

DISCUSSION PAPER—DO NOT CIRCULATE

Reforming High Schools to Reduce Dropout Rates

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Improving the nation's high school graduation rate has remained an elusive goal for many years. In 1990 the nation's governors and the President of the United States adopted six national education goals, including increasing the high school graduation rate to 90 percent and eliminating the gap in high school graduation rates between minority and non-minority students by the year 2000 (U.S. Department of Education, 1990). But these goals were voluntary and best estimates suggest they did little to improve the nation's high school graduation rate.¹

Beginning in the 1990s, many states began implementing performance-based accountability systems that mandated improvements in student and school performance. Although in most accountability systems tests scores were the sole indicator of performance, increasingly states included dropout and graduation requirements. In many cases, the mandates were accompanied by rewards and sanctions that carried high stakes for both students and schools. For students, sanctions included passing a high school exit exam in order to receive a diploma. For schools, sanctions included state takeover or even dissolution.

The federal No Child Left Behind Act of 2001 (NCLB) requires that all states receiving Title I funds institute an accountability system for all the public schools and districts in the state, whether or not they receive Title I funds. Although states are allowed to set content and performance standards for students, NCLB mandates performance standards for schools and imposes sanctions on all Title I schools that do not meet those performance standards. NCLB also requires that public high schools demonstrate improvement in both student achievement (test scores) and graduation rates.

¹ Because of the way enrollment and graduation statistics are collected in the U.S., there are no accurate, long-term estimates of the nation's high school graduation rate (see (Swanson, 2004). Data from the U.S. Census show that the nation's high school completion rate, which includes students who earned alternative credentials (e.g., GED), remained essentially flat during the 1990s at around 85 percent (Kaufman, Alt, and Chapman, 2004, p. vi),

Yet NCLB and performance-based accountability systems alone are unlikely to improve the nation's high school graduation rate. First, schools can only address some of the factors that contribute to students' dropping out of school. Second, performance-based accountability systems in general, and NCLB in particular, do not provide the right mix of incentives, resources, and support to alter the will and capacity of schools and the people in them to improve. Finally, the current accountability provisions of NCLB for improving graduation rates are weak. After discussing the shortcoming of current strategies for reducing dropout rates in high schools, this paper suggests ways to address these shortcomings.

The Contribution of High Schools to Dropout Rates

One of the most important and fundamental issues in educational research and policy is the extent to which schools contribute to student achievement. The reason is that many educational policies, including NCLB, are predicated on the belief that differences in student achievement are largely due to differences in schools, so improving schools—particularly low-performing schools—will raise overall student achievement and reduce differences in achievement between high-performing advantaged students and low-performing disadvantaged students.

While researchers and policymakers from all political persuasions agree that schools contribute to student achievement, the extent of that contribution is much less clear. Famed sociologist James Coleman sparked widespread debate with the publication of his report in 1966 by concluding that schools had relatively little impact on student achievement compared to the background of the students who attend them: “family background differences account for much more variation than do school differences” (1966, reprinted in Coleman, 1990, p. 124). More

specifically, Coleman found that schools only accounted for 5 percent to 38 percent of the variation in achievement among different grade levels, ethnic groups, and regions of the country (Coleman, 1990, p. 77). And although Coleman’s analysis was subjected to considerable scrutiny and debate, more recent research studies using more refined statistical techniques continue to find that no more than a third of the variation in student achievement lies between different schools.² This has important implications for policies designed to improve student achievement that focus on schools as the sole arena for change, a topic I revisit below (Coleman, 1990; Rothstein, 2004).

Not only did Coleman find that differences in schools account for relatively modest differences in student achievement, but he also found that “the social composition of the student body is more highly related to achievement, independent of the student’s own social background, than is any school factor, ” including school facilities and attributes of teachers (Coleman, 1990, p. 119). Recent studies have also confirmed these findings—in fact, one recent study found that the social class background of the student body had almost as large—and sometimes larger—an effect on student learning as students’ own social class background (Rumberger & Palardy, 2005a).³ These findings, too, have implications for school reform strategies.

To what extent do schools contribute to dropout and graduation rates? This question is more difficult to answer than a similar question concerning student achievement, but there is little reason to suggest that it is much different than with student achievement. Research from one recent study found that more than half of the differences in dropout rates among a sample of

² A recent international study of student achievement by the OECD found that, on average, differences between schools account for 36 percent of the average between-student variation in reading literacy achievement of 15 year-olds among the 26 countries that participated in the study, including 35 percent for the United States (Organization for Economic Co-operation and Development, 2001, p. 60).

³ This finding, too, has been replicated in an international study that found in the United States the effects of school socioeconomic status (SES) on student achievement (not achievement growth) were about twice as large as the effects of individual SES (OECD, 2001, p. 199).

912 high schools from across the United States were due to differences in the background characteristics of students who attended the schools rather than differences in the characteristics of schools themselves (Rumberger & Palardy, 2005b). Yet even controlling for differences in student background characteristics, there remain substantial differences in dropout rates of U.S. high schools: a student with average background characteristics is less than half as likely to drop out from a high-performing high school than a low-performing high school.⁴ At the same time, an analysis of these dropout rates reveals that the majority of high schools in the United States have modest dropout rates and relatively few have what could be considered very high dropout rates.⁵

Existing research suggest the potential and limitations of schools as a vehicle for improving the nation's high school graduation rate. Even if all the existing differences between high schools in the U.S. were eliminated, substantial differences in dropout rates among students would remain. Yet improving the nation's high schools can substantially improve students' prospects for graduating

Effective Strategies for Reducing Dropout Rates in High Schools

There are two basic approaches for reducing dropout rates in high school. The first approach focuses on *programmatic interventions* that either provide supplemental academic and social supports to students within an existing school program, or provide an alternative school program in an existing school (school within a school) or in a separate facility (alternative

⁴ This estimate is based on figures from Rumberger and Palardy (2005) who estimate a mean two-year dropout rate between grades 10 and 12 of 7.0 percent (Table 1). If we define a high-performing high school as one whose log-odds dropout rate is one standard deviation above the mean and a low-performing high school as one whose log-odds dropout rate is one standard deviation below the mean, the odds ratio of dropping out from a high-performing school compared to a low-performing school is .41 controlling for student background and school composition (Table 2).

⁵ Almost 90 percent of the high schools in Rumberger and Palardy (2005)'s study had dropout rates within one standard deviation of the mean.

school). This approach attempts to alter the values, attitudes, and behaviors of targeted, at-risk students without attempting to alter the characteristics of the larger families, schools, and communities that may contribute to those individual characteristics. The second approach focuses on *systemic interventions* that provide resources and supports to fundamentally transform the way families, schools, and communities serve youth.

Both approaches have strengths and weaknesses. Programmatic interventions are easier to develop, evaluate, and disseminate widely than systemic interventions, but they can be costly and impact relatively few students. And despite the large number of dropout prevention programs in the U.S., and the relative ease in evaluating them, relatively few dropout intervention programs have been evaluated using scientifically rigorous, random-assignment evaluations. For example, the General Accounting Office surveyed more than 1,000 dropout programs in the fall of 1986, yet it found only 20 rigorous evaluations of the 479 programs that responded to the survey (U.S. General Accounting Office, 1987). A more recent review of more than 100 federally-funded dropout prevention programs found that only 30 programs had rigorous evaluations, and only three significantly reduced high school dropout rates (Dynarski, 2004). Although most dropout prevention programs focus on students at risk of dropping out in middle and high school, a number of preschool programs designed to improve the cognitive and social development of disadvantaged children have been shown to significantly reduce high school dropout rates (Barnett, 1995).

Systemic interventions have the potential to reduce dropping out in a much large number of students by improving some of the environmental factors in families, schools, and communities that contribute to dropout behavior. That was the position taken by the National Research Council Panel on High-Risk Youth (1993) who argued:

The primary institutions that serve youth—health, schools, employment, training—are crucial and we must begin with helping them respond more effectively to contemporary adolescent needs. Effective responses will involve pushing the boundaries of these systems, encouraging collaborations between them and reducing the number of adolescents whose specialized problems cannot be met through primary institutions (p.193).

Systemic solutions may be particularly appropriate in schools and communities where the concentration of students at risk of dropping out is high.

Although the promise of systemic solutions to the dropout problem is great, the reality is not. The reason is simply that systemic changes are extremely difficult to achieve because they involve making fundamental changes in the way institutions work individually and within the larger system in which they are a part. In addition, systemic interventions are difficult to evaluate with rigorous, scientific methods involving random assignment (Cook, 2005).

To date, most systemic intervention strategies in education have relied on externally developed comprehensive school reform (CSR) models that transform the entire operation of schools through a series of coherent and reinforcing strategies.⁶ These models have been adopted by hundreds of schools in the United States with financial support from the federal government through the Comprehensive School Reform Program and NCLB (Desimone, 2002). However, there is little evidence that CSR models have been effective in reducing high school dropout rates. A recent evaluation of 29 of the most widely adopted CSR models found that most models focus on elementary schools, and those that focus on high schools have been evaluated primarily in terms of their effects on student achievement (test scores) and not dropout rates (Borman, Hewes, Overman, & Brown S., 2003).

There is at least some evidence that reforming high schools to reduce dropout rates may be particularly challenging. In their study of 207 urban high schools that were attempting major

⁶ The federal government identifies 11 components in comprehensive school reform strategies (U.S. Department of Education, 2002).

school reform programs based on the effective schools literature, Louis and Miles (1990) found widespread improvement in a number of areas—such as student behavior, and student and staff morale—but even among programs that had implemented these changes for several years and enjoyed improvements in student achievement, improvement in dropout rates were “rarely achieved no matter how long a program had been in operation” (Louis & Miles, 1990, p. 49). Another review of five school restructuring efforts supported by large, multi-million dollar grants from the federal dropout prevention program found that none of these restructured schools significantly reduced dropout rates in relation to comparable schools (Dynarski & Gleason, 1998).⁷

Despite the paucity of scientific evidence establishing the effectiveness of programmatic or systemic intervention strategies in reducing dropout rates, reviews of the research literature have identified common features of programs that appear to be effective in preventing students from dropping out of school, and features of schools that may yet hold promise for reducing dropout rates.

Features of Effective Dropout Prevention Programs

Although dropout prevention programs differ widely in the age and characteristics of the students they serve, the services they provide, and the way they are structured (Dynarski & Gleason, 1998; Wehlage, Rutter, Smith, Lesko, & Fernandez, 1989), there appear to be several common features among effective programs:

- a focus on meeting both the academic and non-academic needs of students;
- a non-threatening environment (accepting students as they are);
- a caring and committed staff who accept personal responsibility for student success;

⁷ Systemic reforms involving community agencies have also proved elusive. A review of a multi-year, multi-million dollar effort to build new collaborative structures among existing public and private institutions in five cities in order to address the problems of at-risk youth, including dropping out of school, found that this systemic reform effort did little to reduce dropouts and other problems of at-risk youth (Wehlage, Smith, & Lipman, 1992; White & Wehlage, 1995).

- a culture that encourages staff risk-taking, self-governance, and professional collegiality;
- a structure that provides for a low student-teacher ratio and a small class size to promote student engagement.

These features focus on developing the commitment and competencies of both students and the staff who work with them, and on providing an organizational structure to nurture and support this development.

Features of Effective Schools

Since the publication of the Coleman report in 1966, countless studies have been undertaken to identify the characteristics of effective schools. These studies have ranged from large-scale statistical studies of national datasets (as Coleman did) to small-scale case studies of particular schools.⁸ Although a number of specific features have been identified in these studies, they essentially address two basic features of schools: *school inputs*, or the material conditions of schools, which include school resources and school structure, and the characteristics of students and teachers; and *school processes*, which include the attitudes, behaviors, and practices of students, teachers, and administrators as well as the policies, practices, and culture (or climate) of the school as a whole.

There is considerable disagreement on the requisite inputs needed to develop and support effective schools. That is, what resources, teacher characteristics, student characteristics, and structural features are necessary to create an effective school? For example, there is ongoing debate on whether school resources make a difference. In a major review of 187 studies that examined the effects of instructional expenditures on student achievement, (Hanushek, 1986, p. 47) concludes: “There is no strong or systematic relationship between school expenditures and student performance.” Other reviewers conclude, however, that school resources can make a

⁸ See Purkey and Smith (1983) for a discussion of the strengths and weakness of different types of studies for identifying effective schools.

difference (Hedges, Laine, & Greenwald, 1994). There are similar debates about the extent to which other school inputs matter: (1) teacher characteristics, such as credentials and training, (Wayne & Youngs, 2003); (2) the racial or socioeconomic composition of students in the school (Kahlenberg, 2001; Orfield & Lee, 2005); and (3) certain structural features of schools, such as school size (Luyten, 1994; National Research Council, Committee on Increasing High School Students' Engagement and Motivation to Learn, 2004) and the type of organizational control, such as private, public, charter, and magnet schools (Bettinger, 2005; Bryk, Lee, & Holland, 1993; Coleman, Hoffer, & Kilgore, 1982; Gamoran, 1996).

One reason for the lack of consistent findings on the relationship between school inputs and student outcomes is that school inputs may be necessary to create effective schools, but not sufficient. What is equally important is how the inputs are used, which, in turn, depends on what goes on within schools.

Consequently, many researchers have sought to identify the policies, practices, and climate within effective schools. Although there is considerable agreement that certain, discernable features characterize effective schools, there is less agreement on the exact features and their relative importance. Edmonds (1979) identified five characteristics of effective schools: strong administrative leadership, high expectations for children's achievement, an orderly atmosphere conducive to learning, an emphasis on basic-skill acquisition, and frequent monitoring of pupil progress. Purkey and Smith (1983) identified two sets of variables to characterize effective schools: nine organizational-structural variables—school site management, instructional leadership, staff stability, curriculum articulation and organization, schoolwide staff development, parent involvement and support, schoolwide recognition of academic success, maximized learning time, and district support—and four process variables that

describe a school's climate or culture—collaborative planning and collegial relationships, sense of community, clear goals and high expectations, and order and discipline. Teddlie and Reynolds (2000) identified nine processes of effective schools: the processes of effective leadership, the processes of effective teaching, developing and maintaining a pervasive focus on learning, producing a positive school culture, creating high (and appropriate) expectations for all, emphasizing student responsibilities and rights, monitoring progress at all levels, developing staff skills at the school site, and involving parents in productive and appropriate ways.

Other researchers have looked beyond these discernable features of the effective schools and tried to identify the requisite “building blocks” necessary to create effective schools and effectively utilize school inputs. These building blocks have to do with the characteristics of both individuals within the school and the school as a whole. For example, Cohen, Raudenbush, and Ball (2003) argue that conventional school resources—such as teachers' formal qualifications, books, facilities, and time—only offer the capacity to improve teaching and learning, but to do so requires the teachers' *personal resources*, which they define as their will, skills, and knowledge. Similarly, Newmann (1983) argues that new organizational structures, such as site-based management or team teaching, may do little if teachers and administrators do not have the requisite commitment and competencies. Finally, Bryk and Schneider (2002) argue that a requisite building block for school improvement is a *social resource* known as relational trust, which they define as the social relationships at work in a school: “...we view relational trust as creating the fertile social ground for core technical resources (such as standards, assessments, and new curricula) to take root and develop into something of value” (p. 135). In their simplest form, these building blocks of school reform represent the *will and capacity* of both individuals and schools as institutions.

One fundamental question is whether will and capacity constitute prerequisites for developing effective schools, or whether schools—with the proper incentives, resources, and support—can develop the requisite will and capacity. Many comprehensive school reform models require that teachers display the necessary will to reform by first voting on whether to adopt the model (Borman et al., 2003). A comprehensive review of efforts to scale-up comprehensive school reform models found that a lack of teacher capacity led to weak implementation of the reforms (Berends, Bodilly, & Kirby, 2002). Bryk and Schneider (2002) argue that relationship trust is easier to build in schools that both students and teachers have chosen to attend, thereby assuring a shared commitment (p. 142). This literature suggests that it may be necessary to recruit and select teachers with at least some pre-existing level of will and capacity before undertaking school reform.⁹ Yet other research suggests that, in some instances “...belief or commitment can follow mandated or coerced involvement at both the individual and system level” (McLaughlin, 1990, p. 13). In addition, certain organizational features, such as smaller school size and shared decision-making, may be necessary to develop and support teachers’ commitment to the institution and to the students it serves.

Reforming High Schools to Reduce Dropout Rates

The challenge of reforming high schools to reduce dropout rates is formidable. The challenge is less formidable in the relatively large proportion of high schools where students at risk of dropping out of school comprise a small proportion of the student population. In those schools, programmatic interventions should be sufficient to provide the additional academic and

⁹ A private conversation with the principal of one nationally-recognized effective school revealed that teachers in that school were interviewed and selected based on a desired set of commitments and competencies, even though the school provides ongoing professional development for its teachers. The selection of teachers may be especially important regarding the belief that all students can and should succeed in school.

social supports that at-risk students need to stay in school. The challenge is much more formidable in the relatively small proportion of high schools where a large proportion of students drop out: primarily large, urban high schools. In those schools, systemic interventions that address the needs of the entire student body will be required to transform the entire school.

What role can state and federal policies play, including NCLB, in bringing about such reforms? There is extensive research literature examining the implementation and impact of past federal and state policies designed to bring about widespread reform of public schools. This literature provides a very sobering assessment of the prospect for reforming schools:

Perhaps the overarching, obvious conclusion running through empirical research policy implementation is that it is incredibly hard to make something happen, most especially across layers of government and institutions. It's incredibly hard not just because social problems tend to be thorny. It's hard to make something happen primarily because policymakers can't mandate what matters. We have learned that policy success depends on two broad factors: local capacity and will. Capacity, admittedly a difficult issue is something that policy can address...But will, or the attitudes, motivation, and beliefs that underlie an implementer's response to a policy's goals or strategies, is less amenable to policy intervention (McLaughlin, 1987, p. 172).

A recent evaluation of the 10-year effort of the New American Schools (NAS) to develop, implement, and scale-up research-based comprehensive school reform models reached a similar conclusion: "The causal chain of events leading to strong implementation and outcomes have proven to be more complex than originally considered by NAS and one that remained largely outside of its control and influence...in keeping with the literature on implementation indicating the complexity of the change process" (Berends et al., 2002, p. 147). Not only is reform difficult, it is also uneven, varying widely across schools and districts (McLaughlin, 1990).

The difficulty and unevenness of reform efforts can be traced to a number of factors Desimone (2002):

1. Specificity (locus of development, professional development information and materials, and monitoring);
2. Consistency with other school reform efforts and with state and district policy;
3. Authority through social norms and through institutional and individual support;
4. Power (rewards and sanctions);
5. Stability of students, teachers, and administrators, and of the policy environment;
6. Local politics (unions, lack of capacity, inadequate resources).

Specificity is most related to the nature of the reform itself and has the most impact on fidelity of implementation; power has the most impact on short-term effects; while authority, consistency, stability, and local context have more impact on long-term effects, yet have less to do with the nature of the particular reform than with local contexts and conditions that are largely outside the control of the reform itself.

Research on implementation of a large number of different reforms and policies has identified three critical elements required to initiate and sustain reform efforts: (1) incentives, (2) resources, and (3) support. Incentives attempt to directly impact the will of both individuals and schools by focusing attention on what matters; resources and support enable reform. Resources represent the money and knowledge needed to fuel reform, while support from district and state officials, as well as external change agents, can help local schools effectively match resources to local needs and contexts. But even with sufficient incentives, resources, and support, reform depends on local conditions and contents that are frequently outside the direct influence of policy directives, including teacher capacity, principal leadership, district infrastructure and support, and local politics involving school boards and teacher unions (Berends et al., 2002; Desimone, 2002). These local conditions and contexts remain formidable obstacles that must be addressed if widespread reforms are to be successful.

Beyond simply identifying a set of factors that promote or impede reform, it is important to identify a *theory of action* to explain the underlying causal process of how reform is supposed

to bring about improved student and school performance. Policymakers have a limited number of mechanisms or policy instruments at their disposal to effect change in public schools, and they often lack an explicit understanding of how the mechanisms they employ are supposed to work (McDonnell, 2004; McDonnell & Elmore, 1987). As a result, the theory of action underlying a policy may be wrong, or at least incomplete. This problem plagues current education policies.

Comprehensive school reform policies attempt to improve the capacity of local schools and districts by providing financial resources and information on effective educational practices. For example, the NAS had a theory of action based on the idea that by developing “break-the-mold” comprehensive school designs and by getting local schools to adopt them, student performance would increase. That is, NAS was premised on a belief that capacity building alone would be sufficient to bring about school reform. But an evaluation of this effort concluded that this theory of action “was largely under-developed and underspecified” (Berends et al., 2002, p. 147).

Performance-based accountability systems, such as NCLB, also have a theory of action underlying them. Performance-based accountability systems that attempt to improve student and school performance by:

- Developing content standards that specify what all students are expected to know and do;
- Developing assessments to measure whether students are meeting those standards;
- Specifying performance standards that students and schools are expected to reach and a timetable for reaching them;
- Providing a series of rewards and sanctions—high stakes—for both students and schools to meet the performance standards.

What is the theory of action underlying performance-based accountability systems? According to Elmore (2004):

Performance-based accountability systems operate on the theory that measuring performance, when coupled with rewards and sanctions...will cause schools and individuals who work in them, including students, teachers, and administrators, to work harder and perform at higher levels...(p. 277).

Elmore argues that this theory, too, is “underspecified” (p. 278) because it remains unknown how schools and the individuals in them are supposed to respond to these rewards and sanctions in order to produce the desired outcomes. He further questions whether it is ethical to impose life-altering consequences on students, such as denying grade promotion or a high school diploma, based on such uncertain and untested theories. In addition to an underspecified theory of action, performance-based accountability systems suffer from a number of other, technical shortcomings, including a lack of valid, reliable, and accurate assessments of student and school performance (Furhman and Elmore, 2004).

Performance-based accountability systems rely on high-stakes incentives as the primary mechanism for reforming schools and improving student achievement.¹⁰ They generally provide few resources and support for schools to improve. As such, these systems attempt to alter the will of students and educators to improve rather than change their capacity. This assumes that the primary impediment to improved student outcomes is a lack of will rather than a lack of capacity, which is a questionable assumption:

Is it plausible to assume that educators actually know how to substantially improve student performance, but that they are for some obscure reason withholding this knowledge because they have been insufficiently motivated or rewarded by existing incentive structures (Murnane, 2004, p. 280)?

While past research on policy implementation clearly recognizes the importance of incentives, it also clearly demonstrates that students, educators, and schools require

¹⁰ As McDonnell (2004) points out, most policies employ more than one policy instrument. Performance-based accountability systems use capacity building and persuasion as well as mandates to bring about school reform.

resources and support to improve.

In addition to suffering from the fundamental shortcomings of all performance-based accountability systems, NCLB suffers from a number of shortcomings as a policy for reducing high school dropout rates. These shortcomings have to do with the weak accountability provisions concerning dropout rates (Orfield, Losen, Wald, and Swanson, 2004):

1. Whereas NCLB mandates that all students become proficient on state exams by the year 2014, NCLB allows states to set their own performance goals with respect to dropout rates. As a result, some states have set high performance goals and others have set low performance goals.
2. Whereas NCLB gives very little leeway for states to document yearly progress toward meeting the performance goals for student achievement, NCLB allows states incredible leeway in meeting performance goals for graduation rates. As a result, some districts could take up to 300 years to reach their performance goals for graduation rates.
3. Whereas NCLB requires that schools, districts, and states report and demonstrate performance of seven sub-groups of students with meeting achievement goals, NCLB does not require any breakdowns with respect to meeting graduation goals.

Strong accountability for test score performance coupled with weak accountability for graduation rate performance provides perverse incentives to districts. One way to raise test score performance is to remove or discharge low-performing students (Bowditch, 1993; Riehl, 1999; Rumberger & Larson, 1998). For example, both the New York City and Houston school systems have been investigated over the past years for “pushing out” their low performing students into alternative, non-diploma programs or classifying them as transfers so they would also not be counted as dropouts (Howard, 2004; Lewin & Medina, 2003).

Could NCLB and other accountability systems be strengthened in such a way as to foster meaningful reform in high schools that would help reduce dropout rates? Yes, but the task would be formidable. Some changes would be relatively easy, for instance strengthening the

accountability provisions for high school graduation rates to make them consistent with those for student achievement, including:

1. Setting national performance goals for school dropout rates;
2. Establishing more rigid annual progress goals;
3. Requiring performance goals for the same demographic sub-group.

Another change would be to provide resources to fund dropout programs in schools. Finally, the provisions for choice should be reexamined in light of the growing research evidence on the harmful effects of mobility on both students and schools.¹¹

Other changes would require major revisions to NCLB and state accountability systems to address some of the underlying flaws in this approach to high school reform. Murnane (2004, pp. 290-294) identifies five design principles for accountability systems that would bring about meaningful and sustained reform in schools:

1. Individual and collective stakes should be based on defensible, empirically based theories about what it is possible to accomplish on measured performance within a given period of time;
2. Stakes should be based on valid, reliable, and accurate information about student and school performance;¹²
3. Students should not be accountable for learning content they have not been taught;
4. Schools should be accountable for the value they add to student learning, not the effects of prior instruction; school systems should be accountable for the cumulative learning of students over their career in the system;
5. Reciprocity of accountability and capacity—for each increment in performance I require of you, I have an equal and reciprocal responsibility to provide you with the capacity to produce that performance.

¹¹ NLCB allows students to transfer to another public school not identified in need of “school improvement” even if those students and all the students in their sub-group have reached the requisite performance standards. This promotes student mobility, which research has shown can actually increase the risk of dropping out and stifle school performance (see Rumberger, 2003).

¹² Current performance measures focus exclusively on cognitive skills even though schools produce and employers value an array of what economists call “noncognitive” skills, such as motivation, tenacity, trustworthiness, and perseverance. As the Nobel laureate economist James Heckman notes, “A more comprehensive evaluation of educational systems would account for their effects on producing the noncognitive traits that are also valued in the market” (Heckman & Rubinstein, 2001, p. 148).

Instituting such changes would require time, research, and resources and, more importantly, a political will to reexamine the premises underlying this reform strategy. This effort should also involve examining other educational and non-educational policies, particularly those that focus on early childhood (preschool), where research demonstrates that early investment lowers the cost of later investment, such as high-school dropout prevention (Heckman, 2005).

Recommendations and Conclusions

Improving the nation's high school graduation rate remains a formidable challenge. Addressing this challenge will require both short-term and long-term solutions. In the short term, a number of things can be done. One is to strengthen the accountability provisions of NCLB with respect to dropouts so that schools have a greater incentive to address this aspect of performance. Another would be to provide more funding for dropout prevention programs and school reforms. A third would be to better disseminate information on dropout prevention programs for schools where programmatic reforms may be sufficient to address the dropout problem. The federal government's *What Works Clearinghouse*, which was established by the U.S. Department of Education in 2002 to provide scientific evidence on what works in education, will soon release its evaluation of scientific evidence on effective dropout prevention programs.¹³ This information should serve as a valuable resource for schools. Together, these actions would help schools to focus on the problem of school dropout and to provide some resources for them to undertake useful, programmatic changes.

To make substantial improvements in the dropout rate, however, will require two more difficult, long-term policy solutions. One is to undertake major revisions of performance-based accountability systems, such as NCLB. Currently, these systems lack a sound and tested theory

¹³ See: <http://www.whatworks.ed.gov/comingnext/dropout.html>.

of action as to how students and schools are supposed to improve. In particular, they rely on high-stakes sanctions designed to motivate students, educators, and schools to improve without providing sufficient resources and supports to develop the capacity to improve. The research literature suggests that such a strategy is unlikely to yield sustained and meaningful improvements in teaching and learning, or to improve graduation rates. What is needed is a better balance of incentives, resources, and support based on valid, comprehensive measures of student and school performance and a tested theory of action.

The second is to recognize that schools alone cannot be the sole area for the improvement of student performance. Existing research provides substantial evidence that most of the differences in students' achievement are due to differences in their families and communities, not the schools they attend. Therefore, to improve student outcomes and address the achievement gap will require addressing the pervasive inequalities found in family and community resources (Armor, 2003; Rothstein, 2004).

References

- Armor, D. (2003). *Maximizing intelligence*. Somerset, NJ: Transaction publishers.
- Barnett, W.S. (1995). Long-term effects of early childhood programs on cognitive and school outcomes. *The Future of Children, 5*, 25-50.
- Berends, M., Bodilly, S. J., & Kirby, S. N. (2002). *Facing the challenges of whole-school reform: New American schools after a decade*. Santa Monica, CA: RAND.
- Bettinger, E.P. (2005). The effect of charter schools on charter students and public schools. *Economics of Education Review, 24*, 133-147.
- Borman, G.D., Hewes, G.M., Overman, L.T., & Brown S. (2003). Comprehensive school reform and achievement: A meta-analysis. *Review of Educational Research, 73*, 125-230.
- Bowditch, C. (1993). Getting rid of troublemakers: High school disciplinary procedures and the production of dropouts. *Social Problems, 40*, 493-509.
- Bryk, A. S., Lee, V. E., & Holland, P. B. (1993). *Catholic schools and the common good*. Cambridge, MA: Harvard University Press.
- Bryk, A. S. & Schneider, B. (2002). *Trust in schools: A core resource for improvement*. New York: Russell Sage.
- Cohen, D.K., Raudenbush, S.W., & Ball, D.L. (2003). Resources, instruction, and research. *Educational Evaluation and Policy Analysis, 25*, 119-142.
- Coleman, J. S., Hoffer, T., & Kilgore, S. B. (1982). *High school achievement: Public, Catholic, and private schools compared*. New York: Basic Books.
- Coleman, J. S. (1990). *Equality and achievement in education*. San Francisco: Westview Press.
- Cook, T.D. (2005). Emergent principles for the design, implementation, and analysis of cluster-based experiments in social science. *Annals of the American Academy of Political and Social Science, 599*, 176-198.
- Desimone, L. (2002). How can comprehensive school reform models be successfully implemented? *Review of Educational Research, 72*, 433-479.
- Dynarski, M. (2004). Interpreting the evidence from recent federal evaluations of dropout-prevention programs: The state of scientific evidence. In Gary Orfield (Ed.), *Dropouts in America: Confronting the Graduation Rate Crisis* (pp.255-267). Cambridge: Harvard Education Press.
- Dynarski, M. & Gleason, P. (1998). *How can we help? What we have learned from federal dropout-prevention programs*. Princeton, N.J.: Mathematica Policy Research, Inc.
- Edmonds, R.R. (1979). Effective schools for the urban poor. *Educational Leadership, 37*, 15-27.
- Elmore, R. F. (2004). Conclusion: The problem of stakes in performance-based accountability systems. In S. H. Furhman & R. F. Elmore (Eds.), *Redesigning accountability systems for education* (pp.274-296). New York: Teachers College Press.
- Furhman, S. H. & Elmore, R. F. Eds. (2004). *Redesigning accountability systems for education*. New York: Teachers College Press.

- Gamoran, A. (1996). Student achievement in public magnet, public comprehensive, and private city high schools. *Educational Evaluation and Policy Analysis*, 18, 1-18.
- Hanushek, E.A. (1986). The economics of schooling: Production and efficiency in public schools. *Journal of Economic Literature*, 24, 1141-1177.
- Heckman, J. J. (2005). *Lessons from the technology of skill formation*. Working Paper 11142 Cambridge, MA: National Bureau of Economic Research.
- Heckman, J.J. & Rubinstein, Y. (2001). The importance of noncognitive skills: Lessons from the GED testing program. *American Economic Review*, 91, 145-149.
- Hedges, L.V., Laine, R.D., & Greenwald, R. (1994). Does money matter? A meta-analysis of studies of the effects of differential school inputs on student outcomes. *Educational Researcher*, 23, 5-14.
- Kahlenberg, R. D. (2001). *All together now: Creating middle-class schools through public school choice*. Washington, D.C.: Brookings Institution.
- Kaufman, P., Alt, M. N., & Chapman, C. D. (2004). *Dropout Rates in the United States: 2001*. (NCES 2005-046) Washington, D.C.: U.S. Department of Education, National Center for Education Statistics.
- Lewin, T. & Medina, J. (2003, July 31). To cut failure rate, schools shed students. *New York Times*, 1+.
- Louis, K. S. & Miles, M. B. (1990). *Improving the urban high school: What works and why*. New York: Teachers College Press.
- Luyten, H. (1994). School size effects on achievement in secondary-education: Evidence from the Netherlands, Sweden, and the USA. *School Effectiveness and School Improvement*, 5, 75-99.
- McDonnell, L. M. (2004). *Politics, persuasion, and educational testing*. Cambridge, MA: Harvard University Press.
- McDonnell, L.M. & Elmore, R.F. (1987). Getting the job done: Alternative policy instruments. *Educational Evaluation and Policy Analysis*, 9, 133-152.
- McLaughlin, M.W. (1987). Learning from experience: Lessons from policy implementation. *Educational Evaluation and Policy Analysis*, 9, 171-178.
- McLaughlin, M.W. (1990). The Rand Change Agent Study revisited: Macro perspectives and micro realities. *Educational Researcher*, 19, 11-16.
- National Research Council, Committee on Increasing High School Students' Engagement and Motivation to Learn (2004). *Engaging Schools: Fostering High School Students' Motivation to Learn*. Washington, D.C.: The National Academies Press.
- National Research Council, Panel on High-Risk Youth (1993). *Losing generations: Adolescents in high-risk settings*. Washington, D.C.: National Academies Press.
- Newmann, F.M. (1993). Beyond common sense in educational restructuring. *Educational Researcher*, 22, 4-13, 22.

- Orfield, G. & Lee, C. (2005). *Why segregation matters: Poverty and educational inequality*. Cambridge, MA: The Civil Rights Project, Harvard University.
- Orfield, G., Losen, D., Wald, J., & Swanson, C. B. (2004). *Losing our future: How minority youth are being left behind by the graduation rate crisis*. Cambridge, MA: The Civil Rights Project at Harvard University.
- Organization for Economic Co-operation and Development (2001). *Knowledge and skills for life: First results from the OECD programme for international student assessment (PISA) 2000*. Paris: OECD.
- Purkey, S.C. & Smith, M.S. (1983). Effective schools: A review. *The Elementary School Journal*, 83, 426-452.
- Riehl, C. (1999). Labeling and letting go: An Organizational analysis of how high school students are discharged as dropouts. In A. M. Pallas (Ed), *Research in Sociology of Education and Socialization* (pp.231-268). New York: JAI Press.
- Rothstein, R. (2004). *Class and schools: Using social, economic, and educational reform to close the black-white achievement gap*. Washington, D.C.: Economic Policy Institute.
- Rumberger, R.W. (2003). The causes and consequences of student mobility. *Journal of Negro Education*, 72, 6-21.
- Rumberger, R.W. & Larson, K.A. (1998). Student mobility and the increased risk of high school drop out. *American Journal of Education*, 107, 1-35.
- Rumberger, R.W. & Palardy, G.J. (2005a). Does segregation still matter? The impact of student composition on academic achievement in high school. *Teachers College Record*, 107, 1999-2045.
- Rumberger, R.W. & Palardy, G.J. (2005b). Test scores, dropout rates, and transfer rates as alternative indicators of school performance. *American Educational Research Journal*, 41, 3-42.
- Swanson, C. B. (2004). *Who graduates? Who doesn't? A statistical portrait of public high school graduation, class of 2001*. Washington, D.C.: The Urban Institute.
- Teddlie, C. & Reynolds, D. Eds. (2000). *The international handbook of school effectiveness research*. New York: Falmer Press.
- U.S. Department of Education (1990). *National goals for education*. Washington, D.C.: U.S. Department of Education.
- U.S. General Accounting Office. (1987). *School dropouts: Survey of local programs*. GAO/HRD-87-108. Washington, DC: U.S. Government Printing Office.
- Wayne, A.J. & Youngs, P. (2003). Teacher characteristics and student achievement gains: A review. *Review of Educational Research*, 73, 89-122.
- Wehlage, G. G., Rutter, R. A., Smith, G. A., Lesko, N., & Fernandez, R. R. (1989). *Reducing the risk: Schools as communities of support*. New York: Falmer Press.
- Wehlage, G., Smith, G., & Lipman, P. (1992). Restructuring urban schools: The New Futures experience. *American Educational Research Journal*, 29, 51-93.

White, J.A. & Wehlage, G. (1995). Community collaboration: If it is such a good idea, why is it so hard to do? *Educational Evaluation and Policy Analysis*, 17, 23-38.