Schoolwide Reform Models:
What Works?

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The education of disadvantaged students is at a crossroads. On one hand, the recent release of a national evaluation of Chapter 1/Title I, at more than $7.2 billion the largest federal program for disadvantaged students in elementary schools, has called into question the effectiveness of the entire program (Puma et al., 1997). In a time of budget cutting and downsizing of government, this finding has potentially disastrous implications for this critical funding source, the fuel for virtually all innovations in high-poverty schools. In addition, the long-term reduction in the achievement gap between African-American, Latino, and white students on National Assessment of Educational Progress reading scores has been reversed; on the 1994 assessment, this gap grew for the first time since NAEP began in 1972 (U.S. Department of Education, 1994).

On the other hand, a number of developments have created new potential for fundamental reform in the education of students who are placed at risk. One of the most important of these also relates to Title I. This is the change in the Title I law, introduced in 1994, that makes it much easier for high-poverty schools to become Title I schoolwide projects, and therefore to have the ability to use Title I for whole school change, not just to serve individual students having difficulties. At present, any school with at least 50% of its students in poverty can become a schoolwide project. Recognizing how much more effective this model can be, many school districts have been concentrating their Title I resources in these schoolwide project schools.

The potential that has been created by these developments is not well understood outside of the Title I world, but is revolutionary nevertheless. What they mean is that a substantial category of schools, approximately 20,000 of them by one estimate (LeTendre, 1997), have both the freedom, the resources, and in most cases the motivation to fundamentally change the practices in their schools, to adopt or develop schoolwide strategies to meet the needs of all of their children.

A companion study to the *Prospects* study, called *Special Strategies* (Stringfield, Millsap, & Herman, 1997), investigated several promising alternatives to traditional Chapter 1 programs.

The most effective of these were schoolwide projects: Comer's (1988) School Development Program and our own Success for All model (Slavin et al., 1996a, b). Yet there was nothing magic about the schoolwide opportunity. Several home-grown schoolwide programs as well as other nationally disseminated models did not increase student achievement, and in many cases were hardly implemented. Even among schools implementing the two most successful models, quality of implementation was variable and was strongly related to outcomes. Clearly, Title I will be no better than Chapter 1 unless schools use more effective methods today than they were using under Chapter 1. With Title I's emphasis on schoolwide projects, this is the area in which the search for effective methods must focus.

How can Title I schoolwide projects take advantage of this schoolwide opportunity? At present, most schoolwide projects are using their resources and freedom to provide the same services found in *Prospects* and many other studies to be ineffective: remedial services for small groups of students and classroom aides. Some are using the opportunity to reduce class size across the board, although Title I funding is usually not enough to bring about a large enough reduction in class size to make a meaningful difference.

Yet Title I schoolwide projects are beginning to see schoolwide status as a real opportunity for reform. In fact, whenever a high-poverty school is involved in any kind of reform program, the costs of that program are highly likely to have been covered by Title I. In many cases, schools develop their own home-grown reform models. However, schoolwide projects are increasingly adopting or adapting programs developed elsewhere, from subject-specific approaches such as Reading Recovery (Pinnell, 1989; Lyons, Pinnell, & DeFord, 1993), used in more than 6000 U.S. elementary schools, to such whole-school change models as Accelerated Schools (Hopfenberg & Levin, 1993), the School Development Program (Comer, Haynes, Joyner, & Ben-Avie, 1996), and Success for All (Slavin, Madden, Dolan, & Wasik, 1996a).

The advantages of adopting these "off the shelf" instructional models are clear. School staffs need not reinvent the wheel. Organizations behind each of the schoolwide models provide

professional development, materials, and networks of fellow-users. These reform organizations bring to a school broad experience working with high-poverty schools in many contexts. They survive only if they are perceived to be meeting schools' needs; unlike district or state staff development offices, external reform networks are invited in only if they are felt to meet a need, and can be invited back out again if they fail to deliver. Their services can be expensive, but are typically well within the Title I resources of high-poverty schoolwide projects.

In light of the growing interest among schoolwide projects in adopting proven programs, it is critical for schools and districts to be aware of both the range of widely available schoolwide models and the evidence that exists to support them. That is the purpose of this article: to review research on the schoolwide reform models most likely to be available to Title I elementary and middle schools across the U.S. and most likely to be effective in a variety of circumstances. This paper, which is adapted from a more detailed review of research on proven and promising programs for elementary and middle schools (Fashola & Slavin, in press), applies a common standard of evidence to describe what is known today about the most promising schoolwide reform models appropriate to Title I schoolwide projects.

Scope of the Review

The focus of this review is on programs designed to affect core aspects of school functioning: instruction, curriculum, classroom management, assessment, professional development, and governance. These programs are designed, evaluated, and disseminated by a variety of organizations: universities, non-profit R&D organizations, and for-profit organizations. Programs were included if they had national capacity to work with large numbers of schools and had been extensively used with Title I schoolwide projects. Valid evidence of effectiveness was not a criterion for inclusion, but all programs at least had some anecdotal evidence, such as reports of achievement gains in a particular year. Therefore, programs listed in this article should by no means all be considered "proven," but they are certainly promising, ambitious, comprehensive, and widely available. They were selected for review primarily on the

basis that among all programs that we might have considered, these are ones that Title I schoolwide projects might legitimately consider as alternatives to what they are doing now.

Of course, not all Title I schoolwide projects would be able or interested in adopting externally developed comprehensive plans, and would rather build their own whole-school models. Further, few of the existing comprehensive models cover every aspect of school functioning, so even schools that had adopted these comprehensive approaches might still add additional elements. For these reasons, a section at the end of this article discusses a strategy for assembling proven programs in specific curriculum areas into whole-school designs that Title I schoolwide projects could adopt as part of their own school plans.

Criteria of Effectiveness

Programs were considered to be effective if evaluations compared students who participated in the program to similar students in matched comparison or control schools and found the program students to perform significantly better on fair measures of academic performance. Such evaluations were required to demonstrate that experimental and control students were initially equivalent on measures of academic performance, language proficiency, and other measures, and were similar in other ways. "Fair measures" were ones assessing objectives pursued equally by experimental and control groups; for example, a curriculum-specific measure would be fair only if the control group were implementing the same curriculum.

Many studies of innovative programs used evaluations that compared gains made by program students on standardized tests, usually expressed in percentiles or normal curve equivalents (NCE's), to "expected" gains derived from national norming samples. This design, widely used in evaluations of Chapter 1/Title I programs, is prone to error and generally overstates program impacts (see Slavin & Madden, 1991). In addition, many of the programs reviewed only presented evidence from a small proportion of their schools indicating large NCE or percentile gains in selected schools in a given year. Such evaluations do not meet minimal

standards of evidence. Programs that only present evidence of this type are referred to in a

summary table as only "partially" meeting criteria of effectiveness.

Criteria of Replicability

The best evidence that a program is replicable in other schools is that it has in fact been

replicated elsewhere, especially if there is evidence that the program was evaluated and found to

be effective in sites beyond its initial pilot locations. All programs listed in this paper have

national dissemination staffs able to work in schools anywhere, although some are currently

working with far more schools than others.

Effect Sizes

The outcomes of the evaluations summarized in this review are quantified as "effect

sizes." These are computed as the difference between experimental and control group means

divided by the control group's standard deviation (Glass, McGaw & Smith, 1981). To give a

sense of scale, an effect size of +1.0 would be equivalent to 100 points on the SAT scale, two

stanines, 15 points of IQ, or about 21 NCEs. In general, an effect size of +0.25 or more would be

considered educationally significant. Effect sizes should be interpreted with great caution, as

they can be influenced by many factors, but they can provide a useful indication of programs'

effects on student achievement that can be compared (with care) across studies and programs.

SCHOOLWIDE REFORM PROGRAMS

Success for All

The schoolwide reform program that has been most extensively evaluated in schools

serving many students placed at risk is Success for All, a comprehensive reform program for

elementary schools serving many children placed at risk (Slavin, Madden, Dolan, & Wasik,

1996a). Success for All provides schools with innovative curricula and instructional methods in reading, writing, and language arts from kindergarten to grade six, with extensive professional development. The curriculum emphasizes a balance between phonics and meaning in beginning reading and extensive use of cooperative learning throughout the grades. Recently, programs in mathematics, social studies, and science have been added to Success for All, making up a program called Roots and Wings (Slavin, Madden, & Wasik, 1996), described below.

One-to-one tutoring, usually from certified teachers, is provided to children who are having difficulties in learning to read, with an emphasis on first graders. Family support services provided in each school build positive home-school relations and solve problems such as truancy, behavior problems, or needs for eyeglasses or health services. A program facilitator works with all teachers on continuing professional development and coaching, manages an assessment program to keep track of student progress, and ensures close coordination among all program components.

In schools with Spanish bilingual programs, Success for All uses Spanish materials with instructional strategies similar to those used in the English program, but uses a curriculum sequence and materials appropriate to Spanish language and Latino culture (called *Lee Conmigo*). In schools with many limited English proficient students that teach in English, there is a close coordination between ESL and classroom reading programs to infuse effective ESL strategies into the reading approach.

Longitudinal research on the Success for All program has taken place in 23 schools in nine districts throughout the U.S. In each case Success for All schools were matched with similar comparison schools. Students were pretested to establish comparability and then individually posttested each year on scales from the Woodcock Reading Mastery Test and the Durrell Oral Reading Test. Results show consistent, substantial positive effects of the program, averaging an effect size of about +0.50 at each grade level. For the most at-risk students, those in the lowest 25% of their grades, effect sizes have averaged more than a full standard deviation (ES=+1.00 or more). In grade equivalent terms, differences between Success for All and control

students have averaged three months in the first grade, increasing to more than a full grade equivalent by fifth grade (Slavin, Madden, Dolan, Wasik, Ross, Smith, & Dianda, 1996b). Follow-up studies have found that this difference maintains into sixth and seventh grades, after students have left the program schools.

For language minority students, the effects of Success for All have been particularly positive (Slavin & Madden, 1995). Bilingual schools using *Lee Conmigo* in Philadelphia found substantial differences between Success for All and control schools on scales from the Spanish Woodcock, with an effect size at the end of second grade of +1.81 (almost a full grade equivalent different). A study in two California bilingual schools (Dianda & Flaherty, 1995) also found very positive effects of Success for All/*Lee Conmigo*. At the end of first grade, Success for All students exceeded control students by an effect size of +1.03, or about five months. Dianda and Flaherty (1995) also reported an effect size of +1.02 for Spanish-dominant LEP students in a sheltered English adaptation of Success for All in a third California school. Incidentally, a five-year study of the ESL adaptation of Success for All to limited English proficient Cambodian students in Philadelphia also found extremely positive outcomes, averaging an effect size of +1.44 and a grade equivalent difference of almost three years by the end of fifth grade (Slavin & Madden, 1995).

As of fall, 1997, Success for All is in use in more than 750 schools in 36 states, nearly all Title I schools. A training staff in Baltimore, with regional training programs in many parts of the U.S. and Canada, disseminates the program nationally; program adaptations are also used in Mexico, Australia, Israel, and England.

Roots and Wings

Roots and Wings (Slavin, Madden, Dolan, & Wasik, 1994; Slavin, Madden, & Wasik, 1996) is a comprehensive reform design for elementary schools that adds to Success for All innovative programs in mathematics, social studies, and science. Funded by New American Schools, Roots and Wings has recently begun to be disseminated nationally.

Roots and Wings schools begin by implementing all components of Success for All, described above. In the second year of implementation they typically begin to incorporate the additional major components. *MathWings* is the name of the mathematics program used in grades 1-5. It is a constructivist approach to mathematics based on NCTM standards, but designed to be practical and effective in schools serving many students placed at risk. MathWings makes extensive use of cooperative learning, games, discovery, creative problem solving, manipulatives, and calculators.

WorldLab is an integrated approach to social studies and science that engages students in simulations and group investigations. Students take on roles as various people in history, in different parts of the world, or in various occupations. For example, they work as engineers to design and test efficient vehicles, they form a state legislature to enact environmental legislation, they repeat Benjamin Franklin's experiments, and they solve problems of agriculture in Africa. In each activity students work in cooperative groups, do extensive writing, and use reading, mathematics, and fine arts skills learned in other parts of the program.

A study of Roots and Wings (Slavin, Madden, & Wasik, 1996) was carried out in four Title I schools in rural southern Maryland. The assessment tracked growth over time on the Maryland School Performance Assessment Program (MSPAP), compared to growth in the state as a whole. The MSPAP is a performance measure on which students are asked to solve complex problems, set up experiments, write in various genres, and read extended text.

In both third and fifth grade assessments in all subjects tested (reading, language, writing, math, science, and social studies), Roots and Wings students showed substantial growth. On every measure, the percentage of students scoring at the "satisfactory" or "excellent" levels gained substantially more than the average for all Maryland schools. Evaluations of MathWings in San Antonio and in Miami and Palm Beach County, Florida, have also found strong positive effects (Madden, Slavin, & Simons, 1997).

As of fall, 1997, approximately 100 schools have added MathWings and/or WorldLab to their implementations of Success for All, making themselves into Roots and Wings schools.

Edison Project

The Edison Project is a comprehensive, schoolwide reform model launched by media entrepreneur Chris Whittle. Edison, a for-profit organization, contracts with local school districts to run all aspects of selected schools. They select their own principals and staff, use their own curricula and professional development, and adhere to their own rules, although they accept any students who wish to attend. The program mandates a longer school day (7-8 hours) and school year (205 days). It usually provides extensive computers and software, including computers for students to take home.

Most Edison curriculum and instruction is borrowed from other programs. In elementary reading, writing, and language arts, Edison schools use Success for All, including the early childhood, tutoring, and family support components. It uses the University of Chicago School Mathematics Project for math in all grades, and the Scholastic company's Science Place program. To these, it adds a comprehensive system of performance assessments, learning contracts, and professional development.

The Edison Project is in early stages of implementation, but has begun formal evaluations of its pilot sites. The first year evaluation focused primarily on reading performance in grades K-2. Schools in Wichita, Kansas, and Mt. Clemens, Michigan, were assessed on the same individually-administered reading measures used in Success for All evaluations (see Edison Project, 1996). The Wichita evaluation showed the largest impacts. Compared to matched children in control groups, Edison kindergartners averaged .26 grade equivalents higher across

four measures (ES=+.68); the differences for first graders averaged .23 grade equivalents (ES=+.37). Second grade differences were nonsignificant.

At the Mt. Clemens, Michigan Edison school, kindergarten students gained almost two months more than controls, on average (ES=+.48), and first graders also gained almost two months more than controls (ES=+.36).

The experimental-control differences in kindergarten and first grade reading performance found in Wichita and Mt. Clemens are similar to those found in other Success for All evaluations (Slavin et al., 1996a, b), so it is as yet unclear how much the rest of the Edison design adds to this effect. However, Edison is early in its development and evaluation, and it seems likely that the other program components will have an additional impact as the project reaches full implementation in each school.

As of fall, 1997, Edison is in approximately 15 elementary, 8 middle schools, and one high school nationwide.

Core Knowledge

Core Knowledge is an approach to curriculum and instruction based on the work of E.D. Hirsch (1987). The main emphasis of the approach is on teaching a common core of concepts, knowledge, and skills that define an educated individual. The curriculum itself is defined in a series of books titled "What Your (first, second, etc.) Grader Needs to Know." The hallmark of the curriculum is specificity. From very early on, children are taught about Egypt, Greece, Rome, and ancient African kingdoms; about photosynthesis, space, and Mayan calendars; about Shakespeare, Haiku, and the Harlem Renaissance. In addition to the curriculum sequence, the Core Knowledge Foundation provides teachers with general guidelines and examples of how to teach the various topics (Core Knowledge, 1995).

Core Knowledge is more a set of curriculum standards than it is a school reform model, and therefore it is difficult to evaluate in comparison to traditional conceptions of curriculum. The question of what should be taught, especially in such subjects as social studies and science, is often a question of values, which are not empirically testable. However, the program does make claims in terms of test outcomes.

A study by Stringfield (1997), currently in its second year, compares six Baltimore Core Knowledge schools to six matched control schools. Outcomes are very inconsistent. On the district's Comprehensive Tests of Basic Skills, Core Knowledge first graders scored slightly better than controls in reading comprehension (ES=+.09), with larger positive differences in math concepts (ES=+.18). Third graders also scored slightly higher than controls in reading (ES=+.08), but no different in math. On the Maryland School Performance Assessment Program, a state-of-the-art performance measure that would seem on its face to be more appropriate to Core Knowledge, differences were equally inconclusive. Core Knowledge third graders gained slightly more than controls on math, social studies, writing, and language use scales, were essentially identical in reading, and scored worse than controls in science. Among fifth graders, Core Knowledge students gained slightly more (or declined slightly less) than controls on MSPAP reading, math, social studies, and science scales, and there were no differences in writing. The only important experimental-control differences were on language usage.

Preliminary second year data show similar patterns: slight and inconsistent advantages for the Core Knowledge schools (Stringfield, personal communication, May 20, 1997). Anecdotal information from Core Knowledge schools in San Antonio, Texas (Schubnell, 1996) and Albemarle Co., Virginia (Marshall, 1996) have found higher-than-expected reading performance.

Core Knowledge makes few claims to improvements in basic skills, and the evidence to date is not encouraging in these areas. As a schoolwide change model Core Knowledge might best be seen as part of a larger intervention, with other programs providing basic reading and math skills. For example, a program currently being implemented in six Baltimore elementary schools combines Core Knowledge with Direct Instruction reading, and Core Knowledge is part of the more comprehensive Modern Red Schoolhouse design, described elsewhere in this paper.

Core Knowledge is currently used in more than 350 schools in 40 states throughout the U.S.

Accelerated Schools

Accelerated Schools (Levin, 1987; Hopfenberg & Levin, 1993) is an approach to school reform built around three central principles. One is *unity of purpose*, a common vision of what the school should become, agreed to and worked toward by all school staff, parents, students, and community. A second is *empowerment coupled with responsibility*, which means that staff, parents, and students find their own way to transform themselves, with freedom to experiment but also a responsibility to carry out their decisions. *Building on strengths* means identifying the strengths of students, of staff, and of the school as an organization, and then using these as a basis for reform. One of the key ideas behind Accelerated Schools is that rather than remediating students' deficits, students who are placed at risk of school failure must be accelerated, given the kind of high-expectations curriculum typical of programs for gifted and talented students.

The school implements these principles by establishing a set of "cadres" which include a steering committee and work groups focused on particular areas of reform. The program has no specific instructional approaches and provides no curriculum material; instead, school staff are encouraged to search for methods that help them realize their vision. However, there is an

emphasis both on reducing all uses of remedial activities and on adopting constructivist, engaging teaching strategies (such as project-based learning).

The evaluation evidence on Accelerated Schools is quite limited and largely anecdotal. The program's developers state that the program takes five years to fully implement and that is unfair to evaluate program outcomes until that much time has passed. No evaluation evidence has yet been reported from schools in the program this long. However, data from a few individual schools earlier in their implementations have been reported. McCarthy and Still (1993) reported on one Texas school with a large Latino majority that showed gains over time in its fifth-grade standardized test scores (other grades were not mentioned). A similar comparison school showed losses over the same period. Knight and Stallings (1995) reported mixed results, some favoring an Accelerated School and some a control school.

More than 900 schools in 39 states are currently involved in the Accelerated Schools network, and there are four regional training sites for the program in addition to the original training site at Stanford.

School Development Program

The School Development Program (Comer, 1980, 1988; Comer, Haynes, Joyner, & Ben-Avie, 1996) is a comprehensive approach to school reform in elementary and middle schools. The program's focus is on building a sense of common purpose among school staff, parents, and community, and engaging school staff and others in a planning process intended to change school practices to improve student outcomes.

Each SDP school creates three teams that take particular responsibility for moving the reform agenda forward. A School Planning and Management Team, made up of representatives of teachers, parents, and administration, develops and monitors implementation of a comprehensive school improvement plan. A Mental Health Team, principally composed of school staff concerned with mental health such as school psychologists, social workers,

counselors, and selected teachers, plans programs focusing on prevention, building positive child development, positive interpersonal relations, and so on.

The third major component of the SDP is a Parent Program, designed to build a sense of community among school staff, parents, and students. The Parent Program incorporates existing parent participation activities (such as the PTA) and implements further activities to draw parents into the school, to increase opportunities for parents to provide volunteer services, and to design ways for having the school to respect and celebrate the ethnic backgrounds of its students.

The three teams in SDP schools work together to create comprehensive plans for school reform. Whereas the main focus is on mental health and parent involvement, but schools are also encouraged to examine their instructional programs and to look for ways to serve children's academic needs more effectively.

The SDP was originally designed especially to meet the needs of African-American children and families, but large numbers of Latino and white students also attend SDP schools.

Evaluations of the effects of SDP have taken place in a number of locations. The first was a longitudinal evaluation of the first two SDP schools in New Haven, Connecticut, which showed marked improvements in student performance on standardized tests over a 14-year period (Comer, 1988). The Special Strategies study, which followed first graders in two SDP schools also showed positive effects of the SDP model (Stringfield, Milsap, & Herman, 1997). Other evaluations comparing SDP to matched control schools have found mixed, inconsistent effects, with substantial site-to-site variation. Outcomes emphasized by the program, such as self-concept and school climate, have been more consistently associated with the program than have achievement gains (Becker & Hedges, 1992; Haynes, 1991,1994).

The SDP is currently involved with more than 565 schools, mostly elementary and middle schools in 22 states. It has regional training programs in several states.

Consistency Management and Cooperative Discipline (CMCD)

Consistency Management and Cooperative Discipline (CMCD) (Freiberg, Prokosch, & Treister, 1990) is a school-wide reform program designed to improve discipline in inner-city schools at all grade levels. CMCD emphasizes shared responsibility for classroom discipline between students and teachers, turning classrooms into communities of ownership, where the teachers and students together make the rules for classroom management. The idea is that if students have a hand in creating and enforcing the rules, then acting-up to defy the teacher would not work anymore, "because (students) would also be breaking their own laws'" (Freiberg, Prokosch, & Treister, 1990).

CMCD provides a framework of regulations, which schools adapt to fit their needs. The main components or themes of CMCD that exist at every school are prevention, caring, cooperation, organization, and community. At the initial implementation stages of CMCD, the teachers engage in a series of interviews and assessment sessions, whose goals are to evaluate the school's strengths and weaknesses and adapt the program to fit their school.

CMCD has primarily been evaluated in inner-city schools in Houston, with many African-American and Latino students. The main evaluation of CMCD followed five CMCD and five matched control schools in Houston over a period of five years (Freiberg, Stein, & Huang, 1995). This evaluation found significant positive effects on standardized achievement tests, especially for students who remained in the program for six years (Freiberg & Huang, 1994; Freiberg, Stein, & Huang, 1995).

The most recent study of CMCD (Freiberg, 1996) compared the performances of students in schools implementing a mathematics program with those in schools implementing a combination of CMCD and the mathematics program. All of the schools involved in this study were majority Latino. The students in the combined program outperformed students involved in the mathematics only program, with an effect size of +.33.

CMCD currently exists in about twenty-five schools in three Texas districts, plus schools in Chicago and Norfolk. It is establishing a national dissemination capacity.

New American Schools Designs

The development of comprehensive, schoolwide designs for school reform has been greatly advanced by the New American Schools Development Corporation (NASDC), now called New American Schools (NAS). Founded in 1991, NAS is a foundation primarily funded by large corporations to support the development and dissemination of ambitious school designs for the 21st century. Initially, eleven design teams were funded to develop school designs. Four were discontinued for various reasons. The remaining seven are now engaged in national dissemination.

With the exception of our own Roots and Wings program, described earlier, the NAS designs are at too early a stage of implementation and evaluation to have produced conclusive outcome data. Most have anecdotal data noting outstanding gains in one or two schools (among many that might be using the program). However, while the achievement data supporting them are limited so far, these designs have several features that make them attractive alternatives for Title I schoolwide projects seeking fundamental reform. First, these designs are very comprehensive. To one degree or another, all address curriculum, instruction, school operation, assessments, and parent/community involvement. Second, all are built for replication. All of the designs provide trainers, well specified professional development strategies, and networks of implementing schools that help mentor new schools into the network.

In addition to Roots and Wings, the New American Schools designs are as follows.

ATLAS Communities

The ATLAS Communities (Comer, Gardner, Sizer, & Whitla, 1996) is a design based on a collaboration among four school reform organizations, those led by James Comer, Howard Gardner, Theodore Sizer, and Jane Whitla. ATLAS incorporates elements of Comer's (1988) School Development Project, described earlier, but also adds elements from the other reform networks and also has several unique features unique to it. One of these is a focus on working with pathways, feeder systems of elementary, middle, and high schools whose staff work with

each other to create coordinated and continuous experiences for students. The emphasis of the design is on helping school staffs create classroom environments in which students are active participants in their own learning, putting into practice a model (following Sizer's (1992) Coalition of Essential Schools) of student as worker, teacher as coach. Project-based learning is extensively used. Assessment in ATLAS schools emphasizes portfolios, performance examinations, and exhibitions.

Preliminary data from implementing schools show some gains. In Prince George's County, Maryland, reading test scores increased by up to 30% in one ATLAS elementary school, and a middle school reported increases on test scores in math, language arts, science, and social studies on the Maryland School Performance Assessment Program.

Audrey Cohen

The Audrey Cohen College System of Education (Cohen & Jordan, 1996) is based on the teaching methods used at the Audrey Cohen College in New York City. This design attempts to have all learning relate to a purpose that contributes to the community or world at large. Each semesters work is built around a purpose, such as using science and technology to shape a just and productive society, or helping people through the arts. Curriculum materials appropriate to the semester's purpose are identified or adapted for schools' use. Academic activities build toward "constructive action" projects in which children apply knowledge to contribute to real community needs.

Anecdotal reports of early outcomes have identified individual schools implementing Audrey Cohen design in San Diego, Phoenix, and Miami that have reported above-average gains on standardized achievement tests.

Co-NECT

Co-NECT (Goldberg & Richards, 1996) is a design created by a Cambridge (MA) consulting firm, Bolt, Beranek, and Newman. The design focuses on complex interdisciplinary

projects that extensively incorporate technology and connect students with ongoing scientific investigations, information resources, and other students beyond their own school. Cross-disciplinary teaching teams work with clusters of students. Performance-based assessments are extensively used.

On a battery of performance items, one of the original pilot schools for Co-NECT, a middle school in Worcester, MA showed significant gains from 1994 to 1995 in reading scores. Other schools also showed gains in selected areas.

Expeditionary Learning

Expeditionary Learning Outward Bound (Campbell, Farrell, Kamii, Lam, Rugen, & Udall, 1996) is a design built around learning expeditions, explorations within and beyond school walls. The program is affiliated with Outward Bound, and incorporates many of its principles of active learning, challenge, and teamwork. It makes extensive use of project-based learning, cooperative learning, and performance assessments.

Expeditionary Learning schools in Boston, Dubuque, and New York City have shown significant increases over time on standardized test scores.

Modern Red Schoolhouse

The Modern Red Schoolhouse (Kilgore, Doyle, & Linkowsky, 1996) is a project of the Hudson Institute, a conservative think tank in Indianapolis. The program emphasizes strong core academic subjects, and in the elementary and middle grades is based on the E.D. Hirsch (1993) Core Curriculum. It makes extensive use of technology in instruction and assessment, and has established benchmarks for academic performance that all students must achieve to be advanced into the next unit or grade.

Several elementary schools involved in the Modern Red Schoolhouse design have shown improvement on NCEs in the early grades. In particular, a school in the Bronx showed substantial gains on a state essential skills test in reading and math.

National Alliance

The National Alliance for Restructuring Education (Rothman, 1996) is a partnership of states, school districts, and national organizations affiliated with the New Standards Project. The National Alliance is different from all other NAS designs in that its emphasis is more on systemic reform than on specific school-by-school restructuring. In particular, the National Alliance works to help states and districts establish standards, performance assessments, and accountability methods, and then helps schools design their own approaches to meet those standards. Districts are also urged to give schools greater autonomy and control over resources to find their own ways to meet high standards. In the state of Kentucky, a key National Alliance partner, schools engaged with the National Alliance were much more likely than other Kentucky schools to earn awards for improving their students' performance.

Summary of Outcomes

As noted earlier, an ideal program for this review would be one that had been rigorously evaluated many times in elementary or middle schools serving students placed at risk, and had been extensively replicated in such schools. However, few programs would meet all of these criteria. Table 1 summarizes the degree to which each of the programs reviewed met these inclusion criteria. The Table is only a summary; see Fashola & Slavin (1997) for more detail on the characteristics, evaluation evidence, and replicability of each program.

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Table I Here

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Assembling Components

Title I schoolwide projects can greatly expand their range of alternatives by assembling their own set of components into a comprehensive model. A key advantage of comprehensive models is that their developers have thought through an overall school plan and know how to coordinate each of the elements of that plan with each other, how to phase them in over time, and so on. However, a school staff can certainly create its own plan and work out for itself how the elements will connect with each other.

There is a very broad range of programs in particular subject areas from which schools can select. Obviously, there are many commercial textbooks and other programs that provide professional development as well as materials. The National Diffusion Network, terminated in 1996, listed more than 500 replicable programs with some evidence of effectiveness, most of which were innovations in particular subjects and grade levels. Despite the demise of NDN, many of these programs still exist; for a list, see National Diffusion Network, 1995.

In building a schoolwide model from components that are themselves proven (but subject-specific) models, there are three key types of interventions schools should look for. These are as follows.

1. <u>Curriculum and Instruction</u>

The most important set of interventions are those that affect what happens between children and teachers every day. Schools should review instructional programs in each major area of the curriculum, focusing on approaches that have evidence of effectiveness in comparison to matched control groups. (A list of elementary and middle school programs with good evidence of effectiveness appears in Fashola & Slavin, in 1997). These tend to provide extensive professional development, far beyond that ordinarily provided by commercial textbook programs. Because of this, it is usually important to phase in curricular and instructional innovations over a period of time, ensuring high-quality implementation of each element before the next is introduced.

Improving the quality of classroom instruction is the best and most cost-effective means of improving overall student achievement and preventing at-risk students from falling behind. In addition to extensive professional development, effective models tend to provide for a great deal of classroom followup, from expert and/or peer coaches. They usually provide extensive curriculum-based assessment to enable teachers to continually adjust their pace and level of instruction and to identify individual children in need of extra assistance. Teachers implementing innovative curricula should have regular opportunities to meet to discuss what they are doing, to visit each others' classes, and to share materials and ideas.

2. <u>Programs for At-Risk Students</u>

Even with the best of instruction, some number of students in any school will always experience academic difficulties. An overall school plan must provide services for these children. In general, the best approaches to helping struggling students catch up with their peers involve one-to-one assistance targeted to the unique needs of the student. Most effective are tutoring programs involving certified teachers, such as those used in Reading Recovery (Pinnell et al., 1994) and in Success for All/Roots and Wings (Slavin et al., 1996a, b). However, tutoring approaches using paraprofessionals (Wasik & Slavin, 1993), volunteers (Wasik, 1997), and cross-age peer tutors (Cohen, Kulik, & Kulik, 1982) can also be effective. In each case, tutoring and other supportive services are likely to work best if they are closely linked to classroom instruction, using the same materials and objectives but adapting teaching methods to students' needs. For secondary schools, there are several programs with evidence of effectiveness for reducing dropout and increasing college attendance among at-risk children (see Fashola & Slavin, in press).

3. <u>Family Support</u>

Any comprehensive schoolwide reform approach should include elements designed both to engage parents in support of their children's success in school and to solve non-academic problems that could interfere with children's school performance. Such programs are a part of almost all of the schoolwide approaches discussed earlier, and there are many parent-focused

programs that have their own dissemination programs, such as Parents as Teachers (Pfannenstiel, Lambson, & Yarnell, 1991) and Teachers Involve Parents in Schoolwork, or TIPS (Epstein, Salinas, & Jackson, 1995). In addition, schools should consider approaches to integrate health, mental health, and social services with their educational programs. One national model for this is Schools of the 21st Century (Zigler, Finn-Stevenson, & Linkins, 1992).

<p style="text-align:center"><u>Conclusion</u></p>

The results of *Prospects*, the most recent national evaluation of Chapter 1, like others before it, give little to validate those who would support traditional practices in high-poverty Title I schools. Providing small-group remedial services to children who have already fallen behind has never been found to be effective for at-risk children. The 1994 reauthorization of Chapter 1 as Title I gives schools with at least 50% of their students in poverty an opportunity to use Title I funds as a fuel for comprehensive schoolwide reform. To take advantage of this opportunity, however, schools need to have access to a broad range of proven and replicable options, to enable them to make rational, considered choices among programs that work rather than trying to reinvent the wheel.

This article describes schoolwide reform models that are nationally available, and summarizes the evidence of effectiveness for each. It also describes a strategy for assembling effective subject-specific instructional innovations, programs for struggling students, and family support programs, into well-coordinated schoolwide plans.

It is apparent from the discussions of the currently available schoolwide reform models that much more research is necessary to truly have available a substantial "shelf" of proven models. Yet what we do know now is that schools need not start from scratch in designing effective schoolwide plans. A wide array of promising programs are readily available, backed up by national networks of trainers, fellow-users, materials, assessments, and other resources. For most Title I schoolwide projects it is probably a better use of time and resources to affiliate with one of these networks and then work out how to implement their models with integrity,

intelligence, and sensitivity to local needs and circumstances, than to try to develop a completely new approach.

Since the 1994 Title I reauthorization, a new world has opened up for high-poverty schools. The importance of *Prospects* is in telling us that there is no turning back to the policies of the past. Schoolwide projects are not a magic pill to cure the ills of high-poverty schools; it matters a great deal which particular model schools choose and how effectively they implement them. Yet it is clear that schools can turn their Title I dollars into markedly better achievement for their children, and that models able to facilitate this process are replicable and are widely available. Not every school needs to adopt one of these models, but they do provide a standard against which home-grown models should be assessed.

Our children deserve no less.

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APPENDIX: Contacts for Information on Programs Reviewed

Accelerated Schools
Claudette Spriggs
National Center for the Accelerated Schools Project
Stanford University
CERAS 109
Stanford, California 94305-3084
 (415) 725-7158 or (415) 725-1676

Atlas Communities
Linda Gerstle
Education Development Center
55 Chapel St.
Newton, MA 02160
(617) 969-7100 ext. 2470
FAX (617) 969-3440

Audrey Cohen College
Janith Jordan
345 Hudson St.
New York, NY 10014
(212) 989-2002 ext. 223
FAX (212) 675-0603

Co-NECT Schools
John Richards
Educational Technologies
Bolt, Beranek and Newman
150 Cambridge Park Dr.
Cambridge, MA 02138
(617) 873-3081
FAX (617) 873-3776

Consistency Management and Cooperative Discipline (CMCD)
H. Jerome Freiberg
University of Houston
College of Education
Houston, TX 77204-5872
(713) 743-8663

Core Knowledge
E.D. Hirsch
Core Knowledge Foundation
2012-B Morton Dr.
Charlottesville, VA 22903
(804) 977-7550

Edison Project
Deborah Doorack
521 5th Ave., 16th fl.
New York, NY 10175
(212) 309-1600

Expeditionary Learning/Outward Bound
Margaret M. Campbell
122 Mount Auburn St.
Cambridge, MA 02138
(617) 576-1260
FAX (617) 576-1340

Modern Red Schoolhouse
Sally B. Kilgore
Hudson Institute
5395 Emerson Way
Indianapolis, IN 46226
(317) 545-1000
FAX (317) 545-1384

National Alliance for Restructuring Education
Marc S. Tucker
700 11th Street, NW
Suite 750
Washington, DC 20001
(202) 783-3668
FAX (202) 783-3672

School Development Program (SDP)
Ed Joyner
Child Study Center
School Development Program
230 South Frontage Road
P.O. Box 20790
New Haven, Connecticut 06520-7900
(203) 785-2548
FAX (203) 785-3359

Success for All/Roots and Wings
Robert E. Slavin
Johns Hopkins University

Center for Research on the Education of Students Placed at Risk
3505 North Charles Street
Baltimore, MD 21218
1-800-548-4998
FAX (410) 516-8890

Table 1: Schoolwide Programs

Program Name	Grades Served	Meets Evaluation Criteria For Achievement?	Widely Replicated?
School-wide Reform Programs			
Success for All	K-6	yes	yes
Edison Project	K-12	yes (for primary program)	no
Core Knowledge	K-6	partially	yes
Accelerated Schools	K-8	partially	yes
School Development Program	K-8	partially	yes
Consistency Management & Cooperative Discipline	K-12	yes	no
New American Schools Designs			
ATLAS Communities	K-12	partially	yes
Audrey Cohen College	K-12	partially	yes
CoNECT	K-12	partially	yes
Expeditionary Learning/ Outward Bound	K-12	partially	yes
Modern Red Schoolhouse	K-12	partially	yes
National Alliance	K-12	partially	yes
Roots and Wings	K-6	yes	yes