The Problem of Quality

How do you improve your educational product
when you can neither describe the product nor
explain how it is produced?

James Q. Wilson, Bureaucracy

What, exactly, do teachers and principals do with and for children
when they are at school? Parents send their children to school for the
better part of their waking lives but rarely have much of an idea about
what has happened at the critical interface between their minds and
the variety of experiences they encounter and in which they have
engaged. At the end of the school day, parents will ask their child,
"So, how was school today?" and she will probably say, "Fine."[1]

The problem is that no one else really knows, either, at least not
with absolute certainty. The child's teacher—if he is attentive and
responsive—probably has a better idea about how well the student is
doing than anyone else, especially if the child is young. But even the
child's teacher cannot tell for sure whether the student is engaging
with the material or whether her peers and parents are reinforcing or
undermining his efforts. Chances are that the principal does not
know more than the teacher. She probably has a pretty good assess-
ment of her teachers' level of effort and competence, but when she
walks through the door, she witnesses a performance rather than an

accurate picture of what goes on day to day—although the principal of course knows this.

The principal's administrative superiors know even less than the principal does, but because they are living under No Child Left Behind, they assign standardized tests to the students. These tests may measure some things more or less accurately but have their own consequences. The teacher—if he feels that there will be real effects from his students' test scores—may alter his teaching to have the students perform better on the tests. If we did not like what the teacher was doing, such changes may be beneficial. The problem, of course, is that we did not know what he was doing in the absence of our test, so we cannot ever say if his reorientation was good or bad.

It is hardly a trivial problem. Any accountability program such as No Child Left Behind must accurately measure what a given school or teacher is adding to the knowledge and skills of a given student, above and beyond the following:

how innately "smart" the student is;
how well prepared the student was before coming to this
    school or to this teacher;
how rich or poor the student is;
how well the student has mastered standard English;
how chaotic or predictable the student's life is;
how healthy the student is;
how hungry the student is;
how motivated the student is;
how much the student's peers reinforce or hinder the school
    or teacher's efforts;
how involved the parents are;
how helpful their involvement is;
how safe the school is; and
how clean, toxin-free, and well-equipped the school is.

Filtering out all of these factors is not an easy task, even when the body politic is united in the underlying goal of what constitutes a

"good" education, which may or may not be the case today. But this is exactly what No Child Left Behind purports to do.

In this chapter I begin with the most basic and most challenging questions when thinking about NCLB's prospects:

What determines educational quality?
How, if at all, can we observe and identify it?

Answering these questions requires a bit of thinking about how, if at all, any public policy can secure excellence amid so much uncertainty and complexity. Though I will digress into a bit of economics and organizational theory, understanding how organizations cope with complexity is critical to evaluating No Child Left Behind's effects on the public schools. Both NCLB's proponents and its opponents have gotten a bit ahead of themselves in trying to envision the long-term effects of this law without adequately considering the basic challenge that we may never be able to measure with perfect certainty how well a school or a teacher is doing with any single measure of educational performance. In this book, I also ask readers to adopt the point of view of a public school principal trying to achieve academic excellence in her school while confronting many demands on her time, many limitations on her power, and ambitious and hasty reform efforts—like No Child Left Behind.

Researchers have tended to focus exclusively on broader issues such as the politics of implementation and the patterns of district-level changes in test scores, without sufficiently examining the messy details of how this law affects the production of education and the behaviors of those supervising this process in the schools. Therefore, good reasons exist for my focus on school principals, even though parents, teachers, and students constitute other important factors in the enterprise. First and foremost, No Child Left Behind targets schools, not classrooms or individual students. School principals ultimately bear responsibility for and are held accountable for the results of NCLB's tests and sanctions: "As with so many other educational mandates and regulations, no matter what their origin, many of these related to NCLB eventually fall to the principal to carry out. . . .

[P]rincipals already accustomed to being the instructional leaders of their schools will now have a whole new set of federally mandated responsibilities and requirements telling them just what 'instructional leadership' means."[2]

Second, leadership matters. How much leadership, under what conditions, and how to improve it are all very complex and highly debated issues. In spite of my focus on principals, I hope that parents, teachers, and students will benefit from this book and that it will resonate with their experiences. School principals are critical to educational quality; however, they can do only so much, bound as they are by a web of competing demands and situations to which they must constantly react and acting as they do within a policy framework that they can only shape at the margins. If I ask readers to adopt the point of view of the school principal, I also ask them to accept that principals do what they do in an environment characterized by complexity, uncertainty, and difficult trade-offs. Education is very, very complicated, as is the measurement of its quality.

Things That Schools Can and Cannot Control

When considering educational quality, educational policy experts have debated what to emphasize. Should we focus on all of those things that principals and teachers do within the school? Should we focus on all of those things over which schools have little or no control but that students bring with them, such as ability, previous schooling, parental involvement, poverty, languages, motivations, and many other factors?

Each side has had its proponents. Those who would focus on those aspects of the production of educational quality over which schools have no control often cite the 1966 *Report on Equality of Educational Opportunity* as at least one of the foundations for their views. Employing surveys of nearly 650,000 students in the United States, James Coleman and his colleagues sought primarily to highlight the persistent patterns of and damaging consequences arising from racial segregation in American schools.

The report concluded that racial segregation was so damaging because community characteristics dominated school characteristics

in the production of academic achievement, a finding that continues to influence educational policy today: "When [socioeconomic factors] are statistically controlled, however, it appears that differences in schools account for only a small fraction of differences in pupil achievement."[3] By focusing on the importance of factors that schools cannot control, Coleman and his coauthors provided considerable ammunition to those who would argue against any kind of systematic plan for improving school performance.

In this view, educational quality depends mostly on the students' lives outside of the school environment, including the challenges raised by growing up in resource-poor communities. Under NCLB, all of the factors that affect measured achievement but lie beyond a school's control will largely determine that school's success or failure. Some researchers have pointed out the incongruity of failing to address long-standing resource inequalities in any educational reform effort.[4] By omitting any attempt to fix or even acknowledge that resources and communities matter for academic achievement, No Child Left Behind assumes that "schools by themselves can achieve dramatic, totally unprecedented, levels of academic achievement for all racial and ethnic groups as well as for children with disabilities, low-income children, and children without English fluency—all in a short space of time."[5]

Perhaps the quality problem in education is really a poverty problem. However, framing the problems of the achievement gap in these terms offers little help in determining what to do with No Child Left Behind now that we have it. I will, therefore, focus on those factors that schools can control. Coleman and his colleagues also found that differences between the quality of schools mattered more for disadvantaged than advantaged children, belying the more pessimistic interpretations of their report's findings. These forty-year-old conclusions lend support to the foundation of No Child Left Behind's liberal agenda. If we can get accountability right, then the poorest and most disenfranchised students might benefit the most.

Unfortunately, the challenges that context brings to academic achievement are even deeper and more complicated than resource inequalities and segregation. Coleman and his coauthors also found that the quality of a student's peer group factored heavily into her

achievement. Peers matter. Being around motivated, smart, and well-educated students makes a child learn more, regardless of what the school is doing.

Economists put education into the category of public goods—that is, things whose benefits flow to everyone whether or not they contribute. Other public goods include clean air, a nice fireworks display, and a strong national defense. Though everyone may wish to have these things, their provision is not likely to be as vigorous or plentiful as some people may want because some individuals will choose to enjoy the benefits without contributing to the cost. Economists dub this phenomenon free riding.[6] A related problem, more relevant to education, is the problem of "congestion effects"—difficulties that arise when the inability to exclude people from receiving the benefits of a public good results in too many people using the service. Urban freeways, for example, can become so congested that drivers end up going more slowly than they would like. Many of these users would willingly pay more to reduce congestion but are not always allowed to do so.

In education, congestion effects are most notable in the fact that the misbehavior of one student negatively affects the amount of teacher attention and the quality of services received by all of the other students.[7] Researchers have confirmed empirically what teachers know intuitively: peers matter to the academic achievement of the other students in the classroom and school.[8] A small number of researchers—economists mostly—have explored the problems of congestion effects in education, using mathematical modeling techniques to show that peer effects explain much of the typical educational structure, including

- why private schools offer scholarships to poorer kids who are good students (because the benefit of the student to the quality of education received by all of the other, paying students is worth more to the private school than the scholarship);[9]
- why we allow college classes of two hundred or more students but would never tolerate that in kindergarten (because the disruptive behaviors and costs associated with

> congestion effects are—we hope—much more prevalent with five-year-olds than with nineteen-year-olds);[10]

- why researchers do not find that reducing class sizes improves academic performance (because class sizes are already optimized to account for potential congestion effects).[11]

While private school principals and administrators can compensate for the challenges of peer effects through their ability to offer scholarships for "good" students and threaten expulsion for "bad" ones, public school leaders have far fewer tools for controlling the composition of their peer groups. To the extent that peer effects determine educational achievement, the public schools will always underperform their private school counterparts, stuck as the public schools are with whatever children come through the doors.

Public school managers can control many things, of course, and educational policy research has a long tradition that says we should focus on getting more of these kinds of leadership behaviors and characteristics in our schools rather than waving our hands and saying that parents, peers, and communities determine everything in children's academic achievement. Proponents of this "effective schools" approach to educational reform have asserted that it makes more sense to focus on the quality of production processes than to use standardized achievement test results that capture mostly student's experiences outside of the production process.

Ronald Edmonds, an administrator in New York City's public schools and a professor at Harvard University, is often credited as a founder of the effective schools movement. Two things characterized Edmonds's approach and shaped much of the research that would follow. First, effective schools focused on the need to improve urban education, foreshadowing what we now call the "achievement gap." Rejecting the pessimistic interpretations of the Coleman report, Edmonds critiqued the emphasis on family background as "absolving educators of their professional responsibility to be instructionally effective."[12] Second, in Edmonds's framework, leadership mattered. Bringing together earlier disparate studies, Edmonds highlighted six of the "most tangible and indispensable characteristics of effective

schools and their leaders." Effective schools were characterized by "strong administrative leadership, without which the disparate elements of good schooling can neither be brought together nor kept together."[13] These leaders fostered a climate of high expectations and orderly and humane learning climates and focused first and foremost on having students learn the basics, diverting resources from other efforts when necessary and constantly monitoring whether students were mastering these basic skills and concepts.[14]

The early efforts of Edmonds and others spurred an explosion of studies and reform efforts based on the philosophy of the effective school. These evaluations typically relied on case studies or on comparisons of student test scores and shared the basic approach of comparing effective to ineffective schools. In general, the findings and results of the follow-up studies mirrored those of the early researchers. Active leadership by school principals mattered. Safety, order, a focus on the basics, high expectations (by staff as well as teachers), and an active role in instruction all appeared to be associated with educational effectiveness.[15] Getting parents involved also mattered.

A subset of studies on effective schools focused specifically on the fact that schools are social systems, not factories, and complex interpersonal relationships can reinforce or subvert leaders' efforts. Fostering a social environment characterized by trust and feelings of empowerment among students, teachers, and school principals could improve instruction.[16] Although schools' social conditions factored into Edmonds's and others' research, thinking about school communities adds some nontrivial complications to the hope of successfully implementing—and especially replicating—effective schools programs.

Unfortunately, in spite of much effort, the effective schools movement did not achieve its promise of unequivocal and sustained achievement gains in America's largest urban communities. Subsequent researchers pointed to several problems with and limitations of the research.[17] First, researchers tended to focus on observing the leadership characteristics of a few high-achieving schools. Such case selection made it impossible to determine whether good leadership had caused or resulted from high achievement or whether some other unobserved factors accounted for both phenomena.

Serious measurement problems also arose. Not only is there much debate about how to measure academic achievement, but each of the contributors to an excellent academic environment is difficult to measure in its own right. In addition, changing administrative behavior necessitates difficult trade-offs, especially of time, a principal's scarcest resource. The effective schools literature offers little guidance on, for example, when a principal should take away time from supervising teachers in favor of reaching out to the parent community. Finally, all of the components of an effective school are inter-related, perhaps reinforcing each other in ways not fully understood. Some school characteristics, for example, may be of more use in poorer communities than wealthier communities, but simple lists will not get at these important secondary considerations. Absent any clear idea of which elements of the effective schools menu matter the most, policymakers can offer little guidance on how to get there from here. Although promising, the effective schools literature offers only a checklist, not a recipe.

So, do society or schools matter to educational quality? Of course, the answer is both. The question is whether policymakers can disentangle the effects of factors such as resource inequalities that schools cannot control and the polity chooses not to fix from those things that can be fixed within schools. This poses enough of a challenge; however, yet another issue must be considered. Even if researchers and policymakers can agree on a set of effective school characteristics, they cannot simply announce, "Let's have better discipline and more enthusiastic teachers!" and have it happen. Rather, two closely related problems arise. The first involves thinking about educational production. The second involves questions of agency.

Production, Agency, and Information

In economics, a production function tells you how different inputs translate into the maximum possible amount of your final product. For example, so much machinery combined with so many person-hours of work will allow a firm to produce some number of cars or refrigerators. The primary purpose of a production function is to tell the managers of a firm the level of maximum output that their firm can produce given the optimal combination of inputs. The process

sounds very straightforward, but applying this logic to education is highly problematic.

What exactly, is the "maximum" output of a school? Certainly not the throughput—that is, the number of students moved through the system—especially if they have not learned very much. But trying to think about measuring the maximum amount of learning a school can produce raises serious measurement challenges. Consider, for example, the simplified model of educational production presented in figure 1.[18] This model shows three basic inputs that produce academic achievement in a given school: student quality, school quality, and peer quality. Of course, each of these inputs is complicated in its own right, but this model assumes that the right combination of student factors, school factors, and peer factors produces the maximum possible academic achievement for a given student.

One problem with the model in figure 1 is that it offers no insight into which of these components matters most to high-quality education. Economists usually add a Greek letter or arithmetic function to each of the elements of the production function to capture the fact that different inputs are best used in different amounts. For the purposes of illustration, we could also choose to represent visually the differential impact of the three components of the education production function. Consider, for example, modifying the function as by resizing the various components of academic achievement (figure 2). Here, student factors dominate academic achievement, and the school factors play into achievement only at the margins, a model consistent with the findings of the Coleman report and with decades of research into effective schools. In addition, the various components of the basic educational production function are often incorrectly aggregated. For example, the school factors variable in the simple model of figure 1 is supposed to refer only to a given student's experience of the school factors, not all of her peers' experiences.[19] In the real world, however, we measure these school factors only in aggregate and assume that the school experience is uniform for all students, which is never the case. School inputs, for example, may very well differ or have different effects in wealthier or poorer communities.

The biggest problem with the model in figures 1 and 2, however, is that each of the components on the right side of the model is itself

Academic achievement for the student	=	Student Quality	+	School Quality	+	Peer Quality

Fig. 1.   **Production in education. (Based on Hanushek 1972, 1979; Summers and Wolfe 1977.)**

Academic achievement for the student	=	Student Quality	+	School Quality	+	Peer Quality

Fig. 2.   **Production in education, modified**

the product of many factors, and some elements contribute to more than one component of our simple model. Consider the expanded educational production function in figure 3. Here, each of the four factors in the initial model is broken into separate equations, thereby showing just how complex the picture is. The measurement of achievement complicates what should be the most straightforward part of the picture—the test score of a given student. The achievement that a particular student demonstrates on a particular day, however, is determined not only by all of the factors on the right side of the equation but also by factors specific to the test and the day of the test, including how well the test is constructed, how focused the student is, and no small amount of statistical noise.

Even if we assume away all of these complications, the picture is anything but simple. Student quality depends on many interrelated factors, such as how hard the student works, how helpful her parents are, and what role her peers take. Peer quality is similarly intricate and contextual. Most important, for my purposes, the school-quality part of the equation depends to some extent on things that public school principals can control (leadership quality), some things that they can control only imperfectly (teacher quality and parental involvement), and many things that they cannot control at all (financial resources).

The various components in figure 3 are also as related to each other as they are to academic achievement. Parental involvement, for

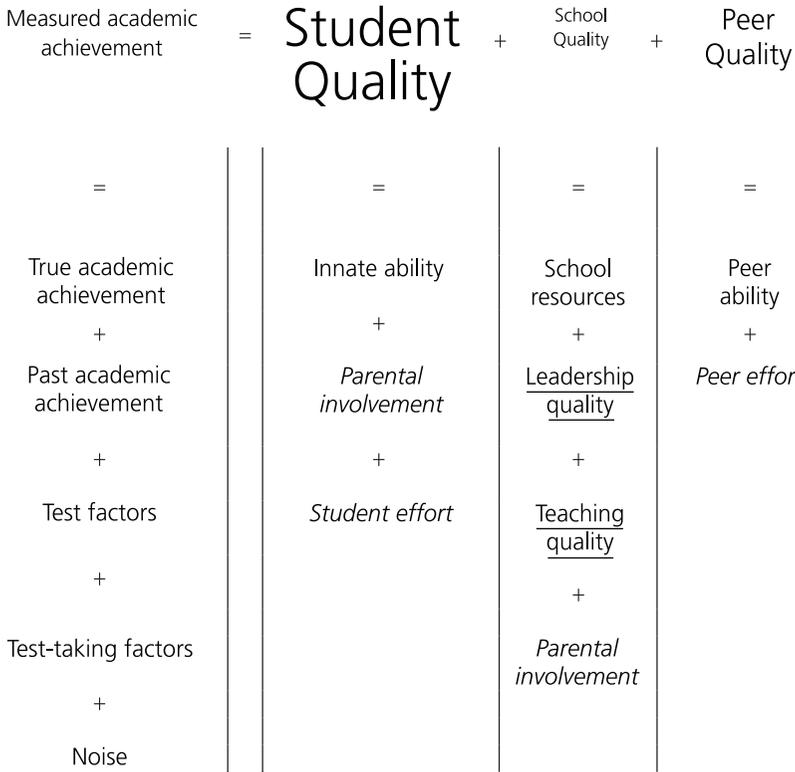| Measured academic achievement	=	Student Quality	+	School Quality	+	Peer Quality
=		=		=		=
True academic achievement		Innate ability		School resources		Peer ability
+		+		+		+
Past academic achievement		*Parental involvement*		Leadership quality		*Peer effort*
+		+		+		
Test factors		*Student effort*		Teaching quality		
+				+		
Test-taking factors				*Parental involvement*		
+						
Noise						

Fig. 3.   The components of educational production, an incomplete list. (Underlined items indicate phenomena that No Child Left Behind seeks directly to change. Items in italics indicate factors that NCLB attempts to change indirectly, through changes to the underlined items.)

example, likely affects both the things that students bring with them and school efforts to make the most of the students that they have. Each of these components is likely to be difficult to quantify and measure even if their independent effects could be teased out, and they do not work independently.[20] Strong leadership and strong teaching, for example, can encourage higher levels of parental involvement, individual student effort, and peer effort. The key point in figure 3, however, is that No Child Left Behind attempts to use an indirect measure of "true" achievement to extract the quality of leadership and teaching in a school in spite of the complexity of the task. Poli-

cymakers might be better served by trying to measure the quality of leadership and teaching as directly as possible rather than trying to extract it from the results of tests given to a group of students on a given day.

The fact that measurable elements of the education production function, such as smaller class sizes, have not been directly linked to sustained achievement gains has led to a considerable debate about whether inputs, especially money, matter at all in education.[21] In short, no research consensus indicates that spending more money on any specific input will lead to higher-quality education. No Child Left Behind has inherited the skeptical attitude of this debate with its exclusive focus on outputs and sanctions and its notable omission of any financial or bureaucratic rewards for successful schools. Thinking about NCLB or any other high-stakes testing policy in this way clearly demonstrates that this is a very indirect way of going about things. Moreover, No Child Left Behind uses only punishment or the threat of punishment to change the behaviors of teachers and administrators, and it takes on the aura of magical thinking. Wave the wand (the threat of sanction) based on these test scores and hope for the best.

Unfortunately, this story features yet another complication. Even if test scores accurately separate good and bad leadership and teaching, it may not be possible to make principals and teachers do what we want them to do or stop doing what we do not want them to do. This problem is one of agency.[22] Economists and political scientists have spent much time thinking about how institutions get people to behave in certain ways. Many of these models divide people who are involved in these kinds of relationships into two groups, principals and agents. In this perspective, principals do not refer to school principals but to actors trying to control other people's behavior. This other person is the agent.[23] Agency relationships are present in almost all aspects of our lives—when we try to get good produce at the grocery store, when we try to get the local factory not to degrade our drinking water, or when we try to get our elected politicians to represent our interests.

Political scientist Terry M. Moe has framed the challenges of No Child Left Behind specifically in terms of agency relationships.[24] The

central challenge of agency is securing compliance in an environment characterized by incomplete and unevenly distributed information. Economists call these challenges informational asymmetries.[25] Our elected congressional representatives may know if they are wasting public money, but we may lack this knowledge. Our teachers may know if they are doing a good job, but we may not be able to tell. We could try to monitor their behavior, but watching over our agents all of the time is very expensive and time-consuming. We have no choice but to try to choose good agents, monitor them as best we can, and then trust them. Because we cannot measure how hard or well our agents are working, we run the risk that they will either slack off or that they will actively work against our goals. This is the problem of moral hazard. Lacking sufficient information about what our agents are doing, we run the risk that our agents will choose not to work or to work in ways that we do not want.[26]

The challenges of agency are more of a problem in education than in most other agency relationships because of the ephemeral nature of the service whose quality is being (or not being) observed. It is very difficult to observe the "true" quality of what a school principal or teacher is doing, which in turn makes controlling their behavior very difficult. The answer that economists offer is for an organization to try to devise a system of incentives that will align agents' decisions regarding how to do their jobs with the organization's goals.[27] The adequate provision of incentives, however, requires that someone, somewhere knows how to observe the true quality of an enterprise. In education, this is anything but certain.

A key question to address in the bureaucratic world of No Child Left Behind is how the law deals with agency and informational asymmetries. The answer is that NCLB does not deal with these asymmetries, at least not directly.[28] It does not restructure the agreements between administrators and principals (at least not until the year of reconstitution) or between principals and their teachers. NCLB's faith in the transformative power of punishment (or the threat of punishment) includes quite a bit of optimism and is at odds with what educators know about behavioral change.

There are, however, more thoughtful ways to consider the chal-

lenges. For political scientist James Q. Wilson, the primary way to understand an organization is to look at what it does, especially the degree to which two aspects of that organization's production can be measured. The first is the set of outputs, or what the people in the firms do when they are working. The second is the set of outcomes, or what the firms produce.[29] For Wilson, serious challenges arise when either outputs or outcomes are difficult to measure. When neither is measurable, then considerable problems of supervision and control arise. This is education at its core.

It is difficult to reward excellence and sanction mediocrity in education because it is difficult to obtain objective measures of performance. Therefore, leaders tend to focus on what they can measure, are often loath to let subordinates have too much discretion, and end up trying to maintain order more than achieve excellence. Wilson calls these troublesome enterprises "coping organizations," based on the fact that their managers spend a lot of time just coping. Schools are perhaps the archetypal examples of Wilson's conception of a coping organization.[30] Coping organizations are characterized by conflicts between managers and staff and between regulators and managers. They are also characterized by an intense desire to avoid risks and the consequent following to the letter of standard operating procedures: "In coping organizations . . . management will have a strong incentive to focus their efforts on the most easily measured (and thus most easily controlled) activities of their operators. They cannot evaluate or often even see outcomes, and so only the brave manager will be inclined to give much freedom to subordinates."[31] Wilson therefore believes that "effective management is almost impossible" in schools and other coping organizations.[32]

This apparent failure of management is actually the result of a rational decision process. If a school principal knows that no one will ever accurately gauge the results of her efforts, then there are few incentives to take the kinds of risks that might produce higher-quality education, though many principals and teachers do so anyway. All coping organizations, however, do not face equal informational challenges or have equal ability to respond to these challenges. Organizations that must respond to their customers' ability to leave will have

a better idea of the quality of their product and therefore will do a better job. Those firms that rely on customer exit and entry rather than administrative oversight are further advantaged in that they are less prone to risk aversion and cautious management than public coping organizations brought about by the bureaucratic inefficiencies that public control over educational production produces.[33]

This is an important distinction, because education contains both public and private coping organizations. While the tasks and difficulties in assessment are present in both schools characterized by monopoly and those characterized by parental choice, the latter have several advantages over the former, notably the incessant threat of exit by customers, whose perceptions of quality are much closer to the ground. When one thinks about private coping organizations in education, one probably first thinks of private schools, which are typically not subject to any of No Child Left Behind's potential sanctions. However, charter schools—publicly funded, semi-autonomous schools started by teachers, parents, and community activists—are also subject to the choices of their customers. However, charter schools are public schools, subject to the same testing and sanctioning under No Child Left Behind as traditional public schools. I will take up the issue of charter schools in detail in chapter 4.

To go a bit beyond Wilson's definition of coping organizations, schools might be a relatively rare but theoretically interesting subset of coping organizations. I call these "experiential organizations," since experience defines nearly everything about what the organization does, how well it does it, how one can or cannot measure its quality, and the effects of measurement on quality. The term comes from the work of John Dewey, who early in the twentieth century foreshadowed the subsequent debate over the most important determinants of educational quality: "The history of educational theory is marked by opposition between the idea that education is development from within and that it is formation from without."[34] In Dewey's analysis, Wilson's distinction between outputs and outcomes might be thought of as two sides of the same problem of experience. What schools do and how they do it represent the same fleeting and possibly unmeasurable agglomeration of lived experiences: "I assume that amid all uncertainties there is one permanent frame of refer-

ence: namely, the organic connection between education and personal experience."[35]

The idea of experiential organizations really constitutes only a small modification of Wilson's coping organization framework, and I do not pretend to have developed a new theory here but only to highlight some interesting characteristics of schools as a special subset of these organizations. The primary difference between experiential organizations and other types of coping organizations is the degree to which experiential organizations are subject to the challenges of congestion effects. While, as Wilson observes, schools' tasks define much about their organization and operation, the fact that the quality of education is coproduced by students and their peers leads to a critical role for the social context of production. The degree to which principals and teachers foster or do not foster a climate of high expectations and student engagement is critical to whether quality will be produced. In education, tasks undoubtedly matter, but school culture may matter just as much.[36]

The second distinction between schools and other types of coping organizations is the way that experience has cumulative effects on quality. No student is ever really on a level playing field. Given that experience has cumulative effects on education, schools have increasing difficulty raising achievement as a student moves through the grades. Another implication is that resources, properly applied, are much more critical for students whose lived experiences reflect a lifetime of economic deprivation. This alone may render arguments that money does not matter in education theoretically unsound and may support the idea of spending significantly more on educating the poorest children than the wealthiest parents are willing to spend on educating their own.

I also disagree with Wilson's assertion that managers and operators, principals and teachers will always be in opposition to each other. Though likely true in coping organizations, it is not as clear that this proposition holds in experiential organizations. Given the importance of school culture in producing quality education, the best way for principals to control their teachers is to select the best teachers available, support them as much as possible, and let them do their jobs without too much interference. Educational reforms need

to include the premise that the importance of context and culture renders micromanagement and conflict-driven leadership counterproductive.

In education, the product itself is an experience whose quality depends on a life history composed of many experiences. The conditions of production matter critically to the quality of the experience provided. Our measures will themselves change educational production, as principals and teachers shift their production to focus on measurable outcomes. We cannot understand how to reform schools without also realizing that we will always be dealing with a set of largely unobservable, perhaps unmeasurable, and always ephemeral experiences.

Few types of organizations fit the descriptions of coping organizations (or my experiential subset of them). One might think that health care would fit the bill; however, more tangible measures of success and failure ultimately exist in spite of the fact that outputs are typically unobserved except by patient and provider. Physicians are not held responsible for failing to get their patients to stop smoking, but schools are held responsible for failing to get their students to stop disrupting the class. The best—perhaps only—example of an experiential organization outside of education is religious institutions. The interface between the individual and the services of a church, mosque, synagogue, or temple is as difficult to observe as that between a student and a school. The outcomes are more or less impossible to quantify. Congestion effects, recipient engagement, and cumulative experience all factor into whether the individual attains the religious organization's spiritual goals. Of course, we do not regulate religious organizations with anywhere near the zeal with which we regulate schools, and the federal government has never devised an initiative called No Souls Left Behind. However, the analogy highlights just how ephemeral "educational quality" is.

This somewhat lengthy digression allows for a deeper understanding of the underlying challenges of No Child Left Behind and provides the ability to make some theoretically grounded predictions about how it is going to play out. I will conclude by summarizing what I have learned about experiential organizations and what this under-

standing can tell us about how No Child Left Behind will work and how it might be made to work better.

1. The methods of measurement will determine the quality that one observes.

Cross-sectional objective measures of educational performance capture mostly things over which a school has no control but that impact observed quality, such as the student's ability, his or her achievement at the time of testing, his or her current peer groups, the total value of all educational services received up to that point, parental involvement, and a nontrivial amount of noise. Unless it is modified, No Child Left Behind will do an excellent job of identifying and sanctioning schools that fail to be rich and of majority ethnicity. This phenomenon results partly from to the use of cross-sectional tests whose results capture mostly phenomena over which a school has no control, especially resource inequalities between schools and students. Under top-down sanction, schools that enroll larger numbers of students whose experiences involve the factors that make for lower achievement will be disproportionately identified and punished. Assessment models that base their measurements on gains in student achievement will do a better job of identifying schools that are producing educational quality; however, the process will remain indirect and uncertain.

2. Leadership matters, but it does not dominate student experience.

Effective leadership creates the conditions under which quality is produced but cannot always compensate for all of the lived experiences of the students before they enroll in a particular grade or school or outside of the school walls. To the extent that schools serve traditionally underperforming students, under the current model of AYP identification and sanction, they will be disproportionately identified as failing, regardless of how well they are really doing. Since charter schools typically serve students in lower-income com-

munities, NCLB will also fall very hard on one of its potential solutions for reconstituting chronically underperforming schools: the charter school. Policymakers' remaining options, such as firing the entire staff or contracting out for private management, will be much more contentious and controversial.

3. Quality in education is a group effort, and those closest to the educational production process are best able to assess its quality.

Educational quality is coproduced—by the receivers of the services (students, peer groups of students, and parents) and the deliverers of those services (the schools, teachers, and administrative and governmental agencies)—within a specific context that exerts its own influences on production. Quality depends on the experiences that principals create in the schools, the experiences that teachers create in the classroom, the lives of students within and outside of the school, and the degree to which peers reinforce or hinder the teachers' efforts. School culture, therefore, becomes both an indicator of and a factor in school success

Reforms aimed at aligning the interests of schools and customers have the potential to produce a truer measure of educational quality than top-down sanctioning and, therefore, a more quality-focused management. It is to be hoped that these two strategies will overlap, but they are not necessarily equal in their ability to find true quality, nor are they necessarily coincident in their determinations about whether that quality is present. There is no theoretical reason why regular public schools would not benefit from an incentive structure that required paying close attention to parental evaluations of quality and rewarded these efforts with increased bureaucratic autonomy and perhaps financial resources. In fact, the theory quite clearly indicates that traditional public schools should be allowed to operate under such an incentive structure.

4. The act of measuring quality impacts the production process.

Reform efforts will change the production process in schools—for better or worse—as school managers orient themselves to the assessment regimen in place. Therefore, school managers will respond to test-based assessment by trying to increase test scores and to choice- based assessment by trying to improve the school-customer relationship. NCLB will produce precisely the kinds of behaviors and attitudes on the part of public school administrators that make excellence in management less rather than more likely. Attitudes and behaviors associated with mission orientation, risk taking, and programmatic improvement are more likely to be found in public school principals facing competition from charter schools than those operating under the threat of state sanction, controlling for other influences on leadership and student performance.

If we are serious about making accountability work, then we need to consider looking more directly at the performance of the school's managers and operators—which is, after all, what we are trying to change—in a system that adds meaningful rewards to the menu of punishments embodied in the legislation. Policymakers should consider looking beyond any variant of a standardized-testing model as the only objective measure of high-quality educational production. With these conclusions, suggestions, and predictions in mind, I now turn to empirical analyses. By getting back to the basics of educational quality, the rest of this exploration will provide at least a rough guide to what we can expect to see as we progress through No Child Left Behind's peculiar world and will offer some tangible ideas for how to achieve its liberal promises.