#### NCLB: State Interpretations, Early Effects, and Suggestions for Reauthorization

Andrew C. Porter Morgan S. Polikoff

#### Abstract

The upcoming reauthorization of No Child Left Behind (NCLB) will be contentious, especially given the size of the act and the role it gives the federal government. When making decisions about reauthorization, it is important to consider the early evidence about the act's implementation and effectiveness.

The first important finding about NCLB is that states have implemented the act with widely varying standards. States are given the right to set proficiency levels for the student achievement tests, and a review of the evidence shows that some states have set very high standards and some states have set very low standards. States also have the duty of setting levels of proficiency for schools to make adequate yearly progress (AYP); again, there is great variation in the decisions states have made regarding these AYP cutoffs, and these differences have affected the rate at which schools fall short of AYP. Finally, while NCLB requires all teachers to pass a content test to prove they are highly qualified, some states have made it very easy for teachers to pass these tests, while others have made it very hard. The variability in the implementation of these provisions is difficult to justify.

The big question is whether NCLB is causing student achievement to increase. The answer is not clear, but the evidence is more positive than negative. There is a mild upward trend in mathematics achievement since the act was implemented, and this trend is occurring at a greater rate than it was before 2002. Still, there is concern that achievement overall is going up while students at the top and the bottom of the distribution have made no gains. This may be due to the AYP cutoffs, which reward schools for moving the students right around the cutoff, not the students at either end of the distribution. There is evidence of very minor progress toward closing the achievement gaps since NCLB was first passed. NCLB holds schools accountable for their students' learning, a strategy which may help raise achievement. However, if the system were to take all students into account by measuring achievement gains, it may help make the system even more effective. Teacher quality does not appear to have changed much since NCLB; low-income students are still more likely to have unqualified teachers than high-income students. While school choice is included in the act, the evidence shows that few have taken advantage of the offer of school choice, in part because parents are often notified too late to make a decision.

Overall, the evidence on the act is mostly neutral to positive, and there is little evidence that the negative effects of the act some predicted have materialized. For reauthorization, lawmakers may consider the following suggestions: taking student achievement gains (value-added to student achievement) into account rather than just student achievement levels; evening out some of the variation in proficiency standards, teacher requirements, and content standards across states; discussing national standards; revising AYP targets to make the 2014 goal more reasonable; holding students accountable for their achievement; and providing supplemental services that are shown to be effective through educational research. With these changes, the act should continue to help teachers improve student achievement though high quality instruction and a rigorous curriculum.

# From the Editor

This *SPR* presents an article by Porter and Polikoff summarizing research on the implementation and effectiveness of the No Child Left Behind (NCLB) legislation. The article is based on material in a new book, *Standards- Based Reform and the Poverty Gap: Lessons for "No Child Left Behind"*.

It was Marion Wright Edelman of the Children's Defense Fund who originally coined the phrase, "leave no child behind." It is now somewhat ironic that the most controversial and contentious legislation affecting children in recent years bears this name. On the other hand, it is very reassuring that we have this body of research evidence to guide the pending reauthorization.

Porter and Polikoff make several important points. First the variation across states in implementation and in the standards they set both for student achievement and teacher qualifications is great. Their first recommendation for reauthorization is that this variation in proficiency standards, and teacher and content standards be reduced. Similar variation exits across states in child care standards and Head Start quality. While local context demands some flexibility, legislation such as NCLB has tended to allow sufficient flexibility across states that no common thread remains in implementation.

Porter and Polikoff provide good news in that the possible negative effects of this legislation, which many feared, do not seem to have materialized. Instead they report neutral or small positive gains in student achievement. They recommend, however, that reauthorization focus on student achievement gains in addition to achievement levels, setting national standards and resetting 2014 goals, holding students as well as teachers accountable, and providing a variety of supplemental services. While this is good news overall, we have to interpret it very carefully. Students may show no losses in the measured areas, but we also know that areas not touched by NCLB such as social studies, and art and music may have been abandoned by many school districts in their frantic pursuit of NCLB standards.

NCLB is massive legislation with far reaching implications for children and their education. It is also better legislation than many of its opponents would admit. However, its implementation and most attention to it, including research, has focused on student achievement in core academic subjects and teacher qualifications, as summarized in this *SPR*. The legislation is far more comprehensive than that. For example, it contains a small section on character and civics which has led to funding by the Department of Education for a large number of character and civic education programs across the country. As a member of APA's Committee on Children, Youth and Families, I have worked with their legislative affairs office to promote attention to this aspect of the legislation. Nonetheless, there has been much less research in this area than on achievement. In fact, some fear that many school districts have abandoned social studies and civics because it is not seen as part of the core of NCLB, for which their performance determines their funding, but there is little data to determine if this is the case.

Brooke and I really hope that the research reported in this *SPR* will inform reauthorization, which has in fact already begun. Furthermore, we hope it will serve as a model for a more comprehensive implementation of the new legislation, pursuing more of a "whole child" approach which more than fifty years of developmental research has told us is always the way to promote the best interests of the child.

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NCLB: State Interpretations, Early Effects, and Suggestions for Reauthorization<sup>1</sup>

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Policymakers and education researchers are contemplating the reauthorization of the No Child Left Behind Act (NCLB). Given the controversy surrounding NCLB's design and implementation, the debate will be vigorous. The act represents the most significant presence of the federal government in education. Thus, reauthorization debates must carefully weigh the evidence available on implementation and initial effectiveness of the act.

NCLB is based on a theory of change that politicians hope will raise American students' achievement. First, create content standards to show teachers what they are supposed to teach. Next, use aligned student achievement tests based on school-level achievement to convince teachers to teach the content in the standards. To ensure that all students are taught worthwhile content, use disaggregated data—data for specific subgroups of students—for accountability. And to ensure that teachers are up to the task of teaching the content, set minimum standards for teacher qualifications.

By design, NCLB requirements have been phased in over time. For example, while new teachers were required to be highly qualified in 2002/03, the first school year in which all teachers were required to be highly qualified was 2006/2007. In 2006, all students in grades 3-8 were required to be tested in mathematics and reading—science testing at these grade levels is not required until 2008. Arguably the most controversial provisions of NCLB involving school accountability have yet to be fully implemented. NCLB requires that schools failing to meet adequate yearly progress (AYP) achievement targets for six consecutive years must be restructured. Given the phasing in of provisions, NCLB is young to be making a summative evaluation of its effects. Still, there is some relevant evidence from which tentative conclusions can be reached and suggestions for revision made.

The following report is divided into three sections. The first section describes how NCLB has been interpreted by states in terms of proficiency levels, AYP targets, and highly qualified teachers. Next, the effects of the various provisions of the act are estimated. This section focuses on student achievement levels, the achievement gap, school accountability, highly qualified teachers, supplemental services, and student accountability. The final section offers suggestions for the reauthorization of NCLB in light of the preceding analyses.

<sup>1</sup> This text is largely based on a chapter from the book *Standards-Based Reform and the Poverty Gap: Lessons for "No Child Left Behind"* (Porter, 2007).

#### **NCLB Implementation**

NCLB, or Title I of the U.S. Department of Education, had a budget of approximately \$13.3 billion of the department's \$56 billion in 2006 (slightly less than one half of one percent of the federal government's \$2,709 billion in total outlays). Still, Title I accounted for approximately 8% of the total funding for K-12 education. Title I is a funding stream: the law sets requirements of states in order to receive funding, but states are allowed considerable latitude in implementing most parts of the law. As a result, there are important state differences in the implementation NCLB's requirements.

#### **Proficiency Levels**

A primary goal of NCLB is ensuring that 100% of students are proficient by 2014. Along the way, schools are required to meet AYP targets based on the percent of students of various subgroups reaching proficiency. The goal is for all students in all schools across the nation to reach high

standards of achievement on challenging academic standards. However, states are given considerable discretion in setting proficiency standards. The result is that proficiency standards vary dramatically among states, bringing into question the notion that NCLB really requires leaving no child behind.

Since we know states differ in their performance on the National Assessment of Educational Progress (NAEP), we cannot draw conclusions about state standards for proficiency based only on states' reports of percent proficient—some of the variation is attributable to student achievement (Linn, 2005). A recent report by the National Center for Education Statistics (2007) estimated NAEP scores required to reach state proficiency cutoffs and found remarkable results. In terms of level, for 4th and 8th grade reading no state in the nation had a proficiency cutoff that corresponded to a NAEP score above the NAEP proficiency cutoff. For math, just two states at grade 4 and three at grade 8 had proficiency cutoffs that translated to NAEP scores at or above the NAEP cutoff. In terms of variability, while several states' (Wyoming, South Carolina, and Massachusetts) 4th grade reading proficiency cutoffs translated to scores just below NAEP's proficiency cutoff, at least 21 states set their proficiency cutoffs so low that they translated to NAEP scores below the "basic" level. States have set their proficiency levels from roughly comparable to NAEP's to considerably less challenging than NAEP's. NAEP is not a high stakes test and surely is not aligned equally well across states, which may partially explain the differences between state and NAEP standards. Still, it is clear that the proficiency standard does not have the same meaning across states.

#### **Adequate Yearly Progress**

NCLB also leaves to state discretion the setting of AYP targets for school accountability. States are allowed to vary a) the trajectories they set in moving to the 100% proficient goal, b) the minimum group size required for reporting disaggregated subgroups, and c) whether to use confidence intervals in deciding whether targets have been met. As with proficiency levels, it appears that giving

> states discretion has resulted in widely varying implementation.

> We might expect that states that set lower proficiency levels might also set easierto-reach AYP targets; surprisingly, however, there appears to be almost no correlation between the rigor of a state's proficiency standards and the

percent of its schools failing AYP. North Carolina had among the least challenging proficiency standards and 42% of its schools failed AYP, while Texas had almost the same percent proficient and 10.7% of its schools failed AYP. Porter, Linn, and Trimble (2005) examined the effects of state decisions about AYP targets on the percent of schools failing AYP using Kentucky data. As a result of Kentucky's decisions, just 6% of schools failed AYP in 2004. If Kentucky had used different decisions, such as shrinking minimum group size for disaggregation or using a straighter trajectory toward 100% proficiency, as many at 56% of Kentucky schools would have failed AYP that year. In short, states vary in how they set AYP targets, but over time most states have moved to progressively more lenient targets.

#### **Highly Qualified Teacher**

NCLB emphasizes teachers' importance in raising student achievement through its highly qualified teacher requirements. However, here again the act leaves considerable discretion to states. By 2005-2006, all teachers, with few exceptions, were required to have a bachelor's degree, have certification, and have proven content knowledge of the subject they teach. States differ in their certification requirements and in their definition of "proven" content knowledge.

Thirty-seven states use the Educational Testing

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Service's PRAXIS II test in secondary mathematics to determine the content knowledge of their secondary mathematics teachers. The national 25th percentile score on this test is 128, the median is 143, and the 75th percentile is 157. State cut scores vary widely—from 156 in Colorado to 116 in Arkansas. The middle school mathematics test has similar variability, with a median of 161, a maximum of 163 in Virginia, and a minimum of 139 in Nevada and South Dakota. It is clear that, while the policy of verifying teachers' content knowledge is a national one, states have implemented the policy quite differently. Being "highly qualified" does not mean the same thing across states. Given the importance of teacher quality in student achievement, these seemingly arbitrary state-to-state differences

in what it means to have proven mathematical content knowledge are unsettling.

#### Preliminary NCLB Effects

The evidence above shows that, when states are given latitude to make decisions about the implementation

of NCLB provisions, the result is great variation. This finding alone has implications for reauthorization. The next section presents early evidence of NCLB's effects in terms of student achievement, the achievement gap, school accountability, student accountability, highly qualified teachers and supplemental services.

#### **Student Achievement Levels**

Although it is too early to see NCLB's full effects reflected in student achievement gains, it is useful to examine results from the National Assessment of Education Progress (NAEP) to see if there have been changes in achievement in the years since the act was first authorized. Overall, NAEP results reveal positive changes in mathematics but no real change in reading achievement. Since 2000, mathematics scores on NAEP have jumped considerably after a decade of relative stagnation. In 4th grade math, the percent of students at or above proficient has jumped from 24% to 36%, and in 8th grade math the percent has risen from 26% to 30%. Long-term trend NAEP also reveals a growth in mathematics achievement among 9 and 13 year-olds since 1999. In reading, 4th grade achievement declined slightly during the 1990s before rebounding to earlier levels in 2002 and 2005. Among 8th graders, reading scores have remained essentially constant since 1992. Long-term trend scores show similar results, with 9 year-olds gaining slightly since 1999 and 13 yearolds remaining flat.

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mean the same thing across states.

A recent report from the Center on Education Policy (2007) suggests an even more positive effect of NCLB on achievement. Using state reports of percent of students scoring proficient and effect sizes, the authors found that substantially more states showed improvement in student achievement since 2002 than showed declines. The report also suggested that gains seemed to be the greatest at elementary levels and in mathematics, but that gains outstripped losses even in high school mathematics and reading. Furthermore, in states that had been undergoing standards-based reform prior to NCLB, the pace of improvement in student achievement seemed to pick up with NCLB's implementation in 2002. Taken together

with the NAEP findings above, there is cause for cautious optimism about NCLB's effects on achievement. Though these results cannot be exclusively attributed to NCLB, and though the full effects of the act may not have been seen, it is a hopeful sign that achievement has been on the rise in recent years.

At the same time, there is some concern that, while NCLB is raising average achievement levels, it is doing so at the expense of students at the top and bottom of the achievement distribution. The theory is that, since adequate yearly progress is defined by percent proficient, schools and teachers are only motivated to work hard to improve achievement among those students just below the proficiency cutoff. A recent study using data from the Chicago Public Schools (Neal & Schanzenbach, 2007) suppports this hypothesis. This finding causes concern, but it may be addressed by considering the value-added approach described later.

#### **NCLB** and the Achievement Gap

One of the primary focuses of NCLB is the elimination of achievement gaps. The act seeks to eliminate not only the racial/ethnic group achievement gap, but also gaps by gender, English proficiency, migrant status, poverty status, and disability status. Under the current provisions of the law, all of these groups will have to be 100% proficient in each school (given sufficient numbers) by 2014. Understanding the challenge requires understanding the size of the gap and how it has changed.

The racial achievement gap is large and robust no matter the age group or academic subject. The gap is present at an early age—the Black-White gap is 1.2 standard deviations on the Peabody Picture Vocabulary Test at ages

three and four (Jencks & Phillips, 1998). The gap also may grow somewhat during the K-12 educational experience, by as much as one-third of a standard deviation (Phillips, Crouse, & Ralph, 1998). One of the best tools for examining the achievement gap over time is long-term trend NAEP. The gap on this assessment appeared to narrow most during the late 1980s, remaining relatively stable since then (Hedges & Nowell, 1998). The Black-White gap currently stands at roughly .7 standard deviations in reading and .9 standard deviations in math for 13 year-olds. The Hispanic-White gap stands at roughly .7 standard deviations in reading and .8 standard deviations in math for 13 year-olds. No conclusive changes in the gap can be seen in the years since NCLB was initially authorized.

Another important achievement gap that NCLB seeks to close is the disability gap. NCLB requires schools to increase proficiency for all students regardless of disability. This breaks with a long-held tradition in schools of special education provisions and requirements being kept apart from general education. NCLB and the Individuals with Disabilities Education Act work together to ensure high quality instruction for all students (Foorman, Kalinowski, & Sexton, 2007). These provisions go a long way toward bringing special education into the mainstream by requiring high standards of all students and equalizing student opportunity to learn.

A third gap of concern is the SES achievement gap. The size of this gap depends on how SES is defined. Sometimes, the achievement gap is defined in terms of family income. Other times, such as on NAEP, the classification used is parents' education level. The NCLB definition classifies students based on their receipt of free and reduced price lunch. As a result of these different definitions, it is difficult to come to a single estimate of the SES achievement gap. Using parents' education, long-term trend NAEP reveals that the gap in reading is about .6 of the difference between achievement levels, and that it has remained almost unchanged since 1978. In mathematics, the gap has narrowed slightly to about .6 of the difference between achievement levels, due primarily to an increase in achievement among students whose parents did not graduate high school. Similar to the racial achievement gap, several studies have shown that the SES gap does not increase at all during the school year (Entwisle & Alexander, 1992; Heyns, 1978) and that summer losses are greater for students from low SES families than students from high SES families (Cooper, Nye, Charlton, Lindsay, & Greathouse, 1996). These findings reveal that schools may not be primarily responsible for the creation of the achievement gap. The question NCLB asks is "What can schools do to close the gap?"

There are many strategies for closing the achieve-

ment gap, but researchers have identified six of the most common: pre-school programs, student ability grouping, instructional interventions for students at risk of failure, racially matching students and teachers, selection of higher quality teachers, and smaller class sizes (Ferguson, 1998; Porter, 2005). Of these, the most promising strategies are those that address inequalities in student opportunity to learn. For instance, students of color and students from low SES families are less likely to be taught by high quality teachers than are white or more affluent students. Research has shown that teacher quality has consistently strong effects on student achievement gains (value-added to student achievement). NCLB attempts to address the inequity in teacher quality distribution through its highly qualified teacher requirements. Another example of inequality in student access to learning is that students from low-SES families are less likely to be taught ambitious academic content aligned to rigorous state content standards. NCLB addresses this issue by providing choice to students in Title I schools that fail AYP for two consecutive years and supplemental services to low-SES students in Title I schools that fail AYP for three consecutive years. These provisions are hopeful, and show that NCLB is targeted at reforms that may be the most effective for narrowing the gap.

The preliminary evidence on the closing of the achievement gaps indicates modest success. The Center on Education Policy (2007) reports that far more states have seen gaps in percent proficient narrow than widen. This is true for the Black-White gap, the Hispanic-White gap, and the socioeconomic status gap. The authors emphasize that the changes in the gaps since NCLB are generally very small—in most cases a few percentage points. As more evidence is gathered, the achievement gaps can be evaluated more carefully. For now, this evidence suggests small but positive effects.

#### **School Accountability**

No Child Left Behind has been law for only five years, so many of the school accountability requirements have yet to be enacted, and their effects are yet to be seen. For example, 2005/2006 was the first year in which achievement testing was required in all grades 3-8. With multi-grade testing, even most small elementary schools now meet the requirements for disaggregated data. The result may be more schools failing AYP. Also, the first increases in AYP targets were mandated in 2005, and these increases will continue until 2014. At that point, when 100% proficiency is required, the number of schools failing proficiency could be high. A recent report estimates that 96% of Illinois schools and 88% of Ohio schools will fail AYP in 2014 (Wiley, Mathis, & Garcia, 2005). It is pos-

sible these estimates may be biased high. Still, there is no evidence that schools can actually reach 100% proficient, and some scholars have called for more reasonable targets (Linn, 2005).

Researchers have studied state-level school accountability programs similar to NCLB and consistently found evidence of positive effects. Phillips and Flashman (2007) found that accountability policies had their largest effects on high-poverty schools and schools serving large proportions of students of color. Carnoy and Loeb found that states with stronger school accountability programs had greater gains in student achievement for both high and low mathematics achievers of all races (2002).

Others have agreed with these assessments, finding somewhat positive results of state-level accountability programs and little evidence of negative effects (Hanushek & Raymond, 2005; Jacob, 2005). These findings do not necessarily mean that NCLB will have positive effects on student achievement through its school accountability programs. Rather, the evidence shows that similar state-level accountability programs have had positive ef-

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fects, leveled inequalities in student opportunity to learn, and may be a step toward closing the achievement gap.

NCLB school accountability is based on levels of student achievement-specifically, the proportion of students labeled "proficient." But with the requirement of yearly testing in grades 3-8, many states have attempted to estimate school value-added to student achievement. This measure of change is fundamentally different from the measure of level currently used to determine AYP. Each indicator has its strengths and weaknesses. Proponents of level argue that equity is only served when all students reach high levels of achievement; gains in achievement are not acceptable if levels of achievement remain low. Proponents of value-added argue that accountability for levels of achievement is unfair to schools with large numbers of low-achieving students, as it holds them accountable for all the learning and inequity that occurred before they entered school.

Recently, the Department of Education has allowed states to experiment with using value-added models of achievement. The potential problems described above are avoided by requiring that even value-added models must reach the 100% proficient goal by 2014. A better solution may be to use the two standards in concert, considering both level and value-added together. Schools doing well or

poorly on both measures are easy to interpret; schools doing well on just one standard would have to be considered more carefully. This approach might make NCLB stronger by giving schools realistic targets to achieve.

NCLB's school accountability provisions have had some perhaps unanticipated effects on measures of student achievement. The act requires timely parental notification of school AYP status so school choice options can be exercised. This requires rapid turn-around of achievement results following testing which in turn has pushed toward streamlined, multiple choice tests, even among states with historically strong commitments to performance assessment, such as Kentucky. At the same time, to calculate full

value-added, spring testing dates have been pushed to as late in the year as possible. This conflict may be difficult to resolve.

In 2006, the National Longitudinal Study and the Study of State Implementation of No Child Left Behind wrapped up the first phase of work (Le Floch et al., 2006). The study's primary goals were to examine the implementation of NCLB by states, districts, and schools, using interviews of state officials in

all 50 states and nationally representative samples of principals and teachers. The results lead to several important conclusions about the school accountability provisions of NCLB. In the 2003-2004 school year, 75% of schools and 71% of districts met AYP, with more elementary schools meeting AYP than middle or high schools. The larger size of middle and high schools, and the resulting requirement of disaggregated data, may account for this discrepancy. Of the schools that failed AYP, just under one-quarter, 23%, failed due to the performance of one group of students. This shows that most schools failing AYP are falling short for multiple groups of students. Diversity and size of schools also played a factor in AYP status—just 61% of schools held accountable for the progress of six or more groups of students met AYP, as opposed to 90% of schools with only one group. Perhaps surprisingly, 22% of principals in schools that failed AYP were not aware their school had failed AYP—evidence of a loosely coupled system. These findings point to several additional challenges of NCLB accountability implementation. Large schools with diverse student bodies seem especially likely to fall short of AYP. In the conclusion, we will discuss how AYP targets could be revised to address these and other concerns.

#### **Student Accountability**

While student accountability is not directly covered under NCLB, many states have some form of student accountability in their standards-based reform package, and more appear to be moving in that direction. Student accountability provisions might be considered in reauthorization.

Exit exams are a particularly popular type of student accountability, having been implemented in nineteen states and planned in seven more. This move toward exit exams comes despite NCLB's measuring of graduation rate as one of its "other academic indicators." While some are concerned about potential negative effects of exit exams

on high school completion, the literature shows mixed but no large negative effects. In a study using a sample from the U.S. Census, Dee and Jacob (2007) found there was no relationship between dropout likelihood and introduction of an exit exam. Dee and Jacob also analyzed Minnesota data and found that positive effects on dropout were greatest for low poverty districts and negative effects were largest for high

poverty districts and districts with high concentrations of black students. Alarmingly, the exit exam seems to have exacerbated the achievement gap.

#### **Highly Qualified Teachers**

Researchers investigating the distribution of qualified teachers since the implementation of NCLB have found that teacher quality is still more concentrated in low-poverty schools than in high-poverty schools (with "low-poverty schools" defined as schools with 10% or fewer students receiving free or reduced price lunch). Beyond these between-school differences, there are large within-school differences in teacher quality. An advantaged student in a high-poverty school is still more likely to have a high-quality teacher than is a disadvantaged student in a low-poverty school (Desimone, Smith, & Frisvold, 2007). Thus far there have been only small and inconsistent changes in teacher quality in the first few years of NCLB.

In the AIR/RAND study of implementation of NCLB, twenty percent of teachers did not know whether they were labeled highly qualified by the state. Among highly qualified high school teachers, 46% of English teachers and 59% of mathematics teachers lacked a content area degree (Le Floch et al., 2006). Yet the percentage of highly qualified teachers in most states is high—97.2%

in Missouri and Georgia, for instance. This suggests that the criteria for establishing highly qualified status should be defined more rigorously by states. At the same time, there are supply concerns to consider. Teacher quality is unequally distributed both within and between schools. How should teachers best be distributed to address the achievement gap? Taking high quality teachers from lowpoverty schools and putting them in high-poverty schools is an idea that is unlikely to gain political traction. Setting a higher bar for teacher quality may shrink the absolute number of highly qualified teachers and concentrate them even more in low-poverty schools. Setting a low bar for teacher quality appears to accomplish nothing. The solu-

tion to this problem is unclear, but solving it could be a key step toward realizing the goals of

NCLB.

#### **Supplemental Services**

NCLB specifies that students attending schools failing AYP targets for more than one year in a row have certain rights. For starters, school districts must allow students to transfer from the failing school to another public

school in the same district that has not been classified as "in need of improvement". Also, if a school has fallen short of AYP for three years in a row, the school district must provide supplemental education services to students from low-income families. Both of these provisions have proven controversial.

As for the provision of school choice, one thing is clear: very little choice is actually being exercised. This is the case not only because in many districts there are no schools to which students might transfer, but also because parents have often been informed of eligibility too late to make a reasonable transfer decision. The AIR/RAND study of NCLB found that just 15 states reported AYP status by the start of the school year and that 39% of districts required to offer choice did not do so. As a result, of the 6.3 million students eligible for choice, less than 1% exercised this option (Le Floch et al., 2006). Even if choice were exercised by more families, the evidence is mixed as to the benefits for student achievement (Hill, 2007). Neither is there strong evidence, as some fear, that NCLB choice provisions would result in segregation. Regardless, with so few students currently exercising choice options the effects are certain to be small.

Supplemental services generally take the form of small-group reading instruction delivered after school several days a week. Providers can be both certified teach-

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ers working through the school district and private notfor-profits. About a third as many students are eligible for this provision as for the choice provision. Among these approximately 2 million students, attendance rates are low and variable, with an average attendance of about 60 hours per year. Approximately 10 to 15% of eligible students participate (Farkas & Durham, 2007). Aside from concerns about the attendance rates (which will hopefully improve as the option becomes more stable), some are concerned that this format may not help alleviate the gap as it is intended. Perhaps encouraging competition among providers and limiting instruction to one-on-one instruction would be more likely to help close the poverty achievement gap.

#### **Suggestions for** Reauthorization

The evidence presented here is part of a growing body of research on the effects of NCLB and other accountability policies. From this analysis, several conclusions emerge. First, state implementations of NCLB are constantly changing and will probably continue to

do so as the act matures. Since 2001, states have been forced to enact sweeping changes in a very short period of time. Some of these changes have not gone as planned, but as states become more accustomed to the accountability provisions of NCLB, it is likely that implementation will improve. This is already taking place in the more than twenty-five states that have revised their content standards.

Second, the evidence on the act's effectiveness is limited but mostly neutral to positive. With regard to teacher turnover, while Clotfelter et al. (2004) found that North Carolina's NCLB-like state accountability policies increased teacher turnover, Desimone et al. (2007) found no such evidence using a larger state database. Furthermore, Desimone et al. found modest gains in teacher quality as a result of such policies, though the gains are not large enough to close the teacher quality gap. As for student retention, the act appears to have had no impact so far (Hauser, Frederick, & Andrew, 2007), though the evidence described above does suggest that students at the low end of the achievement distribution may not benefit from NCLB accountability. In all, there is little convincing evidence that the potential negative effects that some feared have materialized. And while some are concerned about the loss of teacher autonomy, it is not clear that such a trend would necessarily be bad for student achievement

(Porter, Floden, Freeman, Schmidt, & Schwille, 1988).

Third, reauthorization may be difficult. The public is almost evenly split in terms of their opinion of the act and its effects on local schools. In a September, 2006 poll conducted by Gallup and Phi Delta Kappa, 32% of respondents had a very or somewhat favorable view of the act, compared with 31% who had a very or somewhat unfavorable view. Just over a quarter of respondents said the act was helping local schools, while 21% said it was hurting (Rose & Gallup, 2006). However, most agree that the idea of accountability for education's outputs as a means to close the achievement gaps is good. Reauthorization may depend on a tenuous political coalition in Congress

(Loveless, 2007).

If lawmakers are to reauthorize NCLB, a good template for that reauthorization is a theory created by Porter, Chester, and Schlesinger (2004) for how to do highstakes testing right. The theory suggests three important steps: a) set a good target, b) make accountability symmetric, and c) make accountability fair. NCLB already stacks up fairly

well when measured against these criteria, but there is room for improvement.

#### **Setting a Good Target**

The time may have come to have

an open debate about the possibility

of national content and performance

standards, national definitions of

highly qualified teacher, and national

achievement tests.

Alignment of tests with ambitious content standards in core academic subjects is one of the primary requirements of NCLB. The basis for this policy is the assumption that teachers will teach what is tested. What teachers teach is an important determinant of student achievement gains (Gamoran, Porter, Smithson, & White, 1997). Specifically, NCLB requires content standards and testing in reading and math at all grades from third through eighth, with science required beginning in 2008. The act also requires that 95% of students be tested and that data be disaggregated by subgroups. These provisions show that the act sets a good target in terms of requiring accountability in several content areas at multiple grade levels and attempting to close the achievement gaps.

At the same time, the variation in highly qualified teacher definitions, content standards, and tests is troubling, expensive, difficult to manage, and masking of real differences in achievement across states. Why should students be labeled differently in terms of their performance depending on the state in which they live? Why should students in some states have less qualified teachers than students in other states? Other than the federalist argument

#### **Commentary on Porter & Polikoff**

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The Porter and Polikoff policy brief provides a balanced assessment of the strengths and limitations of the No Child Left Behind Act (NCLB) as well as a sensible set of recommendations for reauthorization. Porter and Polikoff remind us that NCLB was only enacted in 2002, and that some of its most important provisions are just now beginning to be implemented. Consequently, despite the fierce rhetoric on both sides, it is far too soon to come to a reasoned judgment about the success or failure of the law. Porter and Polikoff argue as much when they write that the evidence to date suggests that neither the worst fears of the critics nor the best hopes of NCLB's advocates have yet been realized, a conclusion with which we concur. It might be more accurate to say that the data simply do not exist as yet to draw a causal conclusion about the effectiveness of NCLB.

A second useful reminder concerns variation among states, especially with respect to the quality and rigor of standards, tests, and proficiency targets. Further, it is important to note that many states were already well-launched on a comprehensive standards-based reform agenda before the passage of NCLB, and that, in these states at least, it is virtually impossible to disentangle the effects of the federal law from the effects of state policies.

Here we offer some additional policy observations based largely on our perspective from Massachusetts, a national leader in standards-based reform. Massachusetts passed a comprehensive reform program in 1993, provided substantial new funding targeted to high-need districts, and has managed to maintain a steady policy course for nearly 15 years despite the periodic efforts of the teacher organizations and others to weaken the law. The data are encouraging. Student performance across grades has risen over the last several years, an impressive feat, given that the Massachusetts state test is generally regarded as one of the most rigorous in the nation. Student gains on the Massachusetts state assessments have been accompanied by similar gains on the National Assessment of Education Progress (NAEP), where Massachusetts now leads the nation. This suggests that gains in state tests are not simply a consequence of increased familiarity with the tests or more attention to test preparation. Despite this progress, there remains a deeply troubling racial achievement gap in Massachusetts that is confounded with SES; for example, 35% more white students score in the in the *proficient* or *advanced* categories, compared with black students, and 38% more white students scores in these categories compared with Hispanic students.

We argue that accountability must be part of a larger school reform effort. While accountability may lead to an overall increase in test results over time, it is unlikely to close achievement gaps with respect to race and SES for two reasons. First, children of color and children from families with fewer economic resources enter kindergarten already behind their peers. Second, school resources are confounded with race and SES. To address this challenge, Massachusetts is focusing on two interrelated strategies: early childhood education for all, and extended learning time, especially for schools serving high-need children. These are important initiatives, likely to yield important gains in achievement, because they each focus on additional instructional time to promote learning. Education research has documented the success of these strategies, along with others reviewed by Porter and Polikoff, such as smaller class sizes and teacher quality efforts. States will need additional resources to support a comprehensive school reform effort to support the learning of all children, ensuring none is left behind.

#### **Commentary on Porter and Polikoff**

# David N. Figlio University of Florida and National Bureau of Economic Research

Porter and Polikoff present a fair-minded discussion of many of the issues on the table and thoughtful suggestions for NCLB's reauthorization. The authors are careful to not place much emphasis on the early evidence regarding NCLB's effectiveness, and even more caution is warranted. Because of the lack of a counterfactual, it is impossible to draw conclusions about the success of NCLB based on temporal changes in aggregate student performance. Therefore, the best evidence on the potential effects of school-based accountability come from analysis of state-level accountability policies. Here, a general consensus is emerging that schools facing accountability pressure have raised test scores in the tested subjects, at least in math.

However, numerous authors have found that schools facing accountability pressure tend to improve test scores on higher-stakes exams but not necessarily on lower-stakes exams, leading some to complain that accountability systems encourage "teaching to the test." Others, however, argue that teaching to the test is a desirable outcome of accountability – provided that the test is broad-based, rigorous and closely aligned to objective and appropriate standards. But other potential incentive effects are harder to justify on educational grounds: Researchers have discovered that schools often respond to accountability pressure by targeting their attention on select groups of students (Neal and Schanzenbach, 2007), excluding potentially low-performing students from the testing pool either through selective reclassification as disabled (Cullen and Reback, 2006) or through strategic deployment of discipline policy (Figlio, 2006), or even manipulating school meals to give students short-term brain boosts for tests (Figlio and Winicki, 2005). Since school accountability encourages schools to both genuinely improve and artificially inflate measured performance, it is difficult to know how to interpret the measured test performance that results.

School accountability systems based on "value added" measures of assessment present schools with dramatically fewer incentives to "game the system," and therefore have the potential to provide more accurate views of schools' true contributions. This, combined with the authors' points regarding incentives to concentrate on a broader group of students and inherent fairness issues, suggests that the U.S. Department of Education's willingness to give states such as Arkansas, Delaware, Florida, North Carolina and Tennessee the authority to introduce value added elements into the basic approach for calculating NCLB progress is a very positive step that should be continued and expanded under a reauthorization of NCLB.

But value added measurements are not a silver bullet. Kane and Staiger (2002) point out that test scores are inherently measured with error, and measurement problems are particularly extreme for smaller schools. Value added measures of student progress geometrically exacerbate the measurement error problem, reducing the reliability of the resulting measures. This is particularly true if one wants to focus on specific subgroups – a key component of NCLB. Value added measures may improve fairness and reduce incentives for deleterious behavior, but they do so at the cost of reducing the ability to monitor the progress of small groups. And since test score gains tend to be greater for more advantaged students (Ladd and Walsh, 2002), schools may have an incentive under a value added system to focus on the more advantaged students rather than students below proficiency levels.

It is therefore not clear which approach best serves the needs of the students traditionally left behind. That said, an ideal system would likely be a hybrid of traditional status-based measures and value added measures, coupled with increased flexibility to meet targets, extra attention paid to the learning gains made by historically low-performing students, and, not least, additional funding to help schools provide the necessary remediation to low-performing students in order to maximize their chances of achieving proficiency.

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in favor of states' rights, it is hard to see a strong argument in favor of widely different state standards. The time may

have come to have an open debate about the possibility of national content and performance standards, national definitions of highly qualified teacher, and national achievement tests. National standards and tests would simplify the provisions of curricular materials and professional development. They would also increase efficiency and reduce redundancy. At least three relevant bills have been introduced in Congress addressing these topics. A bill introduced by Senator Clinton would introduce voluntary

It would be ideal if students were intrinsically motivated, but it is likely that some form of well-thought out student accountability measures may provide needed external motivation.

national standards and effective teaching methods in math and science from grades K through 12 ("National Mathematics and Science Consistency Act," 2007). Another, introduced by Senator Dodd, would create rigorous voluntary math and science content standards in grades K through 12 and align the standards to tests of achievement ("SPEAK Act," 2007). A third act calls for alignment studies comparing state standards to NAEP and grants to improve alignment ("SUCCESS Act," 2007). Clearly, legislators are thinking about national content standards. Any debate on the subject will be fierce, but the time for that debate is here.

Also, it is clear that NCLB targets for AYP must be revised. There is no proof that states can achieve the

100% proficient target—and there are predictions to the contrary. While high standards for student achievement

are admirable, standards must be reasonable to be relevant. Targets for AYP should also be revised to include a valueadded component. This should ensure that schools focus on all students, not just those at the brink of proficiency. With these changes, NCLB will set better targets for high-stakes accountability.

#### **Symmetry**

Symmetry refers to holding all parts of the system—schools and students—accountable for student learn-

ing. NCLB is not symmetric, as it does not require holding students accountable. This imbalance has important implications—education tends to work best when everyone works together. This may not be the case under NCLB, if the commonly cited reports of students not trying their best on NCLB tests are to be believed. Student accountability has traditionally taken the form of grade-to-grade promotion or exams, but other, less severe measures may be equally effective. For example, students' scores could be included on transcripts or count toward grades. It would be ideal if students were intrinsically motivated, but it is likely that some form of weall-thought out student accountability measures may provide needed external motivation.

#### **Fairness**

There are three components to fairness. The first two refer to support; both schools and students must be provided the support they need. For students, this means adequate opportunity to learn, something which may be critical for closing the achievement gaps. For schools, this means providing needed resources. Money alone is not a solution, but NCLB provides supplemental services for students and state and district services for schools in need of improvement. The third component of fairness is the accuracy and validity of data. NCLB requires test alignment to standards, an important component of validity. However, states are struggling to create high quality student assessments.

...there are improvements that can and should be made to the act as reauthorization is considered.

To improve the fairness of NCLB, changes in provisions such as supplemental services and highly qualified teachers may be necessary. Highly qualified teacher standards are more variable than they should be, and a discussion of standardization of requirements may be needed. The strength of such a standard would be tricky—too high, and many teachers will fall short; too low, and the standard will be meaningless. Supplemental service requirements might be changed to require more effective one-on-one tutoring.

NCLB is an important, timely topic for education researchers and policy-makers. It affects students, teachers, and schools in significant ways on a daily basis. It does not appear to be having the profound effects on achievement that were hoped, but there are some signs that gains are being made. Still, there are improvements that can and should be made to the act as reauthorization is considered. There is good and relevant education research that should inform the deliberations.

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