Draft

NCLB and Continuous School Improvement

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Overview

There is considerable agreement that our schools need to improve and that the fundamental purpose of federal policy should be to motivate and support continuous improvement of schools over time, especially in schools that serve students with special needs. The theory of reform embedded in the federal government's primary instrument for improving schools, the No Child Left Behind (NCLB) Act, is that continuous improvement will be the product of holding schools accountable for increased student performance. This accountability will cause educators to reallocate resources, human and financial, to narrow the gap between student performance and high goals for all students in order to do the right thing and to avoid sanctions that they will face if they do not increase the achievement of all students. This belief that accountability will drive school reform has much to commend it, particularly when measures of student achievement focus attention, as they do in NCLB, on the performance of the lowest achieving students.

Whole forests have been sacrificed to document the difficulty of bringing about significant improvement in private and public organizations. And, for a number of reasons, creating and sustaining the capacity for continuous improvement in schools is

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even more problematic than it is in most other organizations. Among the reasons why this is so are:

1. School goals are typically multiple, changing and diffuse.
2. It is very difficult to measure some outcomes, especially those that define the highest levels of learning.
3. The core technology, i.e., teaching is "intensive" and not readily routinized, especially when goals for student learning are high.
4. Sustaining improvement is particularly difficult in schools.
5. Significant influences on student learning (the fundamental measure of school quality) are beyond the reach of schools and educational policy.

Accomplishing meaningful changes in high schools that create conditions that support continuous improvement is particularly problematic because goals are more diffuse in secondary schools and the attainment of these goals are more difficult to measure than are the goals of elementary and middle schools. Student motivation and opportunities to learn are influenced increasingly by peers and communities as student grow older. High school teachers are more likely to see the problems students are having as problems that transcend their resources solve and to be less familiar with different instructional strategies than are their colleagues in earlier grades. Furthermore, high schools, particularly large high schools, tend to be organized around subject matter making it difficult to bring about coherence across grades and subject matter.

It is clear that NCLB has motivated school improvement efforts throughout the country. This paper asks whether the provisions of NCLB maximize its potential to foster continuous and meaningful change by addressing the following questions:

- Do some elements of the current law impede continuous improvement that results in *high levels of learning* for all students?
- Could changing the elements of the current law increase its effectiveness?
- Could changes in other federal policies enhance the intended effects of NCLB?

The pursuit of good answers to these questions starts with an understanding of what the process of continuous improvement actually involves and why the dynamics of positive change over time are different in schools than they are in many other organizations, including most businesses. Part I of this paper provides an overview of what continuous improvement involves and why its processes are essential to ensuring that all students learn at high levels. Part II examines how NCLB affects the conditions needed for continuous school improvement and what might be done to strengthen the laws effects.

Part I

The Theory and Practice of Continuous School Improvement

From School Reform to Continuous School Improvement

Efforts to improve schools have often focused on identifying and implementing a new program that promises to enhance student learning. School reform is often thought of as putting in place particular policies and practices, or what Tyack (1974) called "the one best way". In the last few years, researchers have been urging a shift from a focus on reform or change to the importance of developing a capacity within schools for "continuous improvement".

The concept and basic processes of continuous school improvement are rooted in private sector practices that have gained centrality to business effectiveness in the last two decades. The ascendant model of what we now think of as the continuous improvement process probably owes its popularity to the work of W. Edward Deming in the 1960s and 70s. Deming argued that effective businesses must continually assess the quality of their products or services and seek to systematically, systemically, and relentlessly improve the processes needed to improve outcomes (cf. Deming, 2000). This approach to management, however obvious it might seem, took several years to become gospel in most businesses and the fact that implementing these ideas is problematic is reflected in the robust sales in recent years of books targeted on the business community elaborating this general strategy (cf. Senge, 1990; Collins, 2001; Kouzes & Posner, 2003).

Deming's ideas became the moorings of Total Quality Management (TQM) and hundreds of schools, pushed by local businesses and the National Alliance for Business, sought to implement TQM. The work of Peter Senge (1990), influenced by Deming, captured the attention of educators and books and publications began to appear that linked continuous improvement to school characteristics that enabled schools to be "learning organizations" capable of continuous improvement (cf. Fullan, 1999: Leithwood & Louis, 1998). Research on cognition has enriched the discussion about continuous school improvement and the efficacy of organizations that learn. As Louis, Toole and Hargreaves assert (1999, p.263) " …today's organizations need to reflect newer images from neuroscience: decentralization, not centralization; parallel, not linear processing; the encoding of the whole in the parts, not in some exclusive center; and the brains' role in both emotional and cognitive processing" (see also Spillane, Reiser & Riemer, 2002).

While the theoretical work was being undertaken by scholars, a cadre of consultants began to spell out the processes involved in evidence -based decision making in schools, providing educators with protocols and tools for implementing this approach to continuous improvement (cf. Senge, et al., 2000; Schmoker, 1999; Bernhardt, 1998; Holcomb, 2004). While systematic research on schools as learning organizations capable of continuous improvement is relatively recent, there appears to be considerable agreement about the conditions and processes that enhance the capacity of schools to learn how to improve and to act on that learning (Leithwood & Louis, 1998; Fullan, 2001; Copland, 2002).

Differences Between Schools and Businesses that Affect Improvement Strategies

Many of the lessons about organizational productivity that can be learned from the private sector are applicable to schools. However, as noted at the outset of this paper, schools are importantly different from businesses in ways that have implications for how best to promote and sustain continuous improvement. These characteristics of schools explain why it is so difficult to implement and sustain important improvements over time. Thus, a brief discussion of each will contribute to an analysis of how the provisions of

NCLB might or might not maximize its effect on conditions that promote continuous school improvement.

Multiple and Diffuse Goals

Even when priorities are clear, schools are expected to meet many, often disparate goals in response to many stakeholders—families, communities, local businesses, policy makers at all levels of government, and, of course, students. Moreover, the goals stakeholders advocate often change over short periods of time for reasons beyond the influence of school leaders (McDonnell, 2005). Thus, many educational leaders must operate in what organizational theorists describe as turbulent environments that impose multiple, changing, ad sometimes conflicting demands on their schools. These demands often lack specificity.

For many stakeholders in education, schools are essentially moral enterprises in which they are deeply invested. The processes they engage in are more than just means to an end; they often represent commitments that are not easily abandoned. For many educators, what they do is who they are. Coming to grips with the fact that one is not reaching one's moral goals is often very stressful, especially when support for improvement is uncertain or inadequate. Among the ways that educators can deal with the dissonance involved in learning that they are lacking in expertise that has moral meaning are to deny the validity of the judgment, find explanations for why the job cannot be done, adopt more manageable goals, or move on to environments and jobs that hold the prospect of greater success. This reality means that high accountability systems need to be accompanied by high support. Few educators resist demands for improvement because they don't care about students.

The Difficulty of Measuring Outcomes

In organizations that seek accountability by attaching high stakes to desired outcomes, everyone involved seeks to define goals and their attainment in terms that can be more or

less easily measured and attained. As our expectations for student learning become more ambitious, measuring outcomes in ways that are technically valid and reliable becomes increasingly problematic. For example, while is not difficult to determine whether a student can spell words or correctly apply rules of grammar and punctuation, it is not easy to assess, especially for purposes of external accountability, how well students understand a complex work of literature or write a persuasive essay.

Experts who assess complex phenomena urge the use of multiple measures. For example, economists use multiple indicators to establish the health of the economy and they apply these indicators frequently and vary the weight assigned to them depending on their interrelationships. Measuring complex learning goals with single measures once a year, as is the case with most assessments of learning used to hold schools accountable, results not only in narrowing the goals pursued, it introduces instability and other sources of error in the measurement of whether schools achieve desired goals. And, consider the challenge of assessing traits that most employers and college admission officers expect schools to develop--such as work habits, oral and written communication proficiency, collaborative dispositions and skills, analytical thinking, and the ability to solve complex authentic problems (cf. SCANS, 1991; Laitsch, 2005).

One of the consequences of simplifying and narrowing the curriculum in response to high stakes assessment is to disadvantage students who do not enjoy substantial learning opportunities out of school in their families and communities. The abysmal levels of "basic skills" manifest by all too many students leads some to say that we can worry about higher learning goals when students learn to master the basics. However, students not taught to engage in complex thinking and problem solving early will have difficulty overcoming the habits of mind and behavior they have learned as they developed cognitively and learned that what they are taught in school is not very interesting or empowering.

In short, when learning is assessed in simplistic ways, people learn simple things. This, ironically, means that students who rely most on schools for their knowledge, skill and

dispositions related to learning are likely to have their cognitive development capped by the very strategy that seeks to assure that the quality of their schools improve. It also means that the ultimate goals of continuous improvement will be less ambitious than both students and our society require.

The Centrality of Excellent Teaching and its "Intensive" Character

The quality of teaching is the most powerful school-based influence on student learning (Rice, 2003). Conventional measures of teacher quality, such as educational background, are surrogates for teacher behavior but they are uncertain measures of actual teaching excellence. Research on learning and teaching in recent years has significantly enhanced our understanding of the fundamental characteristics of quality teaching (cf., Bransford, Brown & Cocking, 2000; Murphy & Alexander, 2006). This research shows that expert teachers employ a repertoire of instructional strategies in response to their students' prior learning, motivation, and cultural experiences.

It is critically important to understanding the challenge of facilitating continuous school improvement to recognize that current research-based conceptions of how people learn and what effective teaching involves are different than they were when many policy makers went to school. Good teaching is not telling: it requires considerably more expertise than many realize. Lorrie Shepard, in her 2000 address as President of the American Educational Research Association nicely summarized the new conventional wisdom among cognitive psychologists:

> Fixed, largely heretidarian theories of intelligence have been replaced by a new understanding that cognitive abilities are 'developed' through socially supported interactions….[Initially focused on how children think]...over time the ideas of social mediation have applied equally to the development of intelligence, expertise in academic disciplines, and metacognitive skills, and to the formation of identity (Shepard, 2000, p.7).

The fact that both development and learning are social processes has important implications for teaching, for how teachers enhance their expertise, and for leadership behavior.

In the language of organizational theory, teaching is an "intensive technology". The efficacy of an intensive technology depends largely on how the worker (teacher) adapts he/r/his behavior to challenges that are difficult to predict (Thompson, 1967). Because teaching is the core technology of schools, school improvement is fundamentally about changing the mindset and behavior of people while creating conditions for collaborative problem solving or the effective use of professional expertise. We know that teachers and others involved in instruction can—intentionally or unintentionally-- enhance or undermine the most carefully designed curriculum (cf. Jones, 1968; Cohen & Hill, 2001), the most sophisticated educational technology (Means, et al., 2003), or the best restructuring plan (Elmore, 1995). Routinizing the behavior of teachers and staff with common scripts or standard operating procedures—while better than letting individual teachers' curriculum choices and absence of expertise prevail —limits teacher effectiveness, even if teachers were not to resist such restrictions on their professional judgment. Limiting teacher effectiveness, of course, greatly complicates the development of organizational capacities for continuous improvement.

The Problem of Sustaining Improvement

One of the most common observations in the literature on continuous improvement is that change is harder to sustain than it is to initiate (Downs, 1966; Hargreaves & Fink, 2003; Fullan, 2005). This reality is captured by such clichés as, "The more things change, the more they stay the same," and "This too shall pass." Among the reasons it is difficult to sustain school improvement are the following: *

- The problems that are easiest to solve and are within the current capability of personnel are addressed first and, as more difficult challenges are undertaken, human and financial resources may prove to be insufficient.

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*These propositions are derived from research on public and private organizations. See, Edelman (1967): Downs, 1966: Radin & Hawley, 1988; Fullan, 1999, Fullan, 2005; Hargreaves & Fink, 2003)

- As the more difficult challenges are confronted, success is more elusive, and people become discouraged and return to what they did prior to initiation of the improvement effort.

- Those who opposed the changes but did not have the influence to stop the initiative renew their opposition after implementation and undermine others' confidence in the effort.

- Once initial progress is made, those who were leading the charge often move on to new challenges believing, wrongly, that their job is finished.

- Adopting new initiatives and the fanfare that often goes with such efforts can lead advocates, especially those outside the organization, to think that they have succeeded. And they then move on to other concerns.

- New resources important to instigating and implementing the continuous school improvement initiative at the outset, such as consultants and extra financial support, are redirected to other needs.

- People become fatigued from the extra effort often associated with school improvement initiatives, and resources for renewal are inadequate.

These propositions apply to all types of organizations but schools often face additional difficulties in sustaining continuous improvement. High productivity often increases consumer expectations but does not yield greater resources, as is the case in business. In schools facing the greatest challenges, teacher and staff turnover often is high (see, Leob, Darling-Hammond & Luczak, (2005) and the studies cited there). In business or public organizations in which work can be routinized and thus does not require significant professional expertise, staff turnover is not a big problem. But when staff turnover is extensive, the stabilization of new initiatives is difficult and costs of professional development are high. Moreover, because beginning teachers are usually less effective than their more experienced colleagues (Rice, 2003), it is hard to sustain student achievement where teacher turnover is high. Policies that stigmatize schools as ineffective are likely to increase the difficulty of recruiting and retaining teachers and principals in schools serving students most in need of expert teaching.

The Powerful Effects of Uncertain and Uncontrollable Influences on
Continuous Improvement

One of the ways businesses improve performance is to control the quality of materials that they use in their production process. For example, automobile manufacturers, that employ "long-linked" (as compared to the "intensive" technologies of education), develop relationships with suppliers of parts who in turn develop relationships with suppliers of raw materials. These relationships are founded on standardization and quality is easily audited and measured. Moreover, these formal partnerships tend to exist over extended periods. Schools have little or no control over the most important inputs to the educational process—the prior knowledge, motivation, and cognitive capabilities that students bring with them to school from their families, peers and communities. Students' readiness to learn can change from day to day both because the lives of many students are changeful and stressful and because many students who are most likely to be underachieving in school move schools often, sometimes 2-3 times a year. To be sure, schools can build bridges to families and communities to improve the learning opportunities students have in and out of school but such partnerships take time and competence to develop. In any event, these partnership mitigate but they do not negate these non-school influences on student achievement that confront schools serving children with special needs with challenges other schools do not deal with.

Students who are from low income families depend more on schools for their learning opportunities than do other students. This means that schools serving low income students, those most likely to be affected by the provisions of NCLB (Sunderman, Kim and Orfield, 2005), must account for a greater share of the educational progress their students make than do schools serving more affluent students.

The Challenge of Implementing Significant School Improvement Initiatives that Result in Steady Progress

Research on effective schools shows that meaningful change usually (a) takes at least 3-5 years and (b) tends to be vary in pace from year to year. This poses significant challenges for creating effective accountability processes. As Elmore observes:

> Developmental processes—both individual and organizational—are not linear, but rather nonlinear, proceeding in stages. Performance-based accountability systems—especially NCLB—treat improvement as a linear process….[S]chools increase their internal coherence and capacity around instruction in several discernible stages. These stages often involve significant gains in externally measured performance, followed by periods in which improvement in quality and capacity continue but improvement in performance shows or goes flat (Elmore, 2003, p.9).

Not only is the pace of *progress* in school improvement uncertain and difficult to predict, the implementation of new approaches to facilitating student learning can result in a short-run decline in student achievement as teachers learn new skills and as curriculum, assessment and instruction are brought into alignment (Fullan, 2001). In many cases, the pattern of improvement looks like "two steps forward, one step back" as new strategies are tried, student populations change, and experienced teachers and principals are replaced with novices. Changes in school structures, cultures, and professional capacity that are needed to enable continuous improvement are difficult to bring about in the relatively short time frame for change required by NCLB.

There are, of course, examples of schools that bring about significant improvement in student test scores in a year or two. There are yet no careful studies of how this happens that involve comparative analyses.* It is possible, however, by looking at anecdotal reports and considering what we know about school improvement to surmise how these apparent exceptions to the rule achieve such encouraging results. Among the most

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*For a critical analysis of the claims that exceptions can serve as models for all schools see Rothstein, (2004).

likely explanations for these exceptional achievements may be:

- Extraordinary leadership from principals and teachers.
- Order beats chaos every time. Schools in disarray can improve substantially by aligning curriculum with assessment, routinizing (e.g. scripting) teaching practices and reducing social disorder.
- Unusual parent-school relationships (such as those involving parental contracts) that result in motivated student populations.
- Significant increases of time on task for the subjects tested, usually at the expense of other subjects.
- A focus on test preparation.

In most cases, dramatic short run improvements in student outcomes occur around what Cuban (2001) and others call "first order" change--the kinds of changes that involve "dealing with the mess", aligning curriculum, trying to minimize teacher error, scheduling smartly and dealing with disorder. These are important things to do and, as the old saw goes, "If you are up to your waist in alligators, it is not time to drain the swamp". However, first order change does not, in itself, lead to more substantial, "second order" changes needed for substantial and continuous improvement (Waters, Marzano & McNulty, 2004). For example, steps taken to deal with disorder may not set the stage for positive student engagement (Sugai & Horner, 2002). Scripting teacher behavior may improve teaching among weaker teachers but it also limits teacher effects on student learning. "Strong" leadership that works n a crisis may impede the development of a culture of collaborative problem solving and shared responsibility. In short, it may be that some strategies for bringing about short run improvements do not lead to--and may even constrain--long run gains, especially if we have ambitious goals for students' intellectual development.

While first order changes are not to be belittled, significant increases in learning opportunities for all students will require that schools in need of improvement engage in

second order change. Such changes involve changes in values and expectations; restructuring roles, time, and resources to foster collaborative problem solving and shared responsibility for student learning ; developing caring and trustful relationships among teachers and administrators and among students, families and educators; and significantly enhancing the professional expertise of school administrators. If we want to build human, organizational and cultural capacity for continuous improvement, the strategies for holding schools accountable need to recognize that (1) significant change is likely to occur only over time and (2) that meaningful progress will likely not be steady, especially when the conditions for continuous improvement are still under development.

Part II

Provisions of NCLB that Affect the Potential for Continuous Improvement

Requirements for Continuous School Improvement and Dilemma of Regulatory Policy

A school's capacity for continuous improvement is the product of several conditions, many of which are discussed above. The most important of these conditions are:

- Clear and Ambitious Goals for Students' Learning
- Data on Student Learning that Provides an Accurate Picture of Student Progress Over Time, Including the Progress of Subgroups of Students
- The Opportunity and Capability of Personnel Who Must Implement Improvements to Engage in Collaborative, Evidence-based Problem Solving
- Human and Financial Resources to Identify and Implement Promising Practices
- Sufficient Time and Support to Implement Promising Practices, Assess their Effects, and Modify Initial Improvement Efforts

My analysis of whether NCLB facilitates of impedes the development and sustaining of these conditions, drawing on the discussion in the first part of the paper, identifies more impediments than facilitators. This is, perhaps, inevitable. Public policy that relies primarily on regulations and negative sanctions to bring about complex changes is a blunt

instrument. Such policy is often the product of despair that other strategies have failed and starts from assumptions that the people or institutions that are its target are inherently resistant to change and , too often, incapable of high performance. Thus, policy makers eschew flexibility in the enforcement of the policy even when flexibility is logical given the variety of circumstance to which the policy must be applied. Crafting any federal (or state) regulatory policy to accelerate the rate of school improvement is very difficult, as the history of educational policy attests. The reasons for this are several but they include the following:

- Systemic solutions are needed but policy is developed piecemeal in response to different conceptions of the problems to be solved.
- The characteristics of schools as organizations that differentiate them from many other organizations (see above) require complex and uncertain strategies to promote and sustain change.
- The implementation of federal policy depends on more or less faithful and capable actions by other levels of government.
- There are extraordinary differences in the capabilities and resources of the people and institutions that the policy seeks to affect.

Thus, almost any federal education policy that uses the enforcement instruments employed by NCLB and seeks to apply them across all schools will inevitably be vulnerable to criticism. And it may be that there is no good way to address the downside of a policy without undermining its potentially positive consequences. The issue then is not whether there are serious problems with NCLB but whether there are ways of improving the legislation that are fiscally, administratively, and politically feasible. Finding an answer to that question, however, begins with identifying how NCLB facilitates or impedes the development and on-going implementation of the essential conditions of continuous school improvement.

Clear and Ambitious Goals for Student's Learning*

Like no other federal (or state) policy, NCLB has driven schools to focus on achieving specific predetermined goals for student performance, not just for students as a whole but for subgroups of students who, in many cases, have not received the attention that NCLB mandates they receive. There is no question that an effective accountability system should require that minority students, ELL students, socio-economically disadvantaged and students with disabilities make significant and sustainable gains. On the other hand, the significant sanctions for not meeting goals for student learning and uncertainty on the part of state and local educators that they have the know-how and the resources to achieve ambitious goals has led many states to either seek more modest goals for all students.

As things stand now, few would argue that most states and districts have set goals for students that reflect the breadth and depth of what students need to know and be able to do, not only in students' own interests but in the interests of their communities and nation. For example, Popham (2005) observes that few content standards include the development of students' capacity to analyze, access, manage, integrate, evaluate and create information in a variety of formats and media. Given the political risks of doing so, it would seem foolish for states to enhance their current goals even as the schools improve their capacity or to differentiate goals for schools whose students are achieving at high levels. In effect, contrary to the intent of NCLB, the mechanisms required by the Act may encourage low standards of achievement and cap state goals for student performance.

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*NCLB requires that all children be expected to meet "challenging academic achievement standards." The law is explicit in its requirement that states use a system of progressively harsh consequences and sanctions for schools and districts that fail to meet the ambitious goals of 100% proficiency in reading and math, (with science soon to be required as well). The law specifies a 12 year timeline to reach 100% proficient for every school and district, and that in the interim they demonstrate adequate yearly progress (AYP) toward the goals in order to avoid very harsh consequences. At the same time, states are given great freedom to define proficiency.

Data on Student Learning that Provides an Accurate Picture of Student Progress Over Time, Including Subgroups of Students

Public and private organizations capable of reliable improvement over time build and use powerful and extensive data bases consisting of multiple measures to assess outcomes and to analyze what contributed to those outcomes (Stringfield, 1998). NCLB has almost certainly accelerated the movement toward data-based decision-making in schools. Anecdotal evidence suggests that school systems are increasing their capacity to manage the test data generated by students and that there is widespread awareness (even if that is not always mirrored in behavior) that actions to improve schools should be driven by systematic analysis of student performance that transcends simplistic analysis of students' scores on standardized tests. By requiring that measures of student learning be disaggregated so as to draw attention to the performance of students who may be underperforming within an otherwise successful school, NCLB has pushed schools to allocate resources to student who are placed at risk for a number of different reasons. This disaggregation provision is essential to securing the goals of NCLB as ensuring that continuous improvement serves the needs of all students.

While NCLB has motivated schools to pursue continuous improvement, it appears to be impeding the pursuit of sophisticated approaches to evidence-based (not just data-based) improvement strategies by largely tying sanctions to a single measure of student learning to measure progress toward school improvement as the primary determinant of "adequate yearly progress" (AYP).). While AYP does include more than one achievement indicator, it operates as a single measure. This is because the law puts almost all the emphasis on assessment (test) results to the extent that an entire school will fail to make AYP if for two consecutive years the students in that school, in the aggregate and in all subgroups, fail to meet the proficiency goal on any one test of reading or math, at any grade level tested (3-8).

As noted earlier, single measures of complex phenomena are fraught with error. Moreover, the measurements of student proficiency usually focus attention on simply

measured student outcomes, which in turn fall short of what we really want students to ultimately know and be able to do. This is a particular problem for high schools where students are expected to master a broad range of subjects and increasing levels of complexity.

While NCLB does not prohibit schools and districts from developing an array of alternative measures of student performance, a widely accepted maxim among assessment experts is that what gets measured is what people try to do. When there are alternative measures, the one with the highest stakes attached will push out other measures. Moreover, the higher the stakes, the more important is statistical reliability and the more complex the assessment, the less consistent results are over the short run (Linn, 2005). It is also important to recognize that high stakes tests focus the people to be held responsible on the assessment itself rather than the standards it purports to measure. Standards describing what students should know and be able to do are usually more ambitious and broader than the content being measured in the standardized tests used in meeting the requirements of NCLB.

Standardized state tests not only narrow the focus of instruction (CEP, 2003; Linn, 2005), they shape the character of instruction. While such once a year tests of the sort used to assess AYP are not useful in helping teachers modify instruction to meet the needs of individual students, they may actually reduce teacher effectiveness. This can happen when teachers focus on getting through the curriculum prescribed rather than pursuing why students are not understanding core ideas or complex techniques (Kennedy, 2005).

Current policy related to the measurement of AYP is one of the most controversial aspects of NCLB. Proposed changes to NCLB's ways of measuring student progress vary a great deal, and this is not the place to engage in an examination of the alternatives and the technical and political issues involved (for systematic analyses of this issue see, Herman & Haertel, 2005; Goertz, 2005; Hoxby, 2005). The concern of this paper is whether the requirements for NCLB with respect to AYP help schools to engage in continuous improvement. In addition to the problems involved with a single measure of

student learning discussed above, among the concerns related to AYP that need to be addressed if schools are to develop data on student performance that provides accurate information on student progress upon which they can build new organizational and professional capabilities that hold promise for taking all students beyond low levels of "proficiency" are the following:

- The mobility of students and technical problems with cohort analysis mean that the progress of individual students should be measured (i.e., "value-added" should be assessed).*

- The progress of English Language Learners (ELLs) under current guidelines provides an unfair assessment of school improvement and disadvantages schools serving large numbers of such students, especially if these students are recent immigrants. In many schools, ELLs speak many different languages and are much more mobile than other students.

- Current provisions of AYP relating to how the performance of students disabilities is measured undermines effective measures of school quality.

- Better measures of the rate of school improvement are needed. As noted above, improvement is seldom linear. Moreover, schools serving low income students start from a lower base in their pursuit of state proficiency goals. This means that "underperforming" schools must make greater progress each year than those serving higher performing students. For this reason and others, schools actually making progress may become subject to NCLB sanctions.

- When subgroups make progress in one content domain but not another, schools are not failing to improve. For example, by focusing on literacy, schools may be setting the stage for students to do better in mathematics, which requires great literacy capabilities with each grade level.

- Virtually all proposals for improving high schools call for reducing the scale of students' learning environments. The smaller the school, the less reliable the assessments of progress can be, especially if the smaller schools (or schools within schools) are characterized by student diversity.

* In the summer of 2005, the Department of Education appointed a panel to explore the feasibility of value-added assessments in measuring AYP.

- The more subgroups in a school, the more difficult it is to assess student progress.

These concerns about current approaches to AYP, most of which apply to districts as well s schools (Tracey, Sunderman & Orfield, 2005), do not invalidate the importance of establishing rigorous ways to hold schools accountable for improving the learning opportunities of all students. They do suggest the need to carefully study ways to improve the law. Incremental exceptions in response to state demands do not a viable policy make.

Opportunity and Capability of Administrators and Teachers to Engage in Collaborative Evidence-based Problem Solving

Schools that are capable of continuous improvement facilitate collaborative effort and are predictable in everyday work while remaining flexible and ever-evolving (Louis, Toole & Hargreaves, 1999). Such collaborative work not only requires that appropriate evidence be available upon which to identify and address problems but that educators have the skills and the time to do such work. Collaboration that leads to coherent practice and systematic improvement has been uncommon in most schools because educators receive little relevant training and school structures and instructional schedules provide little opportunity for professional learning and problem solving. Promoting coherence, trust and collaboration is particularly difficult in high schools because of their disciplinary structures, their size, and the (sometimes) diversity of their students (Gunn &King, 2003). Restructuring and reculturing schools, especially high schools, and enhancing the relevant expertise of educators to foster continuous improvement, are difficult and require time and resources.

Significant changes require a willingness to take risks. It is likely that NCLB encourages changes that involve improvements in current practices that appear necessary in the short run, such as aligning curriculum and assessment and dealing with student discipline. Whether these changes lead to more ambitious goals and improvements remains to be

seen though there are no incentives within NCLB that promote the development of capabilities for continuous improvement or more ambitious goals for student learning.

Resistance to change is not something that can be understood by looking only at the dispositions and capabilities of professional educators. Parents and school boards are often focused on short run problems and are unreceptive to new instructional practices or new ways of organizing schools. If a primary goal of educators was to avoid the sanctions imposed by NCLB, they would not take on the risk of implementing major changes that might be needed to achieve the conditions that support continuous improvement driven by ever more ambitious goals for student learning.

Human and Financial Resources to Implement Promising Practices

There is considerable debate about whether NCLB is adequately funded. That issue is not addressed here though moving in new directions and sustaining those initiative that are successful can require additional funding as well as the reallocation of existing resources in districts with little fiscal slack. If NCLB pushes scarce financial resources at ineffective strategies for improving student performance, its effect on improvement will, of course, be counterproductive. That may be the case in the stipulation that districts that fail to meet AYP standards must invest in "supplemental services", i.e., tutoring. It is ironic that while NCLB asserts that districts use research-based strategies, tutoring should be a mandated improvement strategy. There is little evidence that tutoring programs make a difference unless well-trained teachers carry them out and they complement in-class instruction (as, for example, tutoring is used in Success for All). But, with notable exceptions, the Department of Education has insisted that tutoring, itself less likely to be effective than other strategies for student improvement, be carried out by providers who have little connection to schools and for whom there is no high-stakes accountability.

NCLB recognizes that the quality of teaching students receive is the most influential determinant of student learning. Defining and measuring teaching quality is, of course,

very difficult and NCLB understandably settles for mandates about teachers' qualifications rather than their actual teaching effectiveness. Even if NCLB were to get the measures of teachers' qualifications right and could enforce these provisions of the law, the question remains about the impact of NCLB on the distribution of quality teaching. Districts and schools serving the students NCLB most seeks to help achieve at higher levels usually have substantial difficulty recruiting and retaining competent teachers. It seems likely that hard-to-staff schools that have been or might be sanctioned under NCLB for poor performance will be seen as even less attractive places to work by teachers and teacher candidates. NCLB provides no incentives to remedy this problem.

Student achievement is influenced by their peers, both directly and indirectly (Betts, Zau & Rice, 2003; Hoxby, 2002). NCLB provides that students may transfer from schools sanctioned for not meeting AYP standards to other schools and stipulates that students who are lowest achieving and from low income families be given preference. However, since many school systems have effectively placed the burden of the transfer decision on parents, not surprisingly the students who have been the first to leave low performing schools are those students who are highest achievers. Thus, unintentionally, NCLB effectively reduces the overall quality of the educational resources available to those students left behind. This is one of the many conundrums of policy making--programs benefiting some may hurt others and sometimes a larger number are disadvantaged than are benefited.

Of course, the reasons higher achieving students are the first to take advantage of the opportunity to change schools is that their parents (or guardians) are alert to this possibility and take the necessary actions before other parents. This has the unhappy consequence of losing from schools that need most to change those advocates for children most likely to seek and contribute to school improvement. Economists call this the quality consumer problem (Hirschman, 1970). As those who insist most on quality move to new products or services, the quality of the old products and services often declines. When there are profits to be made and capital to invest, new providers *may* enter the market to provide quality options but that incentive is a doubtful motivator in

public education Belfield & d'Entremont, 2005). In any case, once quality consumers have moved on, they are difficult to wean away from the product or service to which they switched, even if is not everything they expected. The flight of higher achieving students and their parents from schools that are labeled as underperforming almost certainly complicates the problem of staffing those schools. All of these effects combined mean that the transfer provision of NCLB, whatever its value to the students who transfer, makes it more difficult for the schools left behind to improve.

Sufficient Time and Support to Implement Promising Practices, to Assess their Effects, and to Modify Initial Improvement Efforts

The first part of this paper emphasized that putting in place the structural, cultural and procedural conditions necessary for continuing improvement and building the competences of school staff to engage in collaborative problem solving and improve teaching takes more time than NCLB gives schools to improve before sanctions kick in.* Of course, the assertion that "these things take time" may well be used to justify intransigence or mask incompetence and policy makers are typically and understandably impatient with promises of results in 3-5 years, especially when they are trying to address a crisis. Nonetheless, many students of school improvement appear to believe that measures of student progress other than those used to establish AYP and invoke sanctions are warranted, a point I return to in the next section of the paper.

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*After 2 years of failure to make AYP, schools will be identified as in need of improvement and will be required to offer public school choice and must develop a school improvement plan.

One year after being identified, districts must offer supplemental services in addition to public school choice and its improvement plan.

Two years after being identified, if there is no improvement, the district must implement harsher corrective actions that can include replacing staff, overhauling curriculum and other sanctions.

Three years after being identified, schools that continue to fail to make AYP must be completely reconstituted—made into a charter school, handed over to the state or a private entity or otherwise have their governance reconstituted.

Most educators enter and persist in their profession because they want to improve the lives of the students they serve (Farkas, Johnson & Foleno, 2000). They do not choose to be less effective than they believe they need to be. NCLB draws attention to the need for improvement. But, as noted earlier, when people who care about their work are told they are ineffective and see little chance of dealing constructively with the challenge to their competence, they are likely to find ways to discount the validity of the challenge, find explanations for their alleged inadequacy in the indifference or incompetence of others, find ways to "beat the system" (such as manipulating the assessment process) (Booher-Jennings, 2005; Nichols & Berliner, 2005), or find new jobs. Thus, identifying the need for improvement should be accompanied by sufficient support to make those improvements. This includes money for new facilities, equipment and learning resources in some cases. But organizations that need to improve usually need expert help in negotiating the process of change and they need help in enhancing the competence of the people in the organization. These needs are testified to by the ever- increasing number of companies, groups, and individual consultants that are entering the school improvement business. Many of these advice-providers do good work but they do not usually build the capacity within school districts and schools that are needed for continuous improvement. And in too many cases, the help is inadequate to the task, having too often been selected because of personal contacts or unrealistic promises of success. Presumably, because funds are set aside for this purpose, NCLB saw states providing help to districts and schools. But is clear that most states lack this capacity (McClure, 2005; CEP, 2005; Wanger & Christie, 2005; Goertz, 2005; Sunderman, Kim & Orfield, 2005).

Enhancing the Effectiveness of NCLB in Fostering Continuous School Improvement

NCLB has accelerated concern for the achievement of all students and created incentives for schools to engage in evidence-based decision making driven by the systematic analysis of student achievement. However, in some ways identified above, NCLB may impede the building of a capacity of continuous improvement. Congress should consider the following proposals in order to enhance the effectiveness of NCLB.

These proposals are meant to suggest directions for action, the specifics of which would require more extensive analysis and development.

Hold States Harmless if they Increase Goals for Student Learning

Some states have set ultimate goals for student achievement too low to encourage significant improvements in student performance and states have negative incentives to push their schools to achieve new and higher standards. Further, NCLB requires, unless a state receives a waiver, that states maintain the goals for content proficiency that were in place before NCLB was enacted. Thus, as demands for higher and different knowledge and skill develop in response to changes in the economy or in social values, states are not likely to adapt their goals accordingly. This situation could be remedied if states were encouraged to pursue ever more ambitious content standards and performance goals by focusing sanctions on the achievement of currently established goals and making the differences in state standards and proficiency goals more visible. And, while complicated, the administration of sanctions for lack of school progress might take in account the level of achievement called for by state goals in ways that benefited districts and schools in more ambitious states.

Judging School Improvement by Multiple Measures Over Time

Resting the determination of school improvement on a single and simple measure of student performance and the use of current AYP method of determining school quality are likely to narrow the curriculum, diminish the importance of higher order learning, discourage the implementation of fundamental improvements (so-called "second order changes" discussed above) and lead to unfair assessment of the actual contributions schools make to the academic achievement of individual students. There are a host of problems here but there is no shortage of potential alternatives to the current approach to assessing school improvement (see, for example, Hoxby, 2005; Linn, 2005).
In addition to conventional tests of student performance, the assessments of high school improvement might include the increased weighting of graduation rates, retention rates,

success in the workplace or in college, and expert qualitative reviews of high schools could be conducted that could serve both as measures of current progress and as sources of technical assistance for improvement.* Assessments of students' academic performance other than standardized tests should be used including tests of ability to solve complex problems, portfolios of student work, and evidence of ability to communicate effectively for diverse purposes. Congress should establish an independent study of alternatives that takes into account the fact that assessments of student performance need to serve various interests to include accountability and the improvement of instruction.

A major obstacle in addressing the limited usefulness of current standardized tests for fostering continuous improvement that ensures that all student achieve high standards is the cost of productive, multi-dimensional assessment *systems*. More robust systems of assessment serve not only the purposes of accountability, they should be seen as a form of technical assistance and, as such, an investment in school improvement. The Congress should provide adequate funding for the development of more appropriate assessments of student learning *and for the administration of these tests*. This includes tests of higher order learning, accommodations and alternative evaluation tools for students with disabilities and students who are English language learners.

Promote Collaborative Evidence-based Problem Solving

Collaborative problem solving that is essential if schools are to engage in continuous improvement requires time for professional interaction, trust and common understanding about how students learn. Changing ways of assessing the pace of school improvement

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* Reville suggests, for example, that review teams could be charged with, "making qualitative judgments about such important topics as school climate and expectations; the quality of teaching and learning; the degree of rigor of the curriculum; the availability of Advanced Placement and college-level courses; the availability of support services; drop out prevention and retrieval, occupational preparation; and success in the development of nonacademic skills in problem solving, interpersonal relations, and collaboration (Reville, 2005, p.4).

to take into account the difficulties of bringing about significant change could open up opportunities for the development of the capabilities for improvements that are ambitious and likely to persist over time. But it seems probable that schools and school districts will need technical assistance to effectively implement processes of continuous improvement. Moreover, acting wisely on the analysis of student achievement requires that we know more than is commonly known about promising practices and the conditions under which their effects can be maximized. NCLB recognizes the importance of this in asserting that schools should employ research-based practices. However, there are way too many ideas being sold as research-based which in fact are not. While there seems no feasible or desirable way to mandate the use of certain practices, Congress should step up its efforts to establish an authoritative knowledge base to enhance the likelihood that schools will adopt effective practices in the context of NCLB. This would mean increased but focused funding of educational research and the development of expert consensus about the meaning of the extant body of research. The What Works Clearinghouse and the National Research Council are important mechanisms for consensus building. The authority of research-based practice would be enhanced if Congress and the Department of Education were to use this work in making and administering federal policy.

Enhance Resources for Implementing Promising Practices

This paper does not seem the place to try to determine whether states and localities need additional funding to implement NCLB. However, Congress should recognize that NCLB's supplemental services and student transfer provisions remove valuable financial and human resources from schools that need these resources more than ever if they are to improve. This reality embodies more than one dilemma. Why continue to invest in a sinking ship and why shouldn't students be allowed to attend better schools, even if only some of them do? The supplemental services provision of the law seems to have little to

recommend it. The efficacy of investing in schools that do not meet standards for improvement before the transfer provision, much less the school takeover option, of NCLB are invoked depends on whether there is sufficient expertise available to turn the school around. This, in turn, might be a focus of federal policy that would support the building of such capacity in various ways. Clearly, the most promising strategy for enhancing the prospects that schools serving students with special needs is to strengthen the teaching corps in these schools. This would involve resources to improve working conditions, incentive pay attached to demonstrated expertise, and significantly greater investments in professional development focused specifically on the challenges faced.

Those who imagine that we solve the problem of weak schools by replacing them with alternative providers rather than doing more than we have been willing to do in enhancing the human and fiscal resources of struggling schools would do well to examine (1) the experience of states and districts that have implemented high stakes tests with takeover provisions (see, Mintrop &Trujillo, 2005) and (2) the prospects that private companies will leap to the task with great success (Belfield & d'Entremont, 2005).

Changing the ways in which school improvement is assessed would give those who implement NCLB a clearer picture of the current and potential effectiveness of the schools involved. For example, schools that meet the needs of most students but fall short of AYP for English language learners or students with disabilities have more potential to meet the needs of all students that those that fail to meet the needs of all categories of students.

Sufficient Time and Support to Implement, Assess and Modify Promising Practices

Many of the suggestions made above address the need to give schools time and support to improve. This advice represents risks but these risks need to be compared to the alternative outcomes of not doing all we can to develop viable public school *systems* (i.e., districts or well-organized constellations of schools or districts) that serve all students

well. The prospect of thousands of schools more or less unrelated to one another seeking to serve a highly mobile and increasingly diverse student population is mind-boggling. How would these schools be held accountable? How would the strategic movement of personnel and resources to address the weaknesses of these schools be accomplished? How would more or less independent charter or private schools serve students who change schools often and thus need a common curriculum? How, in the absence of school *systems*, would the needs of students who are highly mobile or need services not effectively provided by individual schools be met? How, in the absence of strong school systems that encompassed most public schools, would cooperation with providers of other services, such as health and social services that importantly influence student learning be accomplished?

NCLB recognizes the importance of providing schools in need of improvement with substantial assistance and identifies various types of support. However, the funds available for such support may not come close to meeting the need. I noted above that the capabilities of states or any other cross-district agencies to support school improvement are inadequate. Thus far, districts bear the largest burden of support and many districts lack capacity. Schools identified as in need of improvement are unlikely to receive resource-intensive assistance—such as school support teams, full time staff assigned to support teachers, and mentoring for the principal (Goertz, 2005). And it appears that most technical assistance is focused on first order changes—such as how to better plan, use data, construct and follow curriculum guides to align instruction with priorities. This is important help but it is not sufficient to bring about new capacity for continuous improvement.

The need for support for creating and sustaining the capabilities for continuous school improvement throughout the country is unlikely to be met by a fragmented array of consultants and profit making organizations. No other industrialized nation relies on such a haphazard approach to school improvement. In the United States, states are the logical sites for such support although they might chose to contract out the provision of

that support. Federal programs of research and development could be designed, at least in part, to help states support their schools' efforts to improve.

The Need for More Coherent Federal Policy and Programs

NCLB has rightly focused the nation's attention on the importance of ensuring that all students learn at levels only a few have had the opportunity to achieve in the past. But NCLB is only one of many federal policies that affect its goals. Like public policy generally, federal education policy is developed on a more or less ad hoc basis. There are lots of reasons for this but the breadth of NCLB's reach suggests the need to seek more coherence and focus to federal policy. Thus, Congress should provide support for a comprehensive study involving researchers, educators and policy makers at all levels of government to determine how the range of existing federal education policies can be aligned or modified so as to enhance the motivation and capabilities of educators to engage in continuous improvement. Such a study should keeping the focus on how best to meet the needs students placed at risk by reason of economic resources, family and community disorganization, disability, and limited facility with English.

Concluding Observations

As I observed at the outset of this paper, NCLB was launched out of frustration with the apparent resistance to improvement in many schools, the recognition that the quality of our schools varies enormously, and that the quality of education is systematically related to income, race and ethnicity. Underlying the widespread support of the law by the Congress is the belief that far too many educators and state and local policy makers lack the motivation and capability to adopt and successfully implement effective practices. In other words, NCLB is grounded on distrust of educators and a conviction that schools can serve the needs of all students well, no matter what the level of resources and family and community support there might be.

Policies based on distrust and disapproval of those involved in service delivery inevitably seek to limit the discretion of service providers, define performance in narrow ways that can be easily measured, and punish rather than remedy what the policy defines as poor performance. The consequence of policies like this often are replete with unintended effects, not the least of which is a focus on how to meet (or defeat) the specific provisions of the policy rather than a focus on meeting the goals of the policy. In high-threat environments, the first impulse is to avoid the risk, the second is to hunker down and do what is necessary but little more.

If policy makers believe that the problem to be solved involves intransigence or fundamental ineptitude, there is little motivation to be flexible in the administration of the policy or to build system capacity. But in the long run, the welfare of the nation's students, and thus the nation, depend not on an educational system driven by concerns about avoiding sanctions for poor performance embedded in public policy but on the development of the capability of educators, the improvement of the conditions in schools that facilitate teaching and learning, and on the elimination of the social conditions which place so many students at risk of maximizing their potential.

References

Alliance for Excellent Education (2003) Building blocks of success Washington DC: Author

Belfield, C.R. & d'Entremont (2005). Will disadvantages students benefitfrom a free market in educational services? American School Board Journal 7, pp.28-31

Bernhardt, V. L.,(1998) Data analysis for comprehensive school improvement. Larchmont, NY: Eye on Education

Betts, J.R., Zau, A.C., & Rice, L.A. (2003) New insights into school and classroom factors affecting student achievement. Research Brief #76. San Francisco: Policy Institute of California

Boother-Jennings, J. (2005) Below the bubble: "Educational triage" and the Texas accountability system. American Educational Research Journal 42:2, pp. 231-268

Bransford, J., Brown, A., & Cocking, R. (2000) How people learn. Washington, DC: National Academy Press

Center for Educational Policy (2005). From the capital to the classroom: Year 3 of the No Child Left Behind Act. Washington, DC: Author

Center for Educational Policy (2003) How have high school exit exams changed schools? Washington, DC: Author

Cohen, D. & Hill, H. (2001) Learning policy: When state education reform works New Haven: Yale University Press.

Collins, J. (2001) God to great. New York: Harpers Collins

Copland, M. Leadership of Inquiry: Building and sustaining capacity for school improvement in the Bay Area School Reform Collaborative, September 2002 (available on line at www.basrc.org).

Cuban, L. (2001). How can I fix it? Finding solutions and managing dilemmas: An educators roadmap. New York; Teachers College Press.

Deming, W. Edward (2000) The new economics: For industry, government, education, Second edition. Cambridge, MA: MIT Press.

Downs, A. (1966). Inside bureaucracy. Boston, Little Brown & Company.

Edelman, M.J. (1964) The symbolic uses of politics. Champaign-Urbana. The University of Illinois Press

Elmore, R.F., A plea for strong practice. Educational Leadership. 61:3, pp.6-11

Elmore, R. F. (1995). Structural reform and educational practice. Educational Researcher, 24(9), 23-26.

Farkas, s., Johnson, J.. & Foleno, T (2000) A sense of calling : Who teaches and why. New York: The Public Agenda

Fullan, M., (1999) Change forces: The sequel. Philadelphia: Falmer Press

Fullan, M. (2005) Leadership and sustainability: Systems thinkers in action. Thousand Oaks, CA: Corwin Press

Fullan, M., (2001) The new meaning of educational change: Third Edition. New York: Teachers College Press

Hargreaves, A. & Fink, D. (2004) Sustaining leadership. Phi Delta Kappan 83(9), 693-700

Gunn, J.H., & King, M.B., Trouble in paradise: Power, conflict and community in an Interdisciplinary teaching team. Urban Education 38:2, pp. 173-195

Herman, J.L., & Haertel, E.H. (2005) (Eds.) Uses and misuses of data for educational accountability and improvement. Chicago: National Society for the Study of Education

Hirschman, A. O. (1970) Exit, voice and loyalty. Cambridge, MA: MIT Presss

Holcomb, E.L. (2004) Getting excited about data: Combining people, passion and proof to maximize student achievement, Second Edition. Thousand Oaks, CA: Corwin Press,

Hoxby, C.M., (2005) Adequate yearly progress: Refining the heart of the No Child Left Behind Act. In, J. Chubb, (Ed.) Within our reach: How America can educate every child. Stanford University: The Hoover Institution. Pp. 79-94

Hoxby, C.M.. (2003) Peer effects in the classroom: Learning from gender and race variation. National Bureau of Economic Research. Working Paper 7867.

Jones, R.M. (1968) Fantasy and feeling in education. New York: Harper Colophon

Kennedy, M. (2005) Inside teaching: How classroom life undermines reform. Cambridge, MA: Harvard University Press.

Kouzes, J.M. & Posner, B.Z. (2003) The leadership challenge, Third edition. San Francisco: Jossey-Bass

Laitch, D. (2005) Protecting student interest.. Infobrief. Alexndria, VA: Association for Supervision and Curriculum Development.

Leithwood, K. & Louis, K. (Eds.) (1998), Organizational learning in schools. Lisse, Netherlands: Swets & Zeitlinger.

Linn, R.L. (2005) Issues in the design of accountability systems. In J.L. Herman & E.H. Haertel, (Eds.) Uses and misuses of data for educational accountability and improvement. Chicago: National Society for the Study of Education.

Loeb, S., Darling-Hammond, L., & Luczak, J. (2005) How teaching conditions predict teacher turnover in California schools. Peabody Journal of Education 80:3, pp. 44-70

Louis, K., & Leithwood, K.,. (1998). From organizational learning to professional learning communities. In K. Leithwood, & K Louis, (Eds.), Organizational learning in schools. Lisse, Netherlands: Swets & Zeitlinger. pp.275-285.

Louis, K., Toole, J. & Hargreaves, A., (1999) Rethinking school improvement In J. Murphy & K. Louis, (Eds.) Handbook of research on educational administration. San Francisco: Jossey-Bass, pp. 251-276

McClure, P., (2005) School improvement under No Child Left Behind. Washington, DC: Center for American Progress

McDonnell, L.M. (2005) Assessment and accountability from the policy makers' perspective. In Herman, J.L. & Haertel, E.H., (Eds.) Uses and misuses of data for educational accountability and improvement. Chicago: National Society for the Study of Education.

Means, B., Roschelle, J., Penuel, W., Sabelli, N., & Haertel, G.,. (2003). Technology's contribution to teaching and policy: Efficiency, standardizations, or transformation? Review of Research in Education 27: 159-181.

Mintrop, H., Trujillo, T. (2005). Corrective action in low-performing schools: Lessons for NCLB implemention from state and district first-generation accountability systems. Paper presented at the AERA annual conference, Montreal

Mitchell, C., & Sackney, L. (1998). Learning about organizational learning. In K. Leithwood, & K. Louis. (Eds.), Organizational learning in schools. Lisse, Netherlands: Swets & Zeitlinger. pp. 177-202.

Murphy, K.P., & Alexander, P.A. (2006) Understanding how students learn: A guide for instructional leaders. Thousand Oaks, CA: Corwin Press

Nichols, S.L., & Berliner, D.C. (2005) The inevitable corruption of indicators and educators through high stakes testing. Arizona State university: Educational Policy Studies Laboratory

Popham, W.J. (2005) The age of compliance. Educational Leadership 63:2, pp. 84-85.

Radin, B. A., & Hawley, W.D. (1988). The politics of federal reorganization: Creating the U.S. Department of Education. Elmsford, NY: Pergamon Press.

Reville, S.P. (2005) Reinventing high school accountability: Authenticity, pressure, and support. Voices in Urban Education. Annenberg Institute for School Reform. http://www.annenberginstitute.org/VUE/ summer05

Rice, J.K., (2003) Teacher quality: Understanding the effectiveness of teacher attributes. Washington, DC: Economic Policy Institute

Rothstein, R. (2004) Class and Schools: Uning social, economic and educational reform to close the black-while achievement gap. New York: Teachers College Press.

SCANS. Secretary's Commission on Achieving Necessary Skills (1991) What work requires of schools: A SCANS report for America 2000. Washington, DC: U.S. Department of Labor.

Schmoker, M. (1999) Results: The key to continuous improvement.. Alexandria, VA: American Society for Curriculum and Development.

Senge, P. (1990). The fifth discipline. New York: Doubleday Currency

Senge, P., Cambron-McCabe, N., Lucas, T., Smith, B., Dutton, J., & Kleiner, A., (2000). Schools that learn: A fifth discipline sourcebook. New York: Doubleday Currency

Shepard, L.A., (2000) The role of assessment in a learning culture. Educational Researcher. 29:7, pp. 4-14.

Smithson, J. "Measuring and Using Alignment Information.". [Electronic version.] Using Data for Educational Desion-Making, 6(1), 26-28. http://www.wcer.wisc.edu/ccvi/pub/newsletter/v6n1_Spr01.pdf

Spillane, J.P., Reiser, B.J. & Reimer, T., (2002), Policy implementation and cognition: Reframing and refocusing implementation research" Review of Educational Research 72 (3) 393-414

Stringfield, S. (1998). Organizational learning and current reform efforts from exploitation to exploration. In K. Leithwood, & K. Louis (Eds.), Organizational learning in schools. Lisse, Netherlands: Swets & Zeitlinger. pp. 261-274.

Sugai, G., & Horner, R. (2002). The evolution of discipline practices: School-wide supports for positive behavior supports. In J.K. luselli & C. Diamont, (Eds.) Behavior Psychology in Schools. Binghamton, NY: Haworth Press. pp 23-50

Sunderman, G.L., Kim, J.S. & Orfield, G. (2005) NCLB meets school realities: Lessons from the field. Thousand Oaks, CA: Corwin Press.

Thompson, J. (1967) Organizations in action. New York: McGraw-Hill

Tracey, C.A., Sundrman, G.L., & Orfield, G. (2005) Changing NCLB district accountability standards: Implications for racial equity. Cambridge, MA: Harvard Civil Rights Project

Tyack, D. (1974) The one best system: A history of American education. Cambridge, MA: Harvard University Press

Waters, J.T., Marzano, R.J. & McNulty, B., (2004) Leadership that sparks learning. Educational Leadership 61(7) 48-51