
restructuring and CSR. That is the non-reimbursed expense of additional time for common
planning and instructional coordination occurring outside paid professional development
time. Common planning time has been found to be central to the process of successful
school change in many studies (Bodilly 1998; Darling-Hammond and Miles, 1998; Muncey
and McQuillan, 1996; Ross, Troutman, et al., 1997). So, if schools do not already have
common planning time built into their schedules, this is an additional resource that must be
obtained to implement CSR successfully.

The CSR Implementation Process

In this section, we turn from a review of the literature on planning for CSR to a review of research on CSR implementation. A growing body of research on this issue is available, but much it of consists of research on just a few of the CSR models currently operating. The best (and most highly-cited) research, for example, comes from the RAND study of the original NAS designs (Berends, Bodilly, and Kirby, 2002; Stringfield, Ross, and Smith, 1996) as well as research on a handful of other widely-disseminated CSR models such as the Accelerated Schools Program (Finnan et al., 1996); America's Choice (Supovitz, Poglinco, and Snyder, 2001), the Coalition of Essential Schools (Muncey and McQuillan, 1996), the Comer School Development Program (Cook et al., 1999; Haynes, 1998), Core Knowledge (Datnow et al., 1998), and Success for All (Datnow and Castellano, 2000). Care should be taken in generalizing from this limited body of research. One problem is that attention to just a few models potentially limits the external validity of research on CSR implementation. But equally important, CSR models—especially the most heavily-studied studied ones—are evolving constantly as their design teams continue to refine the models and change procedures used to support local implementation.

Despite these cautions, much has been learned about the process of CSR implementation through research. Moreover, research on CSR implementation is quite consistent with research on planned educational change generally. In particular, research on CSR implementation, like research on planned educational change, shows great variability in local implementation. Apparently, variability in CSR implementation results in part from differences in the characteristics of CSR models themselves, but implementation of the same CSR model has been found to vary across district and school contexts, and teachers implementing the same CSR model within the same school also show variability in implementation (see, for example, Berends, Bodilly, and Kirby, 2002). This section reviews research seeking to account for this variability and describes several factors that have been found in previous research to improve implementation outcomes.

The Effects of CSR Designs on Implementation

One factor affecting implementation is the overall "design" of CSR models, some of which appear to be more easily and faithfully implemented than others (Desimone, 2000; Berends, Bodilly, and Kirby, 2002). This is consistent with previous research on planned educational change, which found that the characteristics of an educational innovation affected its prospects for implementation (Firestone and Corbett, 1988). In particular, the literature on planned educational change suggests that innovations that are very clear and specific in the guidance they provide for implementation, and those that also provide technical assistance to support implementation, are the ones that end up being well implemented. As we shall see, a similar set of findings has emerged from research on CSR.

Many researchers have tried to develop a conceptual framework for describing the design or characteristics of various CSR models. In the sense used here, a "design" is a kind of blueprint for change that varies along two dimensions. First, the design of any CSR program will identify some *targets of change*. That is, it will delineate the particular features of schooling that are to be restructured as a result of the CSR process. Second, CSR models will have *designs for bringing about change* that include not only descriptions of what the targets

of change should look like after successful implementation, but also specific ideas about the people and processes that will be involved in bringing about these changes.

Targets of Change. In thinking about targets of change, it is important to recall that the aim of CSR is to bring about *comprehensive* change in schools. For this reason, we should expect CSR models to have many targets of change, including changes in the areas of curriculum and instruction, school organization and management, family and community participation, and so on. As discussed earlier, the federal government's CSR legislation suggests 11 characteristics of any CSR program, and these areas can be seen as constituting a wide variety of targets for school change. As it turns out, however, CSR models differ in the number of elements they target for change. For this reason, various guidebooks have been developed to help practicing educators get a sense of changes targeted by particular CSR models. We have found two of these guides especially useful, one developed by the American Institutes for Research (Herman et al., 1999) and another by NWREL/NCCSR (1998-2003).

Overall, the guidebooks show that CSR models can differ in the extent to which they emphasize different targets of change in schools. Some designs primarily seek to change organizational processes within schools, for example, school planning processes and/or decision making structures. Often, the assumption is that these organizational changes will provide a springboard for later (but less well-specified) changes in curriculum and instruction. The Accelerated Schools program and the Comer School Development program are examples of this approach. Other programs focus directly on changes to the curriculum, but little else. The Core Knowledge program is a particularly striking example of this approach. It focuses largely on changes in curriculum materials, providing only minimal guidance about changes to instructional practice or school organization and management. Still other models focus on curriculum and instruction *and* organizational and managerial arrangements. But here too, comprehensiveness can vary. For example, Success for All focuses intensively on a single curricular area (elementary school literacy instruction), but it does so comprehensively, by calling for changes in curriculum, instruction, grouping, assessment, staffing, and other elements of a school. Still other CSR models focus on multiple areas of the curriculum and seek comprehensive changes in schools, for example, Roots and Wings, Co-Nect, or Modern Red Schoolhouse.

One would expect the number or type of changes targeted by a particular design to affect the scope and pace of CSR implementation in schools. To some extent, the RAND studies of NAS design implementation support this view. For example, two of the most ambitious NAS designs (Co-Nect and Modern Red Schoolhouse) showed lower levels of implementation than schools implementing Success for All (Berends, Bodilly, and Kirby, 2002), although this might have resulted from more than the complexity of the designs, *per se*. Beyond this study, however, there is very little research on the issue of how targets for change affect CSR implementation.

An older generation of research on planned educational change does provide substantial evidence, however, that the complexity of innovations affects the implementation process. This literature has shown that simpler and less complex designs—i.e., those that require fewer changes—show smoother and faster implementation. However, simple innovations also can produce only modest changes in schools, especially if they target a single

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grade, a subset of teachers, a special program, and so on. By contrast, more complex innovations, when successfully implemented, appear to produce more fundamental change; but successful implementation of complex innovations seems to occur only when the implementation process is broken into separate parts that are carefully staged and sequenced (Firestone and Corbett, 1988: 382).

Specificity (or Clarity) of Designs. Designs differ not only in the number and kind of changes they target in schools, but also in how *clearly* the end state of the change process is described. Some designs, for example, present clear descriptions of how things should look after full implementation—for example, how instructional practices should look in well-implemented cases, or the specific organizational arrangements that are to be implemented. But other designs are less clear—often by intention. For example, the Accelerated Schools Program is very specific about how to organize decision making processes within schools to take stock of needs, create a vision for change, and govern the change process. But the design is much less specific about the kinds of instructional changes that schools are expected to make. Schools are told to aim toward "powerful learning" but that is defined broadly as instruction that is authentic, learner-centered, interactive, continuous, and inclusive. No curriculum materials are required by the program; nor does the program mandate specific instructional practices. Instead, teachers are expected to engage in an active process of discovery to arrive at "powerful learning" within their own classroom. This approach stands in strong contrast to a highly-specified instructional program like Success for All, which gives teachers an explicit set of curricular materials and lesson scripts, complete with a daily and weekly schedule of lesson activities.

The literature on planned educational change suggests that innovations that are more clearly specified are implemented more quickly and with more fidelity than those that are less clearly specified, a finding that is confirmed in research on CSR implementation literature (for reviews, see Firestone and Corbett, 1988; Desimone, 2000). With respect to CSR, Bodilly (1996), Stringfield et al. (1997), and Smith et al. (1997) all found that more clarity in design—especially the presence of a more structured curriculum, specific guidelines for classroom practice, and more training—all promoted faster and smoother CSR implementation. Others have argued that a lack of specificity explains why locally-developed CSR programs have experienced less successful implementation than externally-developed models (Desimone, 2000).

These are important insights, but as we discuss below, it is important to remember that "clarity" of design is more than a pre-existing characteristic of a program. It also emerges during the implementation process. Thus, plans for changing instruction are more clear if, prior to implementation, design teams provide school personnel with concrete descriptions of desired instructional practices in the form of various print descriptions, video tapes, or lesson scripts; but clarity also emerges when design-based assistance providers model desired instructional practices for school personnel, observe teaching practices and provide feedback, and so on. Similarly, plans to change a particular segment of the curriculum become more clear when teachers have access to curriculum guides, textbooks, or model lesson plans prior to implementation; but clarity also improves as teachers receive training from design-based assistance providers about the philosophy and uses of materials during implementation.

Blueprint for implementation support. This brings us to a third feature of program designs—their plans for assuring strong implementation in local settings. By design, models differ not only in terms of targets for change and specificity of model descriptions, but also in plans for the timing and sequencing of implementation activities, and the amount and nature of on-site assistance to be provided to schools. Partly as a result of federal CSR legislation, more and more external providers are offering higher levels of technical assistance to local schools than they did in the past. Such assistance comes in varied forms, however. It includes not only more clearly specified plans for implementation and formative assessment, but also the provision of on- or off-site staff development for teachers and school leaders, site visits by design team members to local schools (to check implementation and/or to follow up on training provided), and sometimes the appointment of dedicated personnel to local schools to assist with implementation.

These elements of CSR design make good sense. Decades of research on planned educational change show that implementation is stronger when program developers provide on-site technical support for local implementation (Crandall and Loucks, 1983, Emrick, et al., 1988; Louis et al., 1981). Moreover, the limited literature on CSR implementation confirms this point. As we discuss in more detail below, both the extent and quality of professional development received by teachers affects the extent and pace of CSR implementation in schools. So, the presence of plans for on-site technical assistance, and the creation by design teams of a dedicated and competent staff for providing such assistance, are keys to successful implementation of CSR models in schools (Slavin, 1999).

The Effects of External Assistance on Implementation

We have just seen that the "design" of a CSR effort consists of describing the targets of change for the CSR process, the timing and sequencing of that process, the people and processes that will be used to bring about such changes, and a description of how a school should look once it has fully implemented the change process. But a design—in itself—does not bring the change process to fruition. Instead, schools bring a design to fruition by working with external assistance providers to implement the design in practice. Thus, the CSR implementation process, which increasingly involves extensive work with external assistance providers, is very different from other models of planned educational change that simply ask schools to engage in change based on "information" found in papers, technical reports, and guides found in clearinghouses or professional publications.

Work with external assistance providers involves the formation of what Miles (1992) called "temporary systems" to support change. For example, most CSR providers work directly with schools, but only on a temporary basis (usually one to three years) and usually at decreasing levels of support over time. Thus, external providers are best conceived as temporary "linking agents" in the implementation process, that is, agents working to facilitate communication and information between the design teams who created CSR models and the schools who are implementing these designs (Havelock, 1971). There are, we should point out, additional ways of establishing linkages between design teams and schools that do not rely on the direct activities of linking agents. For example, many CSR model providers have created networks of schools implementing their model, and they hold conferences and other meetings for personnel working in these schools (Desimone, 2000). The goal here is to de-

velop a "linkage system" that can be sustained after withdrawal of direct, on-site support by linking agents (Keeves, 1990).

The literature on planned educational change demonstrates the importance of linkage agents to implementation. For example, early studies found that simply sending schools information describing innovative "designs" did not lead to high levels of program implementation, while on-site assistance by linking agents did (Emrick and Peterson, 1977). This same literature has identified several different roles that external providers can play in the change process (Hood, 2002). Linking agents rely on interpersonal communications to establish linkages, help local educators learn more about and make wise selections of research-based practices to implement, provide on-site technical assistance throughout the change process (including problem definition, needs assessment, planning and evaluating change efforts), provide direct training in and support of new practices, and provide feedback from local schools to design teams. Many have noted that this is a unique role in the education system that requires linking agents not only to be skilled practitioners, but also skilled change agents, knowledgeable about cutting edge research and its translation into practice (Hood, 1982).

Research on CSR implementation confirms the importance of linking agents to successful implementation of CSR models (for reviews, see Desimone, 2000; Berends, Bodilly, and Kirby, 2002). For example, the RAND studies of NAS design implementation showed that the quality of external assistance provided by linking agents was highly predictive of implementation success. When linking agents more clearly communicated the CSR program's design and purposes, provided higher quality staff development, and engaged in on-site monitoring of implementation, schools were characterized by higher levels of implementation. But the RAND studies also found that many NAS design teams were stretched when it came to employing linking agents effectively. For example, Bodilly (1998) found that stability in the external assistance team was an important factor in implementation success, but stability in team membership was often missing. And Berends, Bodilly, and Kirby (2002) found much variability in the quality of assistance provided by linking agents—both across CSR providers, and across linking agents working for the same provider. In fact, in the RAND studies, a substantial proportion of teachers were unsatisfied with the quality of external assistance they received. Some teachers reported interacting only rarely with linking agents, others reported that assistance was not informative or helpful, and many reported valuing assistance from their local colleagues over assistance from design team representatives.

Our own research on three of the most widely-disseminated CSR models (the Accelerated Schools Program, America's Choice, and Success for All) suggests that these particular design teams have recognized the difficulties identified by RAND researchers and are working to improve their strategies of assistance to local schools. To be sure, these particular models still emphasize direct technical assistance from linking agents, but this goes beyond initial training to also include additional training in specific design components, observation in the context of site visits, assistance in interpreting state assessment results, and *ad hoc* assistance via e-mail and telephone. Moreover, these design teams also have developed additional assistance strategies that include formation of national and local networks that teachers and school leaders can join for implementation support; they have built into their designs explicit opportunities for collegial learning; they have enriched the instructional

guidance provided in curricular documents, lesson plans, and so on; they have developed better descriptions of the teaching practices they want teachers to implement (through development of vignettes, video tapes, and model classrooms); and they include within their designs a definite plan for expanding the amount and quality of instructional leadership exercised by a school's staff (Peurach, Glazer, and Gates, 2004).

The Effects of Staff Development on Implementation

Central to the package of services provided to schools by design teams is professional development. Of course, the importance of professional development to planned educational change is well-established (Fullan, 1991). Thus, it is not surprising that research on CSR implementation finds staff development to be one of the most critical ingredients in promoting successful implementation of CSR designs (for a review, see Desimone, 2002). To be sure, the quality of staff development has been found to vary—across CSR models, across the linking agents providing it, and across the schools where it occurs (Berends, Bodilly, and Kirby, 2002). For example, a common finding in the CSR literature is that teachers attribute implementation problems to a lack of training. However, combining the findings from a variety of studies, Desimone (2000) suggests that higher levels of CSR implementation are typically associated with more intensive staff training, taking place over longer periods of time, organized on a school-wide basis, and reinforced by local facilitators.

Decades of research on planned educational change reinforce these observations. But research also suggests that staff development—especially in the CSR context—should include more than a series of workshops provided by linking agents or other design-based assistance providers. Rather, in CSR, staff development is part of a larger, organizational design that transforms schools undergoing CSR into learning organizations (Fullan, 1991). A general goal is to make the new practices embedded in a CSR design clear and practical for school staff, and to give staff the opportunity to learn how to implement new practices in a supportive and information rich environment. Workshops provided by linking agents can help in this process, but many CSR designs incorporate additional strategies to enrich the learning environment for school professionals.

These additional strategies include embedding learning opportunities inside instructional materials (i.e., in lessons plans, teachers' guides, curriculum standards, student assessments, etc.), setting up model classrooms inside schools, changing staffing patterns inside schools to assure the presence of on-site and locally-based instructional leadership, using staff meetings and common planning periods as opportunities for discussing and learning about new design-based practices, and strengthening collegial relationship through formation of study groups, classroom observation pairings, or participation in teacher networks (Peurach, Glaser, and Gates, 2004). Indeed, some authors suggest that those engaged in CSR think in terms of a *system* of professional development that is school based, rich in collaboration and problem solving, aimed at promoting both practical and theoretical understanding of new practices, sustained over time, and integrated into a comprehensive process of school change.

The Effects of Leadership and Professional Culture on Implementation

To this point, we have focused on the role that program design teams play in promoting successful CSR implementation in schools. As the review to this point shows, when design teams work to produce clear, specific, and high quality designs for change, and when they provide extensive technical assistance and implementation support to local schools, CSR implementation often proceeds successfully. But the process of comprehensive school change also requires positive actions on the part of the local school community as well, and in most treatments of this issue, the key community member is identified as the school principal.

The importance of the school principal to planned educational change has long been established (Fullan, 1991). Thus, it is not surprising to find that principal leadership has been identified as important to successful implementation of CSR efforts (for a review, see Desimone, 2000). For example, the RAND studies of NAS design implementation found that teachers' perceptions of principal leadership were among the most important predictors of implementation success (Berends, Bodilly and Kirby, 2002), and many other studies, of a remarkably diverse set of CSR models, have discussed the centrality of principal leadership to CSR implementation (see, for example, Anderson and Shirley, 1995; Christenson, 1996; Cooper et al., 1998; Haynes, 1998; Smith et al., 1997; Smith et al., 1998). From all of this literature, a common core of findings has emerged about the leadership activities of principals that contribute to implementation success. Principals who lead successful change efforts have a clear vision of the short and long range goals of the change effort they are leading, are actively involved in decision making, directly or indirectly support the professional learning of teachers, aggressively seek resources for change, buffer school staff from unwarranted intrusions and distractions, and seek policy changes at the district level that support a school's change efforts (Rutherford et al., 1983; Hord and Huling Austin, 1986; Desimone, 2000; Berends, Bodilly, and Kirby, 2002).

It would be a mistake, however, to assume that principal leadership alone can carry the day. For one, not all principals are willing to assume the complex leadership role just described. More importantly, the task of leading change inside a comprehensive school reform effort is simply too large and complex for a single individual—no matter how energetic, charismatic, and forceful. As a result, many CSR models deliberately restructure schools to provide additional leadership roles in schools. Camburn, Rowan, and Taylor (in press) have studied this process in some detail in a study of leadership teams in schools implementing three CSR models—the Accelerated Schools Program (ASP), America's Choice (AC), and Success for All (SFA). They found that schools implementing these models were characterized by different leadership configurations compared to schools not implementing the models. In particular, the CSR programs restructured schools by adding various *instructional* leadership positions to the school staff. For example, ASP added a coach to the school, AC typically added a design coach and a literacy coordinator, and SFA added a reading facilitator. Interestingly, in the schools implementing CSR programs and in those not implementing one of the programs, leadership was exercised by small teams—ranging from three to seven people depending on school size. But, there was an apparent division of labor among team members. Principals tended to exercise high levels of instructional leadership, but also were highly concerned with general building management and external relations. Incumbents of CSR-specific roles, by contrast, appeared to specialize in instructional leadership, and to exercise more instructional leadership than was exercised by support staff in non-program schools, for example, Title I coordinators, mentor teachers, and so on. One

explanation for this finding was that CSR programs provided school leaders with additional staff development in the area of instructional leadership, and this additional staff development boosted the attention school leaders gave to most instructional leadership functions.

In a related study, Taylor (2004) showed that the instructional leadership provided by these teams was insufficient—in itself—to enhance the interest and motivation of teachers to implement a CSR design. Instead, the effect of positive instructional leadership was conditioned by the larger professional culture of the school. In schools where teachers had formed a cooperative school culture, characterized by norms of support, innovation, trust, and collegiality, the effects of additional instructional leadership on teachers clarity about the CSR process and motivation to participate in the reform effort was higher than it was in schools where the professional culture lacked these characteristics. Thus, as many observers have noted, the larger professional culture of the school is also an essential element in promoting school change (e.g., Fullan, 1991).

The Effects of Quality Assurance on Implementation

A final characteristic affecting implementation of CSR designs is quality assurance, that is, on-going monitoring of implementation and student outcomes. Little is known about this process, although the efforts of NAS design teams during the scale-up phases have been cited by Berends, Bodilly, and Kirby (2002) as an important support for implementation. In particular, the NAS design teams were spurred by the demands of school people to develop design-specific "benchmarks" spelling out in very clear terms what schools at various phases of the implementation process were expected to have accomplished. As Berends, Bodilly, and Kirby (2002) note, design teams began to use these benchmarks to actively monitor implementation in school sites, and to actively communicate implication plans and schedules. All of this improved communication among external providers and school and district personnel, and it provided important feedback to design teams allowing them to improve their services and make them more effective. Again, this observation is consistent with the larger literature on planning for educational change, which stresses the evolutionary nature of educational planning and the need for continuous feedback about progress toward goals.

Context Effects on CSR Implementation

To this point, we have sketched out a process leading to successful implementation of the CSR process. As we have seen, successful implementation occurs with greater frequency in schools that exercise due diligence in planning—carefully searching for designs that match their needs, gaining the broad support of community members, addressing teachers' specific concerns about the change process, and carefully staging the change process, especially when implementing a complex design. Successful implementation also results from the positive efforts of design teams to formulate clear program designs, and when design teams provide high quality technical assistance to schools. As we saw, the best designs include multiple and extended opportunities for professional learning, and they employ well-qualified and talented linking agents to work with schools. Conditions at the local school also are required to promote successful implementation. For example, schools with cooperative professional cultures and characterized by strong principal and staff leadership are more likely to benefit from the CSR process and to implement deeper changes to the school.

Unfortunately, research on CSR shows that in many cases, some or most of these conditions are missing, with the result that schools only partially implement or fail altogether to implement CSR efforts. The process of CSR is complex, and many things must come together simultaneously. But, even when conditions supporting change are positive—clear, practical, and well-supported designs are being implemented in schools that are characterized by strong leadership and a cooperative professional community—CSR efforts can proceed unevenly. That is because the process of CSR unfolds in a larger context of existing school, district and state policies and practices. In this section, we discuss what has been learned about the effects of this larger context on the CSR process.

Coordinating CSR and Other Improvement Efforts

One problem impeding CSR implementation occurs when schools engage in multiple, inconsistent change efforts. One aspect of this problem is the adoption of very ambitious plans for change in school contexts that are already "overloaded" with change efforts. Another aspect of this problem is the potential lack of fit of any given change effort with other reform efforts. Along these lines, many studies have commented on the teacher overload that occurs in schools attempting too many, uncoordinated changes. For example, Smith et al. (1997) found that successful implementation was higher in Memphis schools that were attempting less complex CSR designs. The explanation for this was that teachers were more easily able to attend to the change process in these schools given all else that was going on. Other analysts have argued that the adoption of CSR models can suffer from lack of "fit" in schools where many different changes are occurring (e.g., Bodilly, 1996; Datnow and Stringfield, 2000). Thus, it appears that the presence of too many change efforts saps teachers' energies and creates a host of potentially inconsistent policies and practices, all of which impedes successful implementation of coherent CSR designs (Berends, Bodilly, and Kirby, 2002).

Many studies of CSR implementation also suggest a need to coordinate CSR efforts with existing local, state, and federal reform efforts. For example, many CSR models have their own sets of curricular and instructional guidelines, as well as particular assessment instruments designed to measure students' achievement of model-specific learning objectives. However, this model-specific instructional guidance can be inconsistent with the instructional guidance provided by local districts, or by state assessments associated with accountability systems. Research on CSR implementation suggests that aligning these various forms of instructional guidance in support of a coherent set of curricular and instructional practices within schools is a major challenge of CSR (Glennan, 1998). In particular, several studies have shown that CSR implementation can be undermined in schools facing strong and high-stakes accountability systems, especially when the assessments involved in accountability programs are not closely aligned with the instructional objectives and learning outcomes promoted by particular CSR designs (Smith et al., 1997; Glennan, 1998; Bodilly and Berends, 1999; Desimone, 2002). Unfortunately, the CSR literature provides little concrete guidance about how to avoid such conflicts, except to stress the need for local school personnel to carefully assess the degree of "fit" or "alignment" between CSR models and local and state standards during the CSR planning stage. Failure to take this early step can negatively affect implementation at later stages.

<u>School District Contexts</u>

Other school district policies and practices also affect CSR implementation, as many studies have shown (Timar, 1989; Muncey and McQuillan, 1996; Ross, Troutman, et al., 1997; Wasley et al., 1997; Haynes, 1998; Stringfield, Datnow and Ross, 1998; Cook et al., 1999; Freidman, 1999; Berends, Bodilly, and Kirby, 2002; Desimone, 2002). The RAND research on NAS implementation, for example, found large between-district differences in CSR implementation (Berends, Bodilly, and Kirby, 2002). Findings from several other studies support these findings, leading to the conclusion that districts have an important role to play in CSR implementation. From the literature, it has been found that the district role in implementation begins during the CSR planning stage. At the outset of a CSR initiative, for example, districts can help schools choose wisely among alternative CSR designs, especially by assuring that schools receive adequate information from design-based providers and by helping schools choose designs that are consistent with on-going state and district curricular, instructional, accountability efforts (Wasley et al., 1997; Freidman, 1999; Berends, Bodilly, and Kirby, 2002; Desimone, 2002). Districts also support school-level implementation by making CSR central to the district's overall improvement agenda, by having leaders openly express support for CSR efforts in schools, and by providing a steady stream of funding and other resources to support the work of design teams and school professionals as they work at CSR.

The importance of district resources to implementation success cannot be stressed enough. The RAND studies, for example, found that *lack* of resources was the single most powerful explanation for the failure of schools to institutionalize CSR reforms after initial implementation (Glennan, 1998). Moreover, the RAND studies suggested that district support must extend beyond simply paying fees to design teams, for such fees, it was found, typically accounted for only a portion of the costs associated with implementing CSR in schools. In a RAND study of NAS implementation in San Antonio, Texas, for example, fees paid to the NAS design teams covered only a third of the total cost of CSR in schools, leaving other important costs to be paid by districts, including costs incurred by district staff in providing information, technical assistance, staff development, and evaluation services to CSR schools (see also, Levin, 1995).

Other studies suggest that the political and financial support for CSR can be difficult to come by in many school systems. Timar (1998), for example, has argued that in large and complex school systems, the redefinition of administrative and teaching roles called for by many CSR programs, the decentralization of administrative control to accommodate schools' needs for flexibility, and the management of various forms of conflict that inevitably accompany change efforts can prove difficult (Timar, 1998). Moreover, large urban school systems face a great deal of turbulence—turnover in district leadership, district budgetary or political crises, conflict in collective bargaining, and conflicts between design teams, district staff, and local school personnel. All of this can negatively affect CSR implementation (Berends, Bodilly, and Kirby, 2002; Desimone, 2002). Power struggles among district constituencies can be especially common, resulting in failures to achieve the requisite coordination among the multiple constituencies that is needed to support CSR implementation (Mirel, 1994; Bodilly, 1996; Muncey and McQuillan, 1996; Datnow, 2000; Desimone, 2002). As a result, it is clear that CSR implementation involves more than just resolving the "tech-

nical" problem of choosing the right design and providing schools with sufficient resources and technical assistance to assure proper implementation. Research also indicates that CSR occurs in a complex and dynamic political environment and succeeds in the long haul only when there is a continuous cooperation among many different political constituencies.

A Brief Look At The Study of Instructional Improvement

To further illustrate these findings on CSR implementation, we turn now to a brief discussion of our own research on the process of CSR implementation. Over the past four years, the authors of this paper have been working with colleagues at the Consortium for Policy Research in Education to study three of America's most widely-disseminated CSR programs—the Accelerated Schools Program (ASP), the America's Choice program (AC), and Success for All (SFA). Known as the *Study of Instructional Improvement* (and hereafter called "SII"), our research is being conducted in 116 elementary schools located in 45 school districts in 17 states across the United States. SII is designed as a quasi-experiment that follows four, demographically-matched groups of schools as they engage in the process of school improvement over a four-year period. Three of these include schools implementing one of the three CSR models under study. A fourth group consists of "comparison" schools that are *not* implementing one of these CSR models.

Research Questions

In this paper, we will use data from SII to address three salient questions about CSR implementation. First, we will examine how the three CSR programs under study are designed, that is, the changes the model developers are trying to make in schools, and how they have decided to go about making these changes. Second, we will ask whether schools implementing these three different CSR models develop different patterns of school organization and culture, different processes for instructional management and coordination, or different patterns of classroom instruction as a result of working with these different CSR programs. Finally, we will examine how various contextual features of the schools under study affect the CSR implementation process. Here, for example, we will look the extent to which factors such as district size and complexity, state and local policy environments, and school or district demographic conditions affect the scope, pace, and success of CSR implementation in schools implementing the different CSR models.

Sample

To address these research questions, researchers conducting the *Study of Instructional Improvement* constructed a purposive sample of 116 elementary schools located in 17 states across the United States. As part of this process, schools were stratified along two dimensions: the date when they began CSR implementation and the poverty levels of the neighborhoods they served. Working from comprehensive lists of schools provided by the CSR programs under study, and using U.S. census data from 1990, SII researchers selected a final sample of schools that was distributed across the sampling strata shown in Table 1 (next page). Table 1 shows that nearly half (56 of the 116) of the schools in the sample were located in America's highest poverty neighborhoods (i.e., neighborhoods at or above the 75th percentile of a measure of neighborhood poverty developed for this study). Table 1 also

shows that the sample was nearly equally divided among schools that began implementing CSR programs during the school years AY 1998, AY 1999, or AY 2000.

Table 1: Stratification of Elementary Schools In the Study of Instructional Improvement By Year of Entry into CSR and Neighborhood Poverty Level				
	High Poverty (75th percentile or below)	Medium Poverty (50th to 74th percentile)	Low Poverty (25th to 49th percentile)	Total Schools
AC				32
1998	1	3	0	4
1999	6		6	12
2000	11	4	1	15
ASP				28
1998	0	0	5	5
1999	6	4	3	13
2000	5	3	2	10
SFA				31
1998	7	1	4	12
1999	8	4	2	14
2000		2	3	5
Compari-son	12	7	6	25
Total Schools	56	28	32	116

Table 2 (next page) shows the average demographic characteristics of schools in the study, as well as the demographic characteristics of the school leaders and teachers working in these schools. On average, the elementary schools in the sample had about 500 students, were located in school districts enrolling over 100,000 students, and served neighborhoods where about 20% of households were in poverty. Like most elementary schools in the U.S., teachers in these schools tended to be predominantly female, from non-minority backgrounds, with around 12-14 years of experience. A substantial percentage of teachers also held graduate degrees. School leaders in the sample (principals, assistant principals, CSR program facilitators, and other teacher leaders) also tended to be females, from non-minority backgrounds, holding graduate degrees, and had served in their present leadership roles for around 5 years.

Data Collection in SII

Researchers conducting the *Study of Instructional Improvement* used a variety of data collection instruments to examine CSR implementation processes in these schools. For example, SII researchers distributed annual surveys to school leaders and teachers over a three year time period (AY 1999 – AY 2002) asking respondents to report on their work activities and perceptions of CSR design and implementation, and on many different aspects of school

Table 2: Average Demographic Characteristics of Schools, Leaders, and

Teachers in the Sample, By Program Group					
	Total	**ASP**	**AC**	**SFA**	**Comp**
Schools, N=114					
School Enrollment	503.77	484.96	562.74	465.23	498.19
District Enrollment	117,460	20,544	171,867	99,772	177,359
Proportion-Household Poverty	.19	.14	.19	.23	.22
Avg. Woodcock-Johnson (LA)	99.28	97.68	102.32	94.15	103.31
Percent Minority Enrollment	79.17	69.59	88.20	82.07	75.37
Leaders, N=681					
Female	0.84	0.82	0.86	0.88	0.78
Hispanic	0.05	0.02	0.04	0.07	0.12
African-American	0.29	0.19	0.44	0.26	0.29
Asian	0.05	0.00	0.09	0.04	0.05
Graduate Degree Held	0.80	0.83	0.78	0.83	0.77
Yrs. Administrative Exp.	5.75	8.17	4.99	6.10	7.10
Teachers, 4,120					
Female	0.86	0.88	0.84	0.86	0.88
Hispanic	0.09	0.08	0.07	0.09	0.14
African-American	0.22	0.14	0.34	0.21	0.17
Asian	0.05	0.01	0.07	0.04	0.05
Graduate Degree Held	0.58	0.57	0.56	0.55	0.58
Subject Specialists	0.44	0.45	0.45	0.42	0.42
Yrs. of Exp.	12.96	12.95	12.34	12.10	14.85

culture, climate, and organization. In addition, teachers completed detailed instructional logs at different points in the study that were used to develop measures of classroom instruction occurring in schools. The survey instruments used in the study can be found on the study's web site (www.sii.soe.umich.edu). The measures used here are also described in more detail in various SII publications (Camburn, Rowan, and Taylor, 2003; Correnti, Rowan, and Camburn, 2004; Rowan, Camburn, and Correnti, in press; Rowan, Harrison, and Hayes, in press).

SII researchers also have conducted intensive case studies of 12 schools from the larger survey sample (3 schools implementing each of the CSR programs under study, and three additional "comparison" schools). These case studies are derived from extensive, face-to-face interviews with district and school administrators, with CSR leaders working in the schools under study, and with teachers. The purpose of this work was to learn as much as possible about implementation dynamics in case study schools. In addition, SII researchers have been observing classroom instructional practices among a selected subset of teachers in each case study site to learn more about patterns of instructional change in the schools under study.

<u>The CSR Programs Under Study</u>

An important feature of SII's research design is that it examines implementation processes and outcomes in schools working with three very different CSR programs. As discussed below, the three programs studied here differed along several dimensions, including: (1) the number and kinds of changes they wanted to make in schools, (2) the nature and extent of instructional guidance they gave to teachers, (3) the number and type of school

leaders they appointed and the roles they asked these leaders to play in schools, and (4) the kinds of school organization and climate they sought to foster.

In order to capture these differences succinctly, SII researchers developed a conceptual language grounded in organization theory. In essence, this conceptual scheme views CSR programs as systems for controlling activities within schools. Using this conceptual language, we argue that the Accelerated Schools Program uses a system of "cultural control" to produce instructional change in schools, that America's Choice uses a model of "professional control" to produce change, and that Success for All uses a model of "bureaucratic control" to promote change in schools. A further description of these ideas is presented next.

We begin by discussing the Accelerated Schools Program, which we view as using "cultural" controls to secure instructional improvement. ASP's approach to producing school change, as we shall see, revolves around promoting a normative commitment among school leaders and faculty to the program's *vision* or *ideal* of "powerful learning" for all students. From the outset, ASP linking agents use the staff development process to emphasize the program's commitment to this construct, and to define powerful learning as constructivist in nature, with an emphasis on authentic, learner-centered, and interactive forms of instruction. But ASP is not prescriptive in nature. The program does not target particular school subjects for improvement, nor does it provide teachers with a great deal of explicit guidance about curriculum objectives or teaching strategies. Instead, ASP linking agents help schools use a systematic process of organizational development to uncover a *unique* path toward powerful learning and to adopt the locally-appropriate forms of instructional practice consistent with this approach. Moreover, classroom teachers play a key role in this process by working inside their classrooms to develop new teaching practices consistent with the ideal of powerful learning for all students.

America's Choice presents a contrasting approach, using what we call "professional controls" to stimulate instructional improvement. This program has its origins in the standards-based reform movement, and as a result, the program is built around some definite ideas about the curricular content that should be taught in schools and about methods of teaching inside classrooms, especially in the area of language arts. At the time of our study, for example, AC typically began its work in local schools by focusing on the school's *writing* program (moving only later to changes in reading and mathematics programs). Unlike ASP, however, AC typically provided teachers with a great deal of instructional guidance. For example, teachers in AC schools received a curriculum guide, were taught a set of recommended instructional routines for teaching writing (called "writers' workshop"), and worked with locally-appointed AC coaches and facilitators to develop "core writing assignments" and clear scoring "rubrics" for judging students' written work. Thus, in the area of writing instruction at least, AC was trying to implement a well-specified, standards-based curriculum grounded in professional consensus about what constitutes a desirable instructional program.

AC also employed a sophisticated approach to professional development to spur instructional change in schools. Schools that adopted the program, for example, were expected to create two new leadership positions—a design coach and a literacy coordinator. Design coaches were expected to help principals plan school improvement activities, to or-

ganize opportunities for faculty to score and analyze students' written work, and to develop exemplary writing assignments for use in classrooms. AC literacy coordinators, by contrast, were expected to work with classroom teachers. Their role was to model AC-endorsed instructional practices and to observe and critique teachers as they learned to use these new practices. Of all the CSR programs under study, then, AC placed the most importance on *expert coaching* as a means to improving teachers' instructional work.

Success for All provides yet a third model for promoting instructional change in schools. Of the three programs under study, it gave schools the clearest and most highly-specified plan for instructional improvement for implementing a set of highly-specified instructional *routines* for the teaching of reading. In particular, the SFA program is built around a clear and well-defined reading curriculum. The program also provides teachers with a weekly lesson sequence, and within this sequence, each lesson is designed around a "script" intended to guide teaching activities through a 90-minute reading period. Moreover, in grades K-2, SFA provides schools with a set of curricular materials for use throughout the school. In this sense, the SFA reading program is highly *routinized*.

SFA schools also were more centrally managed than other schools in our study. For example, SFA schools were expected to appoint a full-time literacy coordinator, and this staff member was given substantial responsibility for school-wide coordination of the reading program, including the task of constituting reading groups and making teaching assignments to these groups on a school-wide basis every eight weeks. Moreover, instructional leaders in SFA schools and SFA linking agents were asked to supervise implementation of SFA instructional routines. Thus, while the SFA program includes a set of professional development workshops for teachers and leaders (that are roughly equivalent in terms of allocated time to the staff development provided to teachers and leaders by the other CSR programs under study), and while SFA leaders engage in modeling and coaching activities (much like AC leaders do), SFA is unique among the programs studied here in its emphasis on faithful implementation of clearly defined instructional routines in *all* classrooms in a school.

How Change Strategies Affect Program Implementation

Data from the *Study of Instructional Improvement* demonstrate that the different approaches to school improvement taken by the programs under study shape the processes of CSR implementation in schools. As a result, we turn now to a description of CSR implementation process in the 116 schools in the SII sample, and how these processes differed across schools participating in the three CSR programs under study. The findings in this section come from published reports (see, for example, Camburn, Rowan, and Taylor, 2003; Correnti, Rowan, and Camburn, 2004; Rowan, Camburn, and Correnti, in press; and Rowan, Miller, Correnti, and Camburn, 2004) and from unpublished analyses conducted by SII researchers. Readers interested in more detail on the findings presented below can contact the senior author.

CSR Implementation in ASP Schools

As discussed above, ASP is viewed in our conceptual framework as using "cultural" controls to stimulate instructional improvement. Following the ideas of noted organization theorist William Ouchi (1980), we predicted that schools using this form of control would be characterized by a decentralized form of governance that granted staff members a great deal of discretion in their work activities, so long as that work was perceived as consistent with ASP's cultural ideal of "powerful learning" Put differently, organizations guided by cultural controls achieve unity of purpose and overall coordination, not through explicit monitoring and supervision of work activities, but rather by generating a sense of trust within the organization that all members are working on their own initiative toward achievement of the same, overarching ideal.

The use of cultural controls to stimulate instructional improvement can have both strengths and weaknesses. A major strength of the approach is that schools governed by cultural controls should be able to adapt easily and quickly to conditions in their external environments (Meyer and Rowan, 1978). For example, the fact that ASP's commitment to powerful learning does not include detailed guidance about curriculum and instruction should make it easier for local schools to "align" or "fit" their instructional work to state and district standards-based education reforms. Moreover, ASP's emphasis on teacher initiative and innovation as a means to instructional improvement (rather than administrative supervision) should increase the faculty commitment to school improvement efforts, especially since self-direction is a powerful motivating force within organizations. So, the emphasis on local discovery and initiative appear at first glance to be strengths of the ASP approach to comprehensive school reform.

However, there are possible weaknesses in ASP's approach as well. For one, there is no guarantee that ASP schools will develop a coherent focus on improving the core curriculum areas of reading and mathematics, for in ASP, schools can pursue any number of targets for instructional change. In addition, the lack of strong direction from ASP about specific targets for instructional reform, when coupled with ASP's emphasis on individual initiative and innovation, might lead to what has been called a "Christmas tree" approach to school improvement, where schools adopt many different—and not particularly coherent—school improvement initiatives.

SII survey and case study data confirmed these predictions. For example, the survey data showed that ASP schools were *less* likely to focus on improving reading and mathematics teaching than other schools in the SII sample; conversely, ASP schools were *more* likely than other schools in the sample to focus on improvements in other academic areas, to focus on improvements in school climate, and to strive for improved parent participation. Overall, in fact, SII survey data showed that ASP schools had more targets of school improvement than did the other schools in our sample, and that leaders in ASP schools were more worried than leaders in other schools about the possibility of undertaking too many school improvement initiatives.

SII data also showed that ASP schools developed a distinctive form of professional culture, one that emphasized faculty innovation within a climate characterized by trust among colleagues. But these positive elements of the culture were accompanied by what appeared to be a "hands off" approach to instructional management in which teachers were given more latitude to enact distinctive instructional preferences than were teachers in the

other schools in our study. That is not to say that ASP schools lacked direction in their improvement efforts. For example, staff at ASP schools did report more consensus about expectations for student learning than did staff in other schools in the study. But this consensus functioned as the primary means of instructional coordination in ASP schools, rather than more explicit coordination of instruction through development of clear and formal curricular standards, the use of mastery tests to regulate students' matriculation through the curriculum, or other formal means of promoting instructional coordination across classrooms and grade levels.

This lack of formal coordination was also reflected in the instructional leadership styles of ASP school leaders. Like the other CSR programs in SII, ASP called for the creation of additional leadership positions inside schools, in particular, the appointment of an ASP facilitator. But survey data reported by Camburn, Rowan, and Taylor (2003) showed that the addition of this new staff position rarely led to an overall increase in the total number of leaders in ASP (*vs.* comparison) schools. Moreover, the survey data suggested that principals, assistant principals, ASP facilitators, and other ASP school leaders gave *less* emphasis to instructional leadership than did leaders in all the other groups of schools in our sample. Our case study suggested that this "hands off" approach to leadership also extended to ASP's external linking agents. In two of our three case study sites, for example, faculty expressed dissatisfaction with how ASP linking agents performed their liaison role, and in all three of our case study sites, respondents reported only infrequent interactions with these linking agents.

Given the emphasis in ASP schools on individual initiative, and in light of the "hands off" approach to instructional leadership found in ASP schools, it is not surprising that both our case study data and our survey data showed ASP schools to be characterized by diverse (rather than uniform) teaching practices. For example, the case study data suggest that, lacking explicit instructional guidance from ASP program staff, teachers in ASP schools looked to state and district staff for instructional guidance. ASP teachers also reported that textbooks were a major influence on their teaching practice. Moreover, data from SII's teacher logs showed that less than half (44%) of the ASP teachers in our sample displayed a pattern of instruction that was distinctively ASP in form, with only 4 of the 28 schools in our sample providing log data having more than 70% of teachers thus classified. Indeed, both the case study and the survey data suggested that teachers in ASP schools tended to adopt a form of "bricolage" in which information and ideas were borrowed from many different sources in order to construct a personalized pattern of teaching. For this reason, when we used SII log data to sort teachers into distinctive groups based on the proximity of their teaching practices to those endorsed by the different CSR programs in our study, ASP teachers ended up being classified into a variety of groups—including many ASP teachers whose instruction more closely resembled instructional forms endorsed by SFA or AC than ASP. All of this is consistent with ASP's emphasis on individual initiative, its lack of explicit instructional guidance, and the relatively "hands off" approach to instructional leadership that characterized this program's approach to stimulating instructional improvement.

CSR Implementation in America's Choice Schools

America's Choice demonstrates how an alternative strategy for promoting instructional improvement affects the CSR process. This program pursued what we have been calling a model of "professional" control in its work with schools. Firmly grounded in a set professional standards for curriculum, teaching, and learning (especially in the area of literacy instruction), AC placed strong emphasis on having "expert" school leaders support model implementation though coaching inside classrooms. The strengths of this model are several. For one, teachers are given substantial curricular and instructional guidance—including curriculum guides, assessment exams and scoring rubrics for judging students' work, and exemplary lesson assignments for use in classrooms. In addition, the program's design calls for extensive coaching by principals, design coaches, and the AC literacy facilitator. But there is a catch in all of this explicit guidance. The professional culture in many U.S. schools grants teachers substantial discretion, allowing them to pursue instructional practices of their choice, all of which is supported by strong norms of privacy. AC's design for school improvement works against these ingrained tendencies in schools' professional cultures, and for it to work well, new norms supporting collaboration among teachers and leaders and the emergence of a critical discourse about teaching might be required for the coaching and support provided by AC leaders to serve as a stimulant for changes in classroom teaching.

The AC design has other salient features that could have a bearing on CSR implementation. AC's instructional design—which calls for changes in schools literacy and mathematics programs—is extraordinarily ambitious. For example, the program's literacy component requires 120 minutes of sustained language arts teaching at the elementary grades, about 30 minutes more than schools typically offer. Moreover, the literacy program requires many complex changes in teaching practice—the use of a writer's workshop with sustained writing assignments for students, the development of new rubrics for judging the quality of students' writing, the use of "leveled" texts and guided reading practices for reading instruction, and an emphasis on reform-oriented mathematics. Given the changes required in teaching, AC is careful to roll out new components slowly (e.g., at the time of our study, two years were spent rolling out the writing program, and only then was the reading program phased in). So, AC's agenda for change is ambitious and complex, although carefully staged.

Another salient feature of the AC program is its clear set of academic standards. While this kind of clarity has many advantages, the "fit" or alignment of AC curricular goals and teaching practices to state and district standards could be a problem. However, the challenges of aligning AC's curricular and teaching standards to the external environment is balanced by the advantages the program derives from this clarity. Because AC is very clear about the curriculum it wants taught, and because it provides substantial support to help teachers teach this curriculum, there are many reasons to expect that AC will produce faithful implementation of its program across varied school contexts.

SII data confirm the strengths and weaknesses of AC's approach to school improvement. On a positive note, teachers and leaders in AC schools reported more clarity about the pace and direction of school improvement planning than did teachers in ASP and comparison schools (although about the same level as reported by personnel in SFA schools). Also, school leaders reported that school improvement plans in AC schools were focused more squarely on making improvements in the area of reading than did leaders in

ASP and comparison schools (again, the clarity was about the same in SFA schools). Overall, then, the planning process in AC schools seemed to be characterized by high levels of clarity and focus.

AC schools also were characterized by strong instructional leadership. For example, the AC schools in our sample typically had about the same number of instructional leaders per teacher as SFA schools (about 5 teachers for every leader in AC schools) which was less than the number of teachers per leader in ASP and control schools (about 9 teachers per leader). Moreover, all of the leaders in AC schools (including the principal), received extensive staff development on how to enact their role as instructional leaders. As a result, AC leaders were more likely than leaders in ASP and comparison schools (but not SFA schools) to report working directly with teachers, to report providing professional development to teachers directly, and to report placing an emphasis on monitoring improvement efforts. Teachers' survey reports reflected these high levels of instructional leadership. AC teachers were more likely than ASP and comparison teachers (but not SFA teachers) to report observing or being observed by a school leader to improve their teaching, and our case study data contained many reports from teachers remarking on the helpful support AC school leaders gave them in changing their classroom practice.

The emphasis on active instructional leadership was consistent with the professional culture inside AC schools. AC leaders and teachers reported a higher press to standardize instructional practices in their schools than did teachers and leaders in ASP and comparison schools (but not SFA schools), and they reported lower levels of teacher autonomy. But all of this appears to have diminished at least some of the established patterns of collaboration within AC schools. For example, AC teachers were less likely than teachers in ASP and comparison schools (but not SFA schools) to report that there was support for innovation in their schools, and they were less likely to see their schools as characterized by strong norms of collaboration. These findings probably reflect the emergence of a different form of professional culture in these schools—one built around real standards of best practice and the emergence of expert leaders in schools, as opposed to the more typical norms of autonomy, discretion, and trust upon which conventional faculty cultures are more typically based.

Most importantly, both the case study data and our instructional logs strongly suggest that AC' press to implement specific teaching strategies worked well and produced significant change. However, this occurred mostly in the area of writing instruction, which was the focus of AC implementation for the first three years of program in most schools in our sample. For example, data from the instructional logs showed that 73% of all AC teachers in our sample used instructional practices that looked more like AC instruction than the instruction characteristic of other programs in our study. Moreover, these high levels of implementation occurred in the majority of AC schools. For example, in 12 of 30 AC schools in our sample with log data, 70% or more of the teachers were classified as AC teachers, and in 5 of these, 100% of the teachers were thus classified.

Still, our case study data suggest that AC schools had some problems in implementation. Teachers typically were eager to implement AC's writing program and frequently impressed by its results with students. But the amount of intensive staff development required to get this program component implemented, as well as the amount of time it took school leaders to work with *all* teachers in a school on an individual basis, worked against getting

the reading and math components of the AC program implemented. Associated with this was the fact that teachers devoted more time to writing instruction than is typical in elementary schools. As a result of the emphasis on writing, AC teachers in our case study sites reported giving less attention to implementing AC's reading practices, feeling that they had little time for improvements in this area and because many teachers reported that staff development in reading was not as strong as it was in the area of writing.

Still, the AC program demonstrates quite clearly that it *is* possible to use the CSR process to produce real changes in classroom instruction, and that such changes can involve implementation of complex and ambitious forms of pedagogy. But, as the AC case also demonstrates, ambitious change is not easy. In AC schools, for example, successful change resulted from a clear plan for improvement, intensive staff development involving a great deal of face-to-face modeling, coaching, and support from school leaders, and a real commitment on the part of AC leaders to support the AC instructional model.

CSR Implementation in SFA Schools

SFA follows yet a third approach to comprehensive school reform, using what we call a "bureaucratic" approach to stimulating instructional improvement. The defining attribute of SFA is its reading program, which is built around a set of lesson scripts that structure the content, pacing, discourse, and instructional activities in classrooms at all grade levels of an SFA school. In addition to this scripting of instruction, SFA also relies on centralized instructional management practices more than the other CSR programs in our study. Along these lines, for example, SFA reading facilitators are given authority to group and regroup students for reading on a school-wide basis every eight weeks, and SFA school leaders and linking agents are encouraged by the program's central staff to monitor local activities to assure and stimulate faithful program implementation.

The strengths of SFA's "bureaucratic" model are many. The clear instructional guidance it provides to teachers, the emphasis it places on monitoring for faithful implementation, and the professional development received by school leaders and classroom teachers all focus CSR efforts around a clear target (reading) and should produce strong implementation outcomes. But there is a possible tradeoff in all of this. As we have seen, classroom teachers in American schools are used to substantial autonomy, and typically see it as confirming their expertise and professionalism. Thus, SFA's emphasis on following routines, and on administrative monitoring and supervision, could be a drawback for the program, especially if the consequent reduction in teacher autonomy leads to faculty resistance or decreases teachers' motivation to enact the program. Moreover, the very clarity of the program—which is a strength in terms of encouraging faithful implementation—could produce problems of "fit" to the local setting, especially if elements of the SFA reading program such as its curricular objectives, mandated texts, or prescribed teaching practices are inconsistent with state or district preferences in these areas.

Data from the *Study of Instructional Improvement* confirm these strengths and weaknesses in SFA's approach to school improvement. On a positive note, teachers and leaders in SFA schools reported that their school improvement plans were more focused on improvements in the area of reading than did teachers in ASP and control schools (but not AC schools)—confirmation that there was a real focus of improvement activities in schools

adopting SFA. Moreover, SFA teachers and leaders reported that there was more clarity about the pace and direction of school improvement planning in their schools than did teachers in ASP and comparison schools (but not in AC schools). Overall, then, the planning process in SFA schools was characterized by high levels of clarity and focus.

SFA schools also were characterized by high levels of instructional leadership. As with AC schools, SFA schools in our sample had more instructional leaders per teacher than either ASP and comparison schools (about 5 teachers for every leader in SFA schools, versus about 9 teachers per leader in ASP and comparison sites).   And leaders in SFA schools were more likely than leaders in ASP and comparison schools to place a strong emphasis on monitoring improvement efforts in their schools. Furthermore, teachers' reports reflected this leadership emphasis. Just as in AC schools, SFA teachers reported being more likely to observe or be observed by a school leader as part of their improvement agenda, and case study data contained many reports from teachers remarking on the frequency with which SFA leaders checked to see that SFA instructional routines were being followed and on the helpfulness of the feedback provided by these leaders.

SFA schools also appeared to characterized by a distinctive professional culture. For example, teacher leaders and administrators in SFA schools were more likely to report that instruction was standardized across classrooms and grades than were leaders in other schools, and they also reported giving teachers less autonomy. In line with this, SFA teachers reported lower levels of collaboration in their schools than did ASP and control group teachers (although not AC schools), perceived less support in their schools for innovation and risk taking, and showed declining motivation to implement SFA instructional routines as time went on. Despite this, teachers in our SFA case study schools often reported that the changes they were making were successful and were leading to striking improvements in students' achievement. Still, teachers also sensed that participation in the SFA program was eroding their autonomy, and thus there was a consequent decrease in motivation to implement the program over time.

Still, both the case study data and our instructional logs showed that SFA's approach to standardizing instructional practices was working well in most schools. For example, data from the instructional logs showed that 83% of SFA teachers in our sample used instructional practices that looked more like SFA instruction than instruction characteristic of other programs in our study. Moreover, there were high levels of implementation in a large percentage of SFA schools. For example, in 16 of 28 SFA schools in our sample that provided log data, more than 70% of the teachers were classified as SFA teachers in our analyses. Thus, like the AC program, SFA demonstrates that it *is* possible to use the CSR process to produce real changes in classroom instruction, and that such changes can produce consistent forms of pedagogy. But, in the SFA case, this change appears to have been produced not only as a result of a clear plan for improvement and systematic staff development involving face-to-face modeling and coaching by school leaders, but also by sustained and vigorous efforts to monitor and supervise implementation using a bureaucratic model of control.

Contextual Effects on Implementation Processes in SII Schools

To this point, we have been discussing the effects of different CSR models on implementation in schools. We have seen that the different CSR programs under study are built around different instructional models, that they use different approaches to getting these instructional models implemented in classrooms, and that the different strategies used by the programs produced both different professional climates and different patterns of instructional practice in the schools under study. These effects, we should note, are not small (in statistical terms). Indeed, the standardized effect sizes of participation in a particular CSR program on SII measures of professional climate were mostly in the range of a tenth to a third of a standard deviation, while standardized effect sizes of participation in one of the CDSR models on SII instructional measures were almost always in the range of a third to a half of a standard deviation. By the usual standards of social science research, then, program-specific effects on CSR implementation outcomes are strong.

However, SII survey and case study data also confirm what many previous studies of CSR implementation have found—that the process of planned educational change proceeds variably, even among schools working with the same CSR program. In this section, then, we turn to an examination of sources of variation (other than program design) that account for different implementation outcomes among schools in the SII sample. Following past research, we discuss how characteristics of districts and schools work in conjunction with CSR program designs to affect implementation outcomes.

District Characteristics and CSR Implementation

We begin with a discussion of the role that district contexts play in CSR implementation. Consistent with much previous research, SII survey data suggest that larger school districts present schools with a unique constellation of conditions that shape the CSR planning and implementation process. For example, SII schools in larger districts were generally located in inner city neighborhoods and served larger percentages of poor and minority students. In addition, these schools were generally housed in older facilities, and had higher enrollments than schools in smaller districts. One consequence of these characteristics was that schools in larger districts faced some special problems above and beyond the pressing need to improve reading and math instruction. For example, in surveys, leaders in these schools were more likely than leaders in other schools to report that their school improvement plans were focused on improving students' health, welfare, and attendance, on upgrading facilities (including facilities for instructional media), and on making improvements to school climate generally. Thus, it appears that schools in larger districts had many needs, and a more complex school improvement agenda.

In addition to this larger school improvement agenda, schools in larger districts also faced more complex curricular and instructional policy environments. Teachers in larger districts, for example, were more likely than teachers in smaller districts to report that policies about teaching and curriculum were inconsistent and that they were unsure about which policies to follow. One reason this occurred was that schools in larger districts were more likely to operate under centralized instructional guidance from districts, and to be under state-level scrutiny for achievement performance, all of which led to districts to initiate district-wide improvement initiatives that changed frequently and/or did not necessarily "fit" with the specific CSR initiatives being undertaken in schools. In one of our case study sites, for example, a CSR initiative that teachers were enthusiastic about was dropped, largely be-

cause a district initiative supplanted the CSR effort and was mandated centrally. It is important to note, however, that the different CSR programs participating in SII were differentially affected by these problems. For example, our case study data suggest that schools working with ASP more easily adapted to district and state improvement directives, largely because the lack of instructional and curricular definition in the ASP design allowed schools to more easily build district-wide agendas into their own CSR efforts.

Although much previous research on CSR describes conflicts between districts and CSR schools, SII survey data suggest that the CSR processes often were accompanied by many positives in larger districts. For example, schools in larger districts often scored above schools located in smaller districts on SII measures of instructional leadership and coordination, and more importantly, there was an increase over time on most SII measures of professional culture in these schools. Thus, while schools in larger districts often started out lower than other schools in terms of faculty trust, academic press, and motivation to implement a CSR program, these same schools showed increases on these SII climate measures over time that exceeded those found in schools located in smaller districts. So, while the CSR process unfolds in a more complex environment in schools located in larger districts, and while these schools often begin the CSR process with conditions that are (in theory) less favorable to educational change, the evidence from SII suggests that district size and complexity are not an inevitable barrier to successful school change.

School Conditions Affecting Change

SII data also show that schools within the *same* district often vary in both the nature and success of their CSR efforts. This, of course, is a common finding in the CSR literature (see, especially Berends, Bodilly, and Kirby, 2002) and results from the fact that the CSR process involves a complex set of interactions among school leaders, school faculty, and CSR linking agents. SII case study data suggest that all of these constituencies are important to the success of CSR efforts. For example, case study data show that CSR linking agents working in different schools can be perceived as knowledgeable and helpful (or not), and that even within the same school, different teachers view linking agents differently. Equally important, there are real differences in the professional background, preparation, and work activities of local school leaders. For example, SII case study and survey data show that principals are an important source of leadership for CSR, but that principals vary greatly in the ways in which they lead CSR efforts. Some principals, for example, are firmly behind a school's CSR efforts, but other principals (often new to a school), are more agnostic about the CSR program being implemented in their schools and thus less supportive. In addition others occupying leadership roles within CSR schools (e.g., coaches, facilitators, and other teacher leaders) vary in the extent to which they emphasize instructional leadership. So, principals and other leaders make a real difference to the CSR process as well. Finally, SII case study and survey data show that teachers play a central role in CSR success. But even inside the same school, teachers differ in their enthusiasm for and participation in CSR-related staff development, and in their capacity to implement program-specific changes in their teaching.

All of these actors must work together in very complex ways to produce successful CSR outcomes in a school. However, because of the number of actors inside a school (including the many teachers, school leaders, and CSR linking agents), and because of the var-

ied professional backgrounds, experiences, and pre-dispositions of these many actors, it is often difficult to predict *a priori* just how well the CSR process will unfold in a given school. Thus, SII data suggest that strong instructional leadership (by the principal and others) is a necessary condition for implementation success, but SII also data suggest that leadership alone is insufficient to produce real change in teaching practices. For example, a study by Taylor (2004) using SII survey data found that strong leadership enhances teachers' motivation to participate in CSR efforts only when a school's professional culture is characterized by stronger norms of collegial support, innovation, trust, and collegiality. But even more importantly, SII log data show that teacher motivation of this sort is insufficient to produce real change in teaching practices. Instead, changes in teaching practice result from a complex process of professional learning that is produced by teachers' participation in staff development workshops, by the assistance and support teachers receive from school leaders, and by the individual capacities and dispositions of teachers themselves.

Given the complexity of schools as organizations, the various environments in which they operate, and the diversity of people who work in them, it is perhaps unsurprising to learn that schools vary in the extent to which they succeed in the process of educational change. Moreover, some of this variation among schools in implementation outcomes is a result of the fact that they work with differently designed CSR programs, some is the result of the state and district environments in which the schools are located, and some is due to the features of the schools themselves and the people who work in them. But none of this should obscure what is perhaps the important finding from SII data—that the percentage of schools in which participation in the CSR process is producing real changes is considerable. Thus, the point to take away from our discussion of context effects on the CSR process is this: CSR is more likely to lead to real changes in school organization and climate, and new patterns of instructional practice, when many circumstances converge. These include the presence of a CSR programs with a well-specified instructional design, and a programmatic emphasis on instructional leadership, intensive staff development, and constant monitoring of implementation. To be sure, the contexts in which these conditions emerge affects the extent to which programs get implemented, but SII data show that well-designed programs, that offer a clear instructional design and extensive support for change have a very strong chance of being implemented by a majority of teachers in a school—regardless of context.

<u>Conclusion</u>

We conclude this chapter with a brief review of the major lessons to be drawn about planned educational change derived from our review of research on CSR implementation in schools. This review demonstrated quite clearly that the process of comprehensive school reform can work to produce robust changes in instructional practices in a large number of schools. However, the chapter also showed that *successful* CSR depends to a considerable extent on the actions taken by: (a) external providers of design-based, technical assistance; (b) local school personnel; and (c) district personnel who provide support to local school change efforts. In particular, our chapter demonstrated that the process of CSR was most successful when external change agents worked to produce clear, specific, and high quality designs for change and provided extensive implementation support to local schools; when local school communities coalesced around the central aims of the research-based model of school reform they were trying to implement and actively learned over a period of years how to utilize that model in their own context; and when district personnel provided a stable and

supportive policy environment clearly aligned with the aims of the practices being developed. Thus, the process of CSR is a complex, cooperative process, involving multiple agencies and actors. However, when these agencies and actors work together to support the change process in local schools through careful planning, provision of implementation support, and through persistent efforts at change, the evidence shows quite clearly that the CSR process can lead to important changes in school organization and culture and to fundamental changes in teaching practice.

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