

Evolving No Child Left Behind

by Linda Darling-Hammond, Ed.D.

No Child Left Behind (NCLB) is a historic piece of legislation that has succeeded in drawing attention to the need for higher learning standards and greater equity in educational outcomes. The law – which aims to improve achievement for all students, to close the achievement gap, and to ensure better qualified teachers – contains some major breakthroughs. First, by flagging differences in student performance by race and class, it shines a spotlight on long-standing inequalities that can trigger attention to the needs of students neglected in many schools. Second, by insisting that all students are entitled to qualified teachers, the law has stimulated important recruitment and retention efforts in states where low-income and “minority” students have experienced a revolving door of inexperienced, untrained teachers. Recent studies have found that teacher quality is a critical influence on student achievement, yet teachers are the most inequitably distributed school resource. This first-time-ever recognition of students’ right to qualified teachers is historically significant.

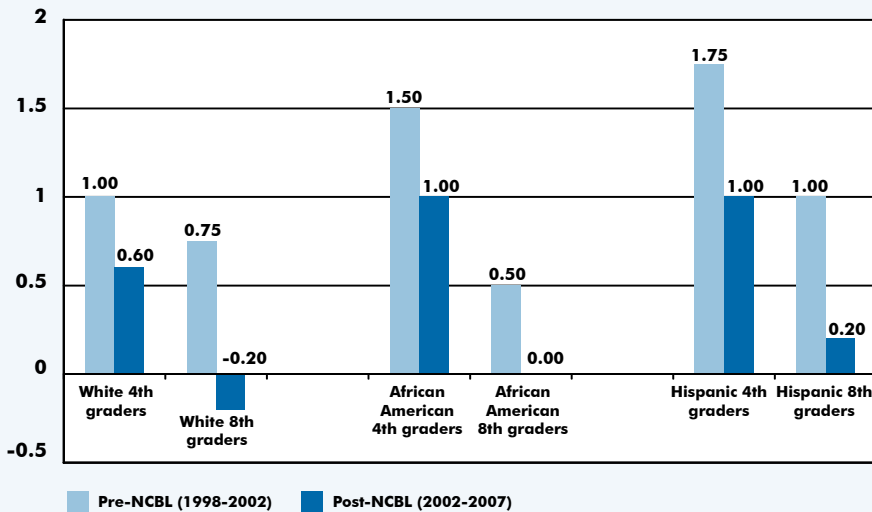
The goals of No Child Left Behind (NCLB) are the right ones. However, the many complex features of this 1,000-plus page law require some major changes if the law is to meet its goals; and the resources required to dramatically raise achievement and close the gap must also be found and strategically allocated if we are to become serious about leaving no child behind.

Parents, educators, researchers, and civil rights advocates have raised concerns that NCLB’s current funding barely covers the new administrative requirements of the law, and does not enable serious investments in school improvement and teacher development; that a focus on multiple-choice reading and mathematics tests in many states has reduced emphasis on critical thinking and performance skills, as well as on subject areas such as science, technology, history, writing, and the arts; that appropriate teaching and testing for English language learners and exceptional needs students have been undermined; and that a prescriptive federal approach may have undermined some local reading programs. In addition, analysts suggest that the law’s complicated rules for showing “adequate yearly progress” – which require meeting more than 30 separate testing targets annually – have labeled many successful and improving schools as failing, while preventing adequate attention to the truly failing schools that states need to focus on to ensure major improvements.

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The law as currently implemented has not enabled the United States to make the large strides needed to catch up to other higher-achieving countries. By 2006, the United States had dropped in the Programme for International Student Assessment (PISA) rankings from three years earlier – landing at 25th out of 30 Organisation for Economic Co-operation and Development (OECD) countries in math, and 21st of 30 in science. Recent analyses have found that in the years since NCLB was launched, the rapid gains in outcomes stimulated by reforms in the 1990s have slowed for math, and stalled in reading, while 8th grade reading scores have declined. (See Figures 1 and 2.)

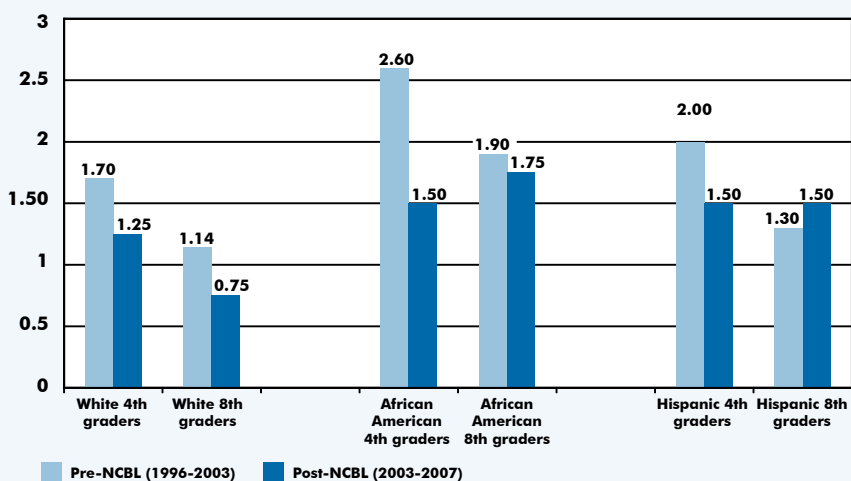
Figure 1
Annual Rate of Gain in Reading Achievement
Pre- and Post-NCLB 4th and 8th Grades



Finally, the law does not yet attend to the major issues of resource inequality in the nation's schools and the needs for a more productive 21st century system of supporting learning and teaching. Key changes to the law should aim to:

1. Improve the standards by which students and schools are assessed, so that important forms of learning and measures of student progress are valued and evaluated;
2. Fix the accountability system so that it sets appropriate and challenging goals in a manner that encourages higher achievement and stronger graduation rates, identifies truly failing schools, and provides useful guidance for improvement;

Figure 2
Annual Rate of Gain in Mathematics Achievement
Pre- and Post-NCLB 4th and 8th Grades



3. Develop and retain high-quality teachers, and distribute them to high-need schools;
4. Strengthen incentives for equity in providing resources at the state and local level; and
5. Invest in more productive approaches to school improvement, and ensure integrity in the federal system of evaluating and funding interventions.

1. Improve the standards by which students and schools are assessed.

Issues

If education is to improve, schools must be assessed in ways that produce high-quality learning. Current accountability reforms are based on the idea that standards can encourage states to be explicit about learning goals, and that the act of measuring progress toward meeting these standards will help develop high levels of achievement for all students.

Indeed, research on high-stakes accountability systems shows that, “what is tested is what is taught,” and this can help direct more attention to necessary skills and content in the curriculum. At the same time, the quality, design, and scope of the assessments is critical. Studies have found that an exclusive emphasis on primarily multiple-choice standardized test scores narrows the curriculum. The Center for Education Policy documented the fact that schools have reduced their attention to science, social studies, writing, and the arts as a function of test requirements under NCLB. Other

studies have shown that students are less likely to engage in extended research, writing, complex problem-solving, and inquiry when high-stakes tests emphasize multiple-choice or short-answer responses to formulaic problems.¹

These higher-order thinking skills are those very skills that often are cited as essential to maintaining America's competitive edge and as necessary for succeeding on the job, in college, and in life. As described by Achieve, a national organization of governors, business leaders, and education leaders, the problem with measures of traditional on-demand tests is that they cannot measure many of the skills that matter most for success in the worlds of work and higher education:

States ... will need to move beyond large-scale assessments because, as critical as they are, they cannot measure everything that matters in a young person's education. The ability to make effective oral arguments and conduct significant research projects are considered essential skills by both employers and postsecondary educators, but these skills are very difficult to assess on a paper-and-pencil test.²

One of the reasons that many U.S. students fall further and further behind their international counterparts as they go through school is because of differences in curriculum and assessment systems. International studies have found that the curriculum in many U.S. states tends to try to cover too many topics superficially, rather than a smaller number of topics deeply, as is true in high-achieving countries. The assessment systems used in most high-achieving countries around the world (for example, top-scoring Finland, Sweden, Australia, New Zealand, Hong Kong, and Singapore) include state and local components that emphasize essay questions, research projects, scientific experiments, oral exhibitions, and performances that encourage students to master complex skills as they apply them in practice, rather than in multiple-choice tests. These tasks require them to apply knowledge to a range of tasks that represent what they need to be able to do in different fields: find and analyze information; solve multi-step, real-world problems; develop computer models; design and conduct investigations and evaluate their results; and present and defend their ideas in a variety of ways. Teaching to these assessments prepares students for the real expectations of college and of highly skilled work. Scoring them helps teachers become more knowledgeable about the standards and how to teach students to succeed.

A number of states in the United States developed similar systems that combine evidence from state and local standards-based assessments to ensure that serious intellectual tasks are used to guide curriculum, teaching, and learning. These states have included Connecticut, Kentucky, Maine, Maryland, Nebraska, New Hampshire, Oregon, Rhode Island, Pennsylvania, Vermont, and Wyoming, among others. Research on the strong gains in achievement shown in a number of these states in the 1990s attributed these gains in substantial part to their performance-based assessment

systems and related investments in teaching quality.³ Studies in several states using performance assessments found that student performance improved as teachers assigned more ambitious reading, writing, and mathematical problem solving.

Not incidentally, more authentic measures of learning that look directly at what students can do with their learning are especially needed to gain accurate measures of achievement for English language learners and special needs students for whom traditional tests often provide less valid measures of understanding.⁴

Encouraging these kinds of measures of student performance is critical to getting the kind of learning we need in schools. However, many of these elements of productive assessment systems are not currently used to gauge school progress under NCLB. The every-grade, every-year testing requirement in NCLB – and the way the law has been administered – has discouraged the use of performance assessments that motivate ambitious intellectual work. Several states have abandoned performance components of their systems because of the law’s requirements; others have had to fight to keep them. There are also serious problems with the use of inappropriate tests for evaluating English language learners and special education students who require more sophisticated measures to show what they know, and more sensitive accountability tools to monitor it. Although the law calls for multiple measures and for assessing higher-order thinking skills, it currently lacks incentives to encourage better assessments. To address these problems, Congress should:

- **Fund an intensive development effort** that enables federal labs, centers, and universities in collaboration with states to develop, validate, and test high-quality performance assessments, and to train the field of practitioners – ranging from psychometricians to a new generation of state and local curriculum and assessment specialists to teachers – who can be involved in the development, administration, and scoring of these assessments in valid and reliable ways. Fund high-quality research on the validity, reliability, instructional consequences, and equity consequences of these assessments.
- **Encourage improvements in state and local assessment practice.** To model high-quality items and better measure the standards, move the National Assessment of Educational Practice toward a more performance-oriented assessment, as it was when it was first launched, with tasks that evaluate students’ abilities to solve problems, explain, and defend their ideas. Provide incentives and funding for states to refine their state assessments, and introduce related, high-quality, locally-administered performance assessments that evaluate critical thinking and applied skills. Support states in making such assessments reliable, valid, and practically feasible (e.g., through teacher professional development and scorer training, moderated and audited scoring systems, and calibration systems for assessments).

- **Ensure appropriate assessment for special education students and English language learners** by underwriting efforts to develop, validate, and disseminate more appropriate assessments in the content areas for these students, and by ensuring that the law and regulations encourage assessments that are based on professional testing standards for these groups. Credit schools for the gains these students make throughout their school careers, rather than only for the time they are classified in these categories. (This will encourage reclassification of students while crediting schools for making such gains possible.) Fix the Catch 22 for English language learners by requiring that states follow professional testing standards for assessing new English learners: Encourage tests that are language-accessible for ELLs; measure gains in English proficiency on high-quality measures during an appropriate period of exemption from state tests; and, for purposes of accountability, count ELLs as part of the subgroup until they finish school (even after they are reclassified as proficient). Using appropriate measures, assess special education students' gains at all points along the achievement continuum.

2. Fix the accountability system.

Issues

NCLB requires states to show 100 percent of students reaching “proficiency” by 2014, setting targets every year for subgroups defined by race, ethnicity, SES, language background, and special education status. For diverse schools, each of more than 30 separate targets must be reached each year to make “adequate yearly progress.” Using the current metrics, more than 80 percent of all public schools are expected to be identified as failing by 2014 – even those that are high-achieving and have steadily improving performance for all groups. It is impossible with the current metrics to distinguish, for example, between a school that shows little gain for its students – or for a subgroup of students – on any of the tests, and one that shows substantial gains for all groups, but had a 94 percent testing participation rate on one test in one subject area (rather than the required 95 percent).

Furthermore, under current rules, all schools that serve English language learners will eventually be declared failing, because a Catch-22 provision in the law requires reaching 100 percent proficiency for this group, but removes students from the subgroup after they become proficient, making the target is impossible to meet. Schools that serve a steady stream of new immigrants who are non-native English speakers are, by definition, unable to make adequate yearly progress under the law, no matter how successful they are in helping their students learn English over time.

In addition, the focus on increasing test outcomes alone has created incentives for schools to boost scores by keeping or pushing low-scoring students out of school. Push-out incentives are especially severe for special needs students and English language

learners. School incentives should recognize the value of keeping students in school as well as improving learning. To address these problems, the Congress should:

- Replace the current “status model” for measuring school progress with a **Continuous Progress Index** that sets expectations for schools – and groups of students within them – to show progress on an index of measures that includes assessments of student learning and school progression and graduation rates. Such an index would evaluate students’ growth over time, across the entire achievement continuum, thus focusing attention on progress in all students’ learning, not just on those who fall at the so-called “proficiency bubble.” This would recognize schools’ gains with students who score well below and above a single cut score. The CPI would also encourage more appropriate measurement of gains for special education students and English language learners by tracking gains at all points along the continuum and by incorporating the results of appropriate measures.

With most of the index focused on reading and mathematics scores, states could choose to include subject areas beyond reading and mathematics – such as writing, science, and history – which are important in their own right and essential to encourage and evaluate students’ literacy skills as they are applied in the content areas. Within a given subject, the index could accommodate assessments of student learning that capture a wider array of skills, including the more complex inquiry and problem solving skills demanded by 21st century jobs and colleges.

A continuous progress index would give schools a single challenging but realistic growth target to aim for each year for each student group (rather than 30 or 40 separate targets) – one that increases more steeply for groups that are further behind, so that incentives focus both on raising the bar and closing the achievement gap. It would encourage schools’ attention to all students’ learning, and allow for several kinds of important evidence about progress to be considered in evaluating schools. It would also more clearly identify those that are truly failing, so that states can focus their resources for improvement where they are most needed.

3. Invest in developing highly-qualified teachers and distributing them to high-need schools.

Issues

If learning is to improve, teaching has to improve. One of the most important aspects of the federal No Child Left Behind Act (NCLB) is its demand that states ensure a “highly qualified” teacher for every child. Research demonstrates that, in terms of influence on student achievement, expert teachers are the most important – and the most inequitably distributed – school resource. The schools with the highest-need students are often staffed by a revolving door of under-prepared and inexperienced teachers who are unable to meet students’ needs. Thus, it is critical that the federal

government take on the task of ensuring that all students have teachers who know well how to teach challenging content to diverse learners.

Most other high-achieving countries that we consider peers or competitors have made substantial investments in teacher training and equitable teacher distribution in the last decade. These typically include: high-quality teacher education, fully subsidized for all entrants, including a year of practice teaching in a clinical school connected to the university; mentoring for all beginners in their first year of teaching from expert teachers who have released time to coach them in the classroom; equitable salaries (often with additional stipends for hard-to-staff locations) that are competitive with other professions, such as engineering; and ongoing professional learning embedded in 10 or more hours a week of planning and professional development time.

The “highly qualified teacher” provision has had a beneficial effect in many states, strengthening recruitment incentives, teacher preparation, and certification, and beginning to reduce the number of emergency certified teachers in many locations. However, the supports are still inadequate to actually supply such teachers to the neediest communities, which typically have fewer resources, lower salaries, poorer working conditions, meager pipelines, and a high turnover of teachers. These policy supports have to be put in place if high-quality teachers are to be routinely available in all communities. Furthermore, the definition of highly-qualified teachers should aim to support the qualities that most matter for strong teaching. To address these issues, Congress should:

- **Help states and districts tackle the HQT challenge by supporting high-quality urban and rural teacher preparation programs** in high-need communities with Title II funds. Such programs should include school-university partnerships that train prospective teachers under expert mentors in “teaching” schools that function like teaching hospitals to provide state-of-the-art education to students, while developing new and experienced professionals. These partnerships – integrating credential coursework with a strong clinical experience – would include both professional development school models and top-quality, year-long teacher residencies for candidates who will stay in high-need districts for at least four years (the point at which most teachers have made a commitment to the profession). Since better-trained teachers stay longer and are more effective, it is critical to build an infrastructure that solves the on-going recruitment problems of these communities, rather than struggling with a revolving door of teachers.
- **Expand recruitment of well-prepared new teachers to high-need schools** by encouraging states and districts to use Title II funds for service scholarships and forgivable loans that fully underwrite strong preparation through programs such as those described above for those who commit to teaching in high-need locations for four years or more.

The recently authorized Higher Education Act provides a start toward this goal through its important TEACH grants. Following the highly successful model of the North Carolina Teaching Fellows, these should be expanded to cover the full costs of high-quality preparation for teachers in any field needed in high-need communities.⁵

- **Support mentoring for novices** during their early years when up to 30 percent of them drop out. Providing mentoring for all beginning teachers would reduce attrition (which costs districts from \$15,000 to \$20,000 for each teacher who leaves) and would increase competence. Retaining early-career teachers would also increase overall achievement, since teachers are noticeably more effective when they have three or more years of experience. A matching grant program could ensure support for every new teacher in a Title I school through investments in state and district mentoring programs. Based on the funding model used in California's Beginning Teacher Support and Assessment Program, a federal allocation of \$4,000 for each beginning teacher in such schools, matched by states or local districts, could fund weekly in-classroom coaching for every novice. At 100,000 new teachers each year,⁶ an investment of \$400 million could ensure that each novice is coached by a trained, accomplished mentor with expertise in the relevant teaching field. If even half of the early career teachers who leave teaching were to be retained, the nation would save at least \$600 million a year in replacement costs.
- **Set standards for professional development investments** under Title II to encourage intensive content-focused professional development that includes sustained study and coaching focused on teaching the specific subject matter and students teachers are working with (rather than "drive-by" workshops that have little long-term effect). These investments should also emphasize the development of skills for working effectively with families and for teaching English language learners and exceptional needs students.
- **Encourage more attention to effective teacher performance** by tying investments in preparation, mentoring, and recruitment to the use of teacher performance assessments that measure actual teaching skill and incorporate evidence of student learning. Current examinations used for licensing and for federal accountability typically measure basic skills and subject matter knowledge in paper-and-pencil tests that demonstrate little about teachers' abilities actually to teach effectively. Several states, including Connecticut and California, have incorporated such performance assessments in the licensing process. These assessments – which can also be used as data for the accreditation process – have been found to be strong levers for improving preparation and mentoring, as well as for determining teachers' competence. Federal

support for the development of a nationally available, performance assessment for licensing would not only provide a useful tool for accountability and improvement, but it would also facilitate teacher mobility across states, thus allowing states with shortages to better recruit from those with surpluses of teachers.

- **Create incentives to attract and keep veteran expert teachers in high-need schools** through improved administrative support and working conditions – the most important variables associated with teacher retention – and through programs that reward expert teachers for teaching in high-need schools and offering leadership through mentoring, coaching, and curriculum development. Such expert teachers should be identified through performance assessments that include evidence of accomplished practice and contributions to student learning, such as National Board Certification, local standards-based evaluations, and portfolios that assemble evidence of what teachers and their students have accomplished.
- **Allow states to develop appropriate standards and means for certifying the content knowledge of teachers** whose assignments require them to teach multiple subjects, including special education teachers, those who teach interdisciplinary courses, and those who teach in small and remote schools, subject to approval in their state plans by USDOE.

4. Strengthen incentives for investments and equity in providing resources at the state and local level.

The onus of NCLB is on individual schools to raise test scores. However, the law does not address the profound educational inequalities that plague our nation. With a 3-to-1 ratio between high- and low-spending schools in most states, multiplied further by inequalities across states, international studies repeatedly find that the United States has the one of the most inequitable education systems in the industrialized world. School funding lawsuits brought in more than 25 states describe: segregated schools serving low-income students of color with crumbling facilities; overcrowded classrooms; out-of-date textbooks; no science labs, art, or music courses; and a revolving door of untrained teachers – while their suburban counterparts frequently spend twice as much for students with fewer needs.

NCLB's small allocation – less than 10 percent of most schools' budgets – does not provide substantial investments in the under-resourced schools where many students currently struggle to learn. Nor does it require that states demonstrate progress toward equitable and adequate funding or greater opportunities to learn. Federal funding is also allocated in ways – such as giving more to states that spend more – that reinforce rather than compensate for unequal funding across states.⁷ And current federal policy does not require that states demonstrate progress toward equitable and adequate funding or toward greater opportunities to learn.

At a time when the percentage of Americans living in severe poverty has reached a 32-year high, NCLB's efforts to improve the impoverished schools these students must attend must leverage substantial improvements in both education and child welfare if they are to be successful. In addition to investing in universal health care and preschool for all low-income students, the Congress should:

- **Require states to create an opportunity index** for each school that accompanies its report of academic progress and reflects the availability of well-qualified teachers; strong curriculum opportunities; books, materials and equipment (including science labs and computers); and adequate facilities. Evaluate progress on these measures in state plans and evaluations, and require states to meet this set of opportunity-to-learn standards for schools in Program Improvement (PI) status. As a condition for receiving federal funds, each state should include in its application for federal funds a report describing the state's demonstrated movement toward adequacy and equitable access to education resources – and a plan for further progress.
- **Better equalize allocations of ESEA resources** across states so that high-poverty states receive a greater share. This would require more emphasis on indicators of student needs in allocation formulas, with adjustments for cost-of-living differentials, rather than relying as heavily on measures of spending that disadvantage poor states.
- **Better enforce comparability provisions for ensuring equally qualified teachers** to schools serving different populations of students. The law already requires that states develop policies and incentives to balance the qualifications of teachers across schools serving more and less advantaged students, but this aspect of the law is weakly enforced, and wide disparities continue to occur.

5. Invest in more productive approaches to school improvement, and restore the integrity of the federal system of evaluating and funding interventions.

Issues

NCLB's approach to program improvement has had several major problems. One is that the school improvement model envisioned by the law does not reflect what is known about effective school improvement. The law requires a hastily constructed plan (to be completed in a matter of weeks) put together by members of the school itself, who may not have the time, knowledge, or access to resources to propose changes that could make a difference. Indeed, the neediest schools are frequently staffed by an ever-changing parade of inexperienced teachers and school leaders, who lack both the expertise and the stability to develop a well-grounded diagnosis and plan of action. Many truly failing schools also lack the resources – including

access to quality teachers and curriculum materials – to make the most important changes that would transform student learning.

In addition, the law's approach to school improvement assumes that major school changes can be completed quickly, and that the results will be seen within a year. Once reforms are launched, it takes at least three years to see the results of those reforms. Pulling them up by the roots and changing course annually reduces school effectiveness.

The law also assumes that improvements in performance will occur by adding supplemental services to the edges of the school setting, offered by independent providers, rather than by transforming the school setting at its core. The kinds of reforms needed in schools where students are struggling typically include major resource investments in the quality of teaching and longer time devoted to instruction (longer school day, longer school year) in an integrated fashion, rather than disconnected services offered by private providers to a subset of students after school, without the benefit of knowing students' needs or the curriculum they are working on in school.

Another major problem is that many of the interventions prescribed for and undertaken by schools are unlikely to improve the quality of learning and schooling. States and districts sometimes have little capacity to plan and support productive interventions; furthermore, the USDOE has identified and funded interventions in a manner that has been disassociated from research on what actually works. (Issues with the Reading First program provide one example of how decisions about programs approved for funding have been made in ways that sometimes contravened solid research.) To substantially improve failing schools, Congress should:

- **Require states to correct inadequate resources** to targeted schools, including the provision of well-qualified teachers, as described above.
- **Create a School Quality Review process** that provides a closer look at schools that do not meet their targets and that separates those that are truly failing from those that are improving. This process would provide an analysis of school practices and outcomes on a range of indicators, including value-added gains in student achievement, student progress through school, success in rigorous courses, and success on local performance assessments. Like the Inspectorate model used in many European and Asian countries, it would also allow for an on-site review of curriculum and instruction by expert educators. Schools identified through this process as in need of improvement would have a strong diagnostic basis on which to develop a school improvement plan. Those not placed into intervention will also benefit from data produced by this opportunity for a close look at their progress.
- Ensure, through guidance to USDOE about the review process, that **high quality curricula, assessments, programs, and interventions**

are allowed and encouraged by federal and state governments. Correct the flaws in DOE “peer reviews” of research and local applications that have led to the Reading First scandals and the denial of funds to more effective programs.

- Allow schools that can demonstrate the capacity to do so to **integrate supplemental services in a seamless way** with improved instruction during the school day and week, rather than farming it out to private companies that are disconnected from the school curriculum (and meet no accountability standards.)
- **Create more capacity in state agencies** to facilitate stronger school improvement strategies by investing in these agencies to develop school quality review and assistance capacity for schools, as ESEA Title V did before it was eliminated in the early 1980s.

Ultimately NCLB cannot achieve its goals unless it invests in state and local capacities to dramatically improve teaching. A much more productive federal role in building capacity is possible, as has been demonstrated in other countries with steeply improving achievement. For example, national projects in the United Kingdom and Australia have provided a wide range of resources to support implementation of standards. These include research programs designed to identify and promote best practice, as well as programs to develop and disseminate professional learning resources in priority areas. These include packets of high quality teaching materials, resource documents, and videos depicting good practice, as well as support for teacher, leader, and coach training in schools of education and in regional centers structured around these resources.

Both nations also fund the development of professional networks for teachers and school leaders. In 2004, England began a new component of the Strategies designed to allow schools and local education agencies to learn best practices from each other by funding and supporting 1,500 groups of six schools each. In Australia, the State and Territory Projects include school-based action research and learning, conferences and workshops around the standards; use of on-line or digital media to disseminate best practices in curriculum, assessment, and instruction; and training of trainers and school project and team leaders.

It is possible to dramatically improve the quality of schools currently struggling in the United States. Central to this task will be an Elementary and Secondary Education Act that: encourages 21st century standards and assessments; uses an index of continuous progress to gauge how students and schools are improving against these standards – as well as the fundamental goal of high school graduation; invests in a steady supply of high-quality teachers, especially in high-need schools; leverages more equitable funding within and across districts and states; and supports productive approaches to school improvement.

¹ See for example, Haney (2000). The myth of the Texas miracle; J.L. Herman & S. Golan (1993). Effects of standardized testing on teaching and schools. *Educational Measurement: Issues and Practice*, 12(4): 20-25, 41–42; B.D. Jones & R. J. Egley (2004). Voices from the frontlines: Teachers' perceptions of high-stakes testing. *Education Policy Analysis Archives*, 12 (39). Retrieved August 10, 2004 from <http://epaa.asu.edu/epaa/v12n39/>; M.G. Jones, B.D. Jones, B. Hardin, L. Chapman, & T. Yarbrough (1999). The impact of high-stakes testing on teachers and students in North Carolina. *Phi Delta Kappan*, 81(3): 199–203; Klein, S.P., Hamilton, L.S., McCaffrey, D.F., & Stetcher, B.M. (2000). *What do test scores in Texas tell us?* Santa Monica: The RAND Corporation; D. Koretz & S. I. Barron (1998). *The validity of gains on the Kentucky Instructional Results Information System (KIRIS)*. Santa Monica, CA: RAND, MR-1014-EDU; D. Koretz, R.L. Linn, S.B. Dunbar, & L.A. Shepard (1991, April). The effects of high-stakes testing: Preliminary evidence about generalization across tests, in R. L. Linn (chair), *The Effects of high stakes testing*. Symposium presented at the annual meeting of the American Educational Research Association and the National Council on Measurement in Education, Chicago; R.L. Linn (2000). Assessments and accountability. *Educational Researcher*, 29 (2), 4–16; R.L. Linn, M.E. Graue, & N.M. Sanders (1990). Comparing state and district test results to national norms: The validity of claims that “everyone is above average.” *Educational Measurement: Issues and Practice*, 9, 5–14; W. J. Popham (1999). Why Standardized Test Scores Don't Measure Educational Quality. *Educational Leadership*, 56(6): 8–15; M.L. Smith (2001). Put to the test: The effects of external testing on teachers. *Educational Researcher*, 20(5): 8–11.

² Achieve, “Do graduation tests measure up? A closer look at state high school exit exams.” Executive summary. Washington, DC: Achieve, Inc.

³ J.B. Baron (1999). *Exploring high and improving reading achievement in Connecticut*. Washington: National Educational Goals Panel. Murnane & Levy (1996); B.M. Stecher, S. Barron, T. Kaganoff, & J. Goodwin (1998). *The effects of standards-based assessment on classroom practices: Results of the 1996-97 RAND survey of Kentucky teachers of mathematics and writing*. CSE Technical Report. Los Angeles: UCLA National Center for Research on Evaluation, Standards, and Student Testing; S. Wilson, L. Darling-Hammond, & B. Berry (2001). *A case of successful teaching policy: Connecticut's long-term efforts to improve teaching and learning*. Seattle: Center for the Study of Teaching and Policy, University of Washington.

⁴ L. Darling-Hammond, E. Rustique-Forrester, and R. Pecheone, *Multiple Measures for High School Graduation*. Stanford, CA: The School Redesign Network.

⁵ The North Carolina Teaching Fellows program pays all college costs for an enhanced and fully funded teacher education program, for thousands of high-ability students each year in return for four years of teaching. After seven years, retention rates for these teachers exceeded 75 percent, with many of the remaining graduates having taken public school leadership positions (NCTAE, *What Matters Most: Teaching for America's Future*, 1996).

⁶ About 250,000 teachers are hired each year, but typically only 40–60 percent of them are new to teaching. The others are experienced teachers changing schools, or returning teachers who are re-entering the labor force.

⁷ Goodwin Liu (2008). Interstate inequality and the federal role in school finance. In Gail Sunderman (ed.), *Holding NCLB accountable: Achieving accountability, equity, and school reform*. Thousand Oaks, CA: Corwin Press. (103–120).