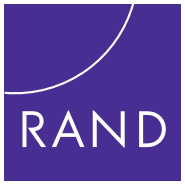

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NoChild LeftBehind

State and Local Implementation of the *No Child Left Behind Act*

Volume II—Teacher Quality Under *NCLB:* Interim Report

State and Local Implementation of the *No Child Left Behind Act*
Volume II—
Teacher Quality Under *NCLB*: Interim Report

A report from the National Longitudinal Study of *No Child Left Behind* (NLS-*NCLB*) and the Study of State Implementation of Accountability and Teacher Quality Under *No Child Left Behind* (SSI-*NCLB*)

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2007

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August 2007

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PREFACE

This report presents findings about teacher quality from two longitudinal studies, the National Longitudinal Study of *No Child Left Behind* (NLS-*NCLB*), and the Study of State Implementation of Accountability and Teacher Quality Under *No Child Left Behind* (SSI-*NCLB*). The research teams for these two studies have collaborated to provide an integrated evaluation of the implementation of key *NCLB* provisions at the state level (SSI-*NCLB*) and at the district and school levels (NLS-*NCLB*). Together the two studies are the basis for a series of reports on the topics of accountability, teacher quality, Title I school choice and supplemental educational services, and targeting and resource allocation.

This is the second volume in this report series. The first volume was:

Volume I—Title I School Choice, Supplemental Educational Services, and Student Achievement

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The information in this report was provided through two studies done by independent research firms under contract to the U.S. Department of Education. Important contributions were made by:

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- The Study of State Implementation of Accountability and Teacher Quality Under *No Child Left Behind* (SSI-*NCLB*), led by Jennifer O'Day and Kerstin Carlson Le Floch of the American Institutes for Research. A team led by Elham-Eid Alldredge of REDA International assisted with state-level data collections.

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This report is part of the National Assessment of Title I, which is being conducted under the guidance of an Independent Review Panel that provided ideas and feedback through both meetings and reviews of the data and draft reports; their insights and suggestions made this a better report. The current panel members are: Kaleem Caire, Thomas Cook, Christopher Cross, Gayle Fallon, David Francis, Eric Hanushek, Sharon Johnson, Paul Peterson, John Stevens, Eric Smith, Patricia Supple, Tasha Tillman, Maris Vinovskis, and Rodney Watson.

While we appreciate the assistance and support of all of the above individuals, any errors in judgment or fact are of course the responsibility of the authors.

EXECUTIVE SUMMARY

Ensuring that every child is taught by a highly qualified teacher is a central feature of the *No Child Left Behind Act of 2001* (*NCLB*), the most recent reauthorization of the *Elementary and Secondary Education Act of 1965* (*ESEA*). *NCLB* requires states to set standards for all teachers to be considered highly qualified and districts to notify parents of students in Title I programs if their child's teacher does not meet these standards. The requirements apply to all teachers of core academic subjects—English, reading or language arts, mathematics, science, foreign languages, civics and government, economics, arts, history, and geography—and the requirements also apply to teachers who provide instruction in these subjects to students with limited English proficiency (LEP) and students with disabilities. To help improve the qualifications of teachers, *NCLB* provides funds that states can use for a wide variety of efforts, from improving certification systems to supporting strategies to recruit and retain highly qualified teachers. The law also supports ongoing professional development for all teachers regardless of their highly qualified status. Finally, *NCLB* sets standards for the qualifications of instructional paraprofessionals (teacher aides) employed with Title I funds, recognizing that, in many Title I schools, paraprofessionals play a substantial role in children's educational experiences. Taken together, the requirements of *NCLB* represent a federal commitment to providing the nation's children—in all states, districts and schools—with teachers and paraprofessionals who will help them achieve at high levels of proficiency.

KEY FINDINGS

Based on findings from two federally funded studies—the *Study of State Implementation of Accountability and Teacher Quality Under NCLB* (SSI-*NCLB*) and the *National Longitudinal Study of NCLB* (NLS-*NCLB*)—this report describes the progress that states, districts, and schools have made implementing the teacher and paraprofessional qualification provisions of the *No Child Left Behind Act* through 2004–05. Generally, the studies found that:

- Most teachers met their states' requirements to be considered highly qualified under *NCLB*. However, state policies concerning highly qualified teachers varied greatly, both in the passing scores that new teachers must meet to demonstrate content knowledge on assessments and in the extent to which state "HOUSSE" policies give existing teachers credit for years of prior teaching experience versus emphasizing more direct measures of content knowledge and teaching performance.
- The percentage of teachers who are not highly qualified under *NCLB* is higher for special education teachers, teachers of LEP students and middle school teachers, as well as for teachers in high-poverty and high-minority schools. Moreover, even among teachers who were considered highly qualified, teachers in high-poverty schools had less experience and were less likely to have a degree in the subject they taught.
- Although nearly all teachers[1] reported taking part in content-focused professional development related to teaching reading or mathematics, a relatively small proportion participated in such learning opportunities for an extended period of time. For example, only 20 percent of elementary teachers participated for more than 24 hours in professional development on

[1] Teachers is a category that includes general education elementary teachers, middle school teachers (teaching English or mathematics or both subjects), and high school teachers (teaching English or mathematics or both subjects).

instructional strategies in reading;[2] only 8 percent received more than 24 hours of professional development on instructional strategies in mathematics.

- About two-thirds of instructional paraprofessionals were considered qualified under *NCLB*, but nearly a third (28 percent) did not know their status or did not provide a response to the study questions. Most paraprofessionals reported working under the direct supervision of a teacher, but some Title I instructional paraprofessionals indicated that they worked with students on their own without close supervision from a teacher.

In general, the SSI-*NCLB* and NLS-*NCLB* studies indicate that states and districts are working to implement and comply with the *NCLB* requirements for teacher and paraprofessional qualifications. However, variation in state policies concerning highly qualified teachers raises questions about whether some states have set sufficiently high standards for considering teachers to be highly qualified, and enduring inequities in access to highly qualified teachers continue despite *NCLB*'s goal of ensuring that all students have knowledgeable and effective teachers.

This report presents findings from these two national studies, and summarizes major issues in state-, district-, and school-level implementation of the teacher qualifications provisions of *NCLB*. This report addresses the following broad questions:

- How do states designate teachers as highly qualified? What is the capacity of states to collect and accurately report on teacher and paraprofessional qualifications?
- How many teachers meet *NCLB* requirements to be highly qualified (as operationalized by their states)? How does this vary across states, districts, schools, and types of teachers?
- What are states, districts, and schools doing to increase the number and distribution of highly qualified teachers?
- To what extent are teachers participating in high-quality professional development (e.g., professional development that is sustained, intensive, and content-focused)?
- How many instructional paraprofessionals meet the *NCLB* qualification requirements? What are states, districts, and schools doing to help paraprofessionals meet these requirements?

NCLB REQUIREMENTS

To ensure that teachers are highly qualified and paraprofessionals are qualified, *NCLB* sets requirements for their qualifications; requires the provision of information to educators, parents and other stakeholders about these qualifications; and provides support for actions by states, districts and schools.

To set teacher and paraprofessional qualifications, *NCLB* requires the following:

- States must have ensured that all teachers of core academic subjects—English, reading or language arts, mathematics, science, foreign languages, civics and government, economics, arts, history, and geography—were designated as highly qualified by the end of the 2005–06 school

[2] For simplicity, the term "reading" is used throughout this report to refer to the set of subjects that may be variously known as reading, English, or language arts.

year,[3] although teachers hired after *NCLB* took effect were expected to meet the law's requirements when hired.

- New elementary teachers must demonstrate subject-matter competency by passing a rigorous state test. New secondary teachers must either pass a state test in each core academic subject they teach; have completed an academic major, course work equivalent, or an advanced degree; or have obtained advanced certification.
- Existing teachers must also meet these requirements, although states may choose to offer teachers not new to the profession[4] the option of demonstrating subject matter competency through a High Objective Uniform State Standard of Evaluation (HOUSSE).
- Teachers who primarily teach students with limited English proficiency (LEP) or students with disabilities must meet the *NCLB* requirements if they provide instruction in a core academic subject.
- Title I paraprofessionals must have two years of postsecondary education, an associate degree or higher, or a passing score on a formal state or local academic assessment of ability to assist in teaching reading, writing and mathematics.

To provide information about teacher and paraprofessional qualifications, *NCLB* requires that:

- States and districts report annually on progress toward the annual measurable objectives set forth in their state plans to ensure that all teachers who teach in core academic subjects are highly qualified by the end of the 2005–06 school year and
- Parents of children attending Title I schools have access to information about the professional qualifications of their children's teachers.

To improve the knowledge and support ongoing learning of all teachers, *NCLB*:

- Requires that districts spend at least 5 percent of their Title I funds for professional development activities to ensure that all teachers are highly qualified. Schools that have been identified for improvement must spend at least 10 percent of their Title I allocations on professional development or other strategies that directly support teachers.
- Provides many sources of support that can be tapped to help teachers and paraprofessionals meet the law's requirements as well as to enhance the knowledge and skills of the teaching force more generally. For example, Title II, Part A, provides funds to districts and states for a wide range of activities, including professional development and strategies to recruit and retain highly qualified teachers; Title III, Part A, the *English Language Acquisition, Language Enhancement, and Academic Accountability Act*, requires subgrantees to provide high-quality professional development to teachers, principals, administrators, and others to improve instruction and assessment of LEP students.

[3] In October 2005, the Department announced that states making a good-faith effort to ensure that there was a highly qualified teacher in every classroom were invited to submit a revised state plan for accomplishing that goal by the end of the 2006–07 school year.

[4] States define "teachers not new to the profession" differently, thus, when the reader encounters this term, note that it encompasses varying state approaches.

STATE POLICIES AND DATA SYSTEMS FOR HIGHLY QUALIFIED TEACHERS

How do states designate teachers as highly qualified?

Although *NCLB* sets basic requirements for teachers to be designated as highly qualified and for paraprofessionals to be designated as qualified, states determine the specifics of how teachers may demonstrate content knowledge in each core subject they teach. By December 2004, all states had drafted criteria for determining whether teachers were highly qualified under *NCLB*. Since then, many of the state policies were adjusted to take into account flexibility offered by the U.S. Department of Education.[5]

State policies concerning highly qualified teachers varied greatly with regard to requirements for teachers to demonstrate content knowledge.

The first two *NCLB* requirements for highly qualified teachers—that they have a bachelor's degree and full certification—were fairly straightforward, and all states incorporated these as basic elements of their policies for highly qualified teachers.[6] However, the third *NCLB* requirement for highly qualified teachers—that they demonstrate adequate content knowledge in every subject taught—revealed the greatest variation in how states approached their policies for highly qualified teachers. For example, regarding the HOUSSE[7] option, most states had developed policies, but some were more stringent in their requirements than others. For teachers not new to the profession, HOUSSE provisions in some states allowed experience to be weighted more heavily than more direct indicators of subject matter knowledge. Even for new teachers, states differed dramatically in the passing scores for tests used to determine teachers' knowledge. For example, on the Praxis II test, *Elementary Education: Curriculum, Instruction, and Assessment*, the minimum required scores ranged from 135 in Mississippi to 168 in Pennsylvania (out of a maximum score of 200).

What is the capacity of states to collect and accurately report on teacher and paraprofessional qualifications?

States reported they were improving their data systems for teacher qualifications, but still could not connect all relevant variables.

States implemented data systems necessary to track teacher qualifications, but many of these systems were not yet adequate to serve the reporting requirements of *NCLB*. In 2004–05, 46 states had data systems that included unique teacher identifier codes, and 46 states and the District of Columbia were tracking the licenses or certifications held by teachers, including the subject, grade, and date of certification. However, fewer states could track data elements that were directly related to the newer requirements of *NCLB*, such as whether teachers had passed HOUSSE (23 states) or whether teachers had completed course work equivalent to a major (20 states).

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[5] See, for example, U.S. Department of Education. (March 15, 2004). *New, flexible policies help teachers become highly qualified.* Available online at: www.ed.gov/news/pressreleases/2004/03/03152004.html.

[6] While state requirements for teacher certification do vary across states, an analysis of teacher certification policy was not within the scope of the studies described in this report.

[7] While new teachers can only be designated as highly qualified by passing an exam (elementary and secondary teachers) or majoring in a content area (secondary teachers only), *NCLB* offers teachers who are not new to the profession another option. This is in an attempt to acknowledge that while these teachers should not be required to meet a new set of standards, they should also not be grandfathered in to highly qualified status. As such, Congress developed the High Objective Uniform State Standard of Evaluation, or HOUSSE. This is designed to allow greater flexibility to determine how teachers who are not new to the profession can demonstrate that they are highly qualified.

State officials described challenges associated with teachers of students with disabilities, teachers of students with limited English proficiency, middle school teachers, and teachers in rural settings.

Special education teachers who teach core academic subjects must meet *NCLB* requirements and obtain special education certification in their state, as required by the *Individuals with Disabilities Education Act* (*IDEA*). In 2004–05 state officials from 11 states reported concerns about subject knowledge requirements for special education teachers, particularly those teaching multiple core academic subjects.

Teachers who provide instruction in core academic subjects to LEP students also face a dual set of requirements: they must demonstrate content knowledge required under Title I and meet fluency requirements codified under Title III of *NCLB*. Teachers of LEP students in Title III districts must demonstrate English proficiency in oral, listening and reading comprehension, and in writing skills. A teacher in a district funded by Title III who does not teach a core academic subject must still meet the Title III requirements in order to instruct LEP students. To assist teachers of LEP students in becoming highly qualified under *NCLB*, six states included policies specifically targeted to such teachers in 2004–05.

Officials from six states expressed concerns about middle school teachers meeting the requirements for highly qualified teachers, particularly in cases in which these teachers had been allowed to teach with a K–8 certificate. Unless the state had set different requirements for middle school teachers, *NCLB* requires these teachers to meet the same content knowledge requirements as high school teachers.

Finally, because teachers in small rural schools often teach multiple subjects, state officials in nine states reported that rural districts faced challenges in ensuring that all teachers were highly qualified under *NCLB*. States reported that in small rural schools, a teacher may have to demonstrate competency in multiple subject areas, and it has been difficult to find teachers who have such multiple qualifications.

MEETING *NCLB* REQUIREMENTS FOR HIGHLY QUALIFIED TEACHERS

How many teachers meet the *NCLB* requirements to be highly qualified? How does this vary across states, districts, schools, and different types of teachers?

Overall, most teachers were designated as highly qualified by 2004–05, but some important differences in the distribution of highly qualified teachers existed.

About three-quarters of teachers reported they were considered highly qualified under *NCLB* for the classes they taught. Nearly one-quarter did not know their status, and 4 percent reported they were not considered highly qualified.

Thirty-three states reported that the large majority (90 percent or more) of classes were taught by highly qualified teachers in 2004–05; only five states and the District of Columbia reported that this percentage was 75 percent or lower. About three-quarters (74 percent) of teachers self-reported they were highly qualified under *NCLB* in 2004–05, and another 4 percent reported that they were *not* considered highly qualified. Middle school teachers were more likely to report that they were *not* considered highly qualified (9 percent) than were elementary teachers (2 percent) or high school teachers (4 percent). Nearly a quarter of general education teachers did not know whether they were highly qualified (see Exhibit S.1) and 29 percent of special education teachers reported not knowing whether they were highly qualified. A statistical analysis of the characteristics of the teachers who did not know their highly

qualified status found that 92 percent of such teachers were very similar in their educational and professional qualifications to teachers who reported they were highly qualified.

Exhibit S.1
Percentage of Teachers Reporting That They Were Considered Highly Qualified or Not Highly Qualified, or That They Did Not Know Their Status Under *NCLB*, 2004–05

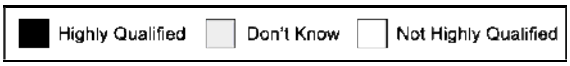

Exhibit Reads: Seventy-four percent of general education teachers reported they were considered highly qualified under *NCLB*, 4 percent were not highly qualified, and 23 percent reported they did not know their status.

Note: Column totals may not sum to 100 percent due to rounding.

Source: NLS-*NCLB*, Teacher Survey.

Special education teachers were almost four times as likely to report that they were *not* considered highly qualified (15 percent) than were general education teachers (4 percent).

Overall, special education teachers[8] were less likely than general education teachers to report they were highly qualified under *NCLB*: of all special education teachers, 52 percent reported they were highly qualified. The percentage of special education teachers who reported they were highly qualified varied by school level: the percentage was lower for high school teachers (39 percent) than for elementary and middle school teachers (61 percent and 53 percent, respectively).

[8] Special education teachers are those who teach students with disabilities, including any part-time or itinerant special education teachers who might share with another school. As a rule, one special education teacher was randomly sampled from a roster of all special education teachers that was constructed at each of all the sampled schools. The total number of special education teachers who completed and submitted a special education survey version was 1,186.

Teachers considered highly qualified under *NCLB* were more likely to be fully certified, to have completed more courses in their subject area, to have a degree in the subject they were teaching, and be more experienced than teachers who were not highly qualified.

Most teachers (87 percent) who reported being highly qualified had earned their certification, compared with 73 percent of teachers who were not highly qualified. Similarly, 86 percent of highly qualified special education teachers reported holding a certificate compared with 51 percent of those who reported not being highly qualified. At the secondary level, about 50 percent of highly qualified English and mathematics teachers reported having an undergraduate or graduate degree in the subject taught, compared with 23 percent of teachers who reported they were not considered highly qualified. Among highly qualified high school mathematics teachers, 59 percent had completed an undergraduate or graduate degree[9] in mathematics, compared with 15 percent of high school mathematics teachers who reported they were not highly qualified. Teachers considered highly qualified and those considered not highly qualified under *NCLB* also differed on one of the qualifications indicating subject-matter expertise. At each level of school assignment, except for high school English, teachers who were highly qualified completed more courses than teachers who were not highly qualified in the subject related to their teaching assignment. Additionally, teachers who reported they were *not* highly qualified under *NCLB* were three times more likely to be new to teaching (23 percent) than were teachers who reported they were highly qualified (8 percent).

Traditionally disadvantaged schools had higher percentages of teachers who were not considered highly qualified than did other schools.

Although the percentages of not highly qualified teachers were generally low overall, the percentage of teachers who reported that they were not highly qualified under *NCLB* was higher in high-poverty and high-minority schools and in schools that were identified for improvement than other schools. For example, teachers who were not highly qualified were three times more likely to be teaching in high-minority schools than in low-minority schools (7 percent compared with 2 percent).

Highly qualified teachers in high-poverty, high-minority schools were more likely to be new to the profession than highly qualified teachers in low-poverty or low-minority schools.

Highly qualified teachers in high-poverty and high-minority schools were more likely to have three or fewer years of experience than were highly qualified teachers in low-poverty and low-minority schools. Moreover, among highly qualified secondary teachers of English and mathematics, those in low-poverty schools and suburban schools are more likely to have a degree in their field, compared to highly qualified teachers in high-poverty and rural schools.

While a majority of teachers seemed to be aware of state requirements for highly qualified teachers, nearly half of all teachers reported they had not been notified of their 2004–05 status.

According to their own accounts, teachers were generally aware of the requirements to attain highly qualified status in 2004–05. Eighty-three percent of teachers reported they were aware of the requirements for highly qualified teachers in their state. Although states, districts and schools adopted

[9] This aggregate category includes bachelor's degrees (1st or 2nd), master's degree (1st or 2nd), professional diploma, certificate of advanced graduate studies, or doctoral degree in English or mathematics.

various strategies for communicating with teachers about state requirements and for informing teachers about their status, nearly one-half (48 percent) of all general education teachers reported they were not notified of their highly qualified status as of the 2004–05 school year, and over half (57 percent) of all special education teachers reported they were not notified of their highly qualified status.

RECRUITMENT AND RETENTION OF HIGHLY QUALIFIED TEACHERS AND SUPPORT FOR TEACHERS WHO WERE NOT HIGHLY QUALIFIED

What are states, districts and schools doing to increase the number of highly qualified teachers?

Although relatively high proportions of teachers reported being highly qualified under *NCLB*, some states and districts faced challenges recruiting and retaining teachers with high qualifications. To mediate these challenges, states and districts have undertaken a variety of actions to increase and maintain the proportion of highly qualified teachers. These strategies included recruitment and retention incentives for highly qualified teachers and support for teachers who were not highly qualified to become highly qualified.

A majority of districts had difficulty attracting highly qualified applicants in special education (57 percent), mathematics (60 percent), and science (65 percent).

Districts reported a variety of challenges associated with attracting and retaining highly qualified teachers (see Exhibit S.2). These challenges were most severe in high-minority, high-poverty, urban, and rural districts and for specific subject areas. Approximately two-thirds of all districts faced challenges in special education, science, and mathematics, but some districts faced more challenges than others. For example, in mathematics and science the percentage of high-minority districts that struggled to attract and retain highly qualified applicants was nearly double that of low-minority districts.

Compared with other districts, high-poverty, high-minority, and urban districts were more likely to describe competition with other districts and financial obstacles as recruitment barriers.

High-poverty, high-minority, and urban districts were more than twice as likely as low-poverty, low-minority, and rural districts to report competition with other districts as a barrier to improving teacher qualifications. With regard to inadequate teacher salaries and other financial incentives, more than two-thirds of high-poverty and high-minority districts faced financial hurdles

Exhibit S.2
District Challenges to Improving Teacher Qualifications, 2003–04

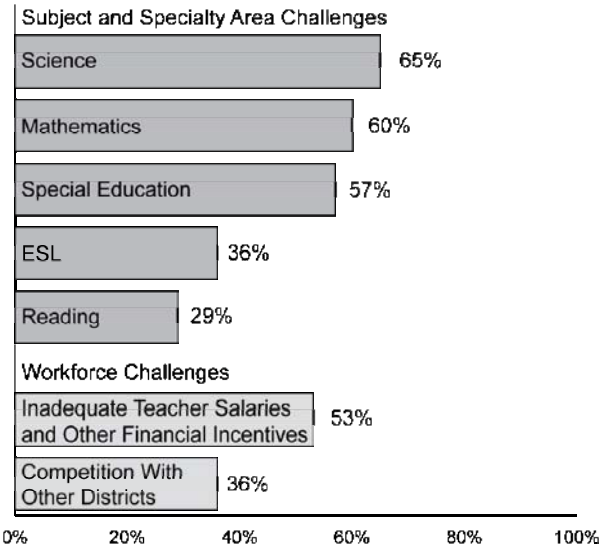

Exhibit Reads: Sixty-five percent of districts reported that attracting qualified science applicants posed a moderate or major challenge to improving teacher qualifications in 2003–04.

Source: NLS-*NCLB*, District Survey (n = 277 to 281).

when attempting to improve teacher qualifications, in contrast to approximately half of low-poverty and low-minority districts.

High-poverty and high-minority districts were most likely to offer financial incentives and alternate certification routes to recruit highly qualified applicants.

Even though fewer than one-quarter of districts used financial incentives, such as increased salaries, signing bonuses, or housing incentives to attract highly qualified candidates, more than three-quarters of high-minority districts offered such incentives. High-poverty, high-minority and large districts were also more likely than low-poverty, low-minority and small districts to offer alternate or "fast track" certification routes as a strategy to attract highly qualified applicants.

Less than 20 percent of districts reported that they needed state technical assistance for recruitment and retention—but large districts were most in need.

Only 17 percent of districts overall said they needed technical assistance in recruiting and retaining teachers, but large districts (41 percent) were most likely to report this need. Although only 20 percent of districts reported receiving state technical assistance regardless of whether they said they needed it, half of large districts reported receiving it. More than 80 percent of districts that received state technical assistance found it to be sufficient.

Schools were more likely than districts to report needing and receiving technical assistance in the areas of recruitment and retention.

Overall, one-third of schools reported they were in need of technical assistance from an outside source to support their recruitment and retention efforts, with almost 50 percent reporting that they received technical assistance in this area regardless of need. Similar to the district data, more than 85 percent of schools found the technical assistance sufficient. More than 60 percent of principals of these schools identified for improvement reported a need for state or district technical assistance, compared with about 25 percent of principals in schools not identified for improvement. High-poverty, high-minority and middle and high schools were more likely than low-poverty, low-minority and elementary schools to report this need.

A minority of districts provided targeted support for teachers who were *not* considered highly qualified.

In addition to efforts made to recruit and retain highly qualified teachers, districts and schools provided various types of support for teachers who were not highly qualified to meet state criteria. One-quarter of all districts required new—not yet highly qualified—teachers to complete an induction or mentoring program, and such programs were much more common in large districts (60 percent) than in small districts (19 percent). Seventeen percent of districts assigned teachers who were not highly qualified to an instructional coach or master teacher; this approach also was more common in large districts (43 percent) than in small districts (11 percent). About one-third of districts reported providing increased amounts of professional development to teachers who were not highly qualified; there was little variation by poverty or minority level or district size. Very few districts (4 percent) transferred teachers who were not highly qualified to other schools in the district upon review of their qualifications.

PROFESSIONAL DEVELOPMENT

To what extent are teachers participating in high-quality professional development (e.g., professional development that is sustained, intensive and content-focused)?

NCLB required states to report on the percentage of teachers who participated in "high-quality" professional development, but the validity of these data was unclear.

Despite the *NCLB* requirement for states to report on the percentage of teachers who participated in "high-quality" professional development, 14 states could not report on the percentage of teachers who participated in high-quality professional development in their September 2003 Consolidated Performance Reports.

Nearly all teachers reported that they participated in content-focused professional development in reading or mathematics, but few participated for more than 24 hours.

More than half of districts placed major emphasis on professional development initiatives in reading (58 percent) and mathematics (54 percent)—rather than other academic content areas (18 percent)—and also emphasized alignment of curriculum with state standards (61 percent). Nearly all teachers at all levels reported that they participated in content-focused professional development focused on instructional strategies for teaching reading or mathematics. However, few teachers participated for an extended period of time. Even though 90 percent of elementary teachers reported that they participated in at least one hour of professional development focused on instructional strategies for teaching reading, only 20 percent participated for more than 24 hours over the 2003–04 school year and summer. Fewer teachers of mathematics (9 percent for elementary and 16 percent for secondary mathematics) reported that they participated in extended professional development on instructional strategies for teaching mathematics. Teachers were unlikely to participate in extended professional development focused on "in-depth study" of reading and mathematics topics.

Teachers in high-poverty, high-minority and urban schools and Title I schools identified for improvement reported that they participated in more hours of professional development than teachers in other schools in 2003–04. Likewise, new teachers participated in more professional development than did existing teachers.

While the number of hours varied widely from several hundred to none at all, teachers reported an average of 66 hours of professional development during the 2003–04 school year, including the summer of 2004. Teachers in Title I schools identified for improvement averaged 87 hours of professional development during 2003–04, compared with 64 hours for teachers in schools that were not identified for improvement. Among Title I elementary schools, teachers in schools identified for improvement were more likely to receive extended content-focused professional development in reading and mathematics than in nonidentified schools (39 percent compared with 19 percent). Higher proportions of teachers in high-poverty and high-minority schools as well as teachers in schools in large urban districts reported that they received 24 hours or more of professional development in instructional strategies for teaching reading and mathematics than teachers in other schools. Teachers with fewer than three years of experience generally took part in more hours of professional development than did teachers with three or more years of experience (77 and 64 hours, respectively).

Special education teachers were less likely than general education teachers to report that their professional development was focused on instructional strategies for teaching reading and mathematics, involved active learning, or was designed to support state or district standards or assessments.

Special education teachers reported that they participated in a similar total number of professional development hours as other teachers; however, special education teachers were less likely than general education teachers to participate in professional development focused on reading and mathematics. For example, while 71 percent of general elementary teachers reported that they participated in at least some training on instructional strategies for teaching mathematics, only 48 percent of special educators reported that they participated in training in this area. The focus of special education teachers' professional development experiences was more likely to be on instructional strategies for teaching students with disabilities. Special education teachers, particularly those at the high school level, also described their professional development as having fewer features measured in this study. For example, special education teachers were less likely to have had professional development activities that were aligned with standards and assessments than were general education teachers.

IMPLEMENTATION OF *NCLB* REQUIREMENTS FOR PARAPROFESSIONALS

How many Title I instructional paraprofessionals meet *NCLB* requirements? What are states, districts and schools doing to help paraprofessionals meet these requirements?

Nearly two-thirds of Title I instructional paraprofessionals were reported as being qualified as of the 2004–05 school year, but nearly a third of paraprofessionals reported that they did not know or did not report their status.

According to principals' reports, 63 percent of paraprofessionals were qualified as of the 2004–05 school year. Data from paraprofessionals mirrored the principal reports, as 63 percent of paraprofessionals also reported they were qualified. Similarly, state performance reports showed that the percentage of paraprofessionals who were qualified in each state varied but averaged 64 percent among the 44 states reporting. However, both principals and paraprofessionals sometimes appeared to be unsure about paraprofessionals' qualified status. Twenty-eight percent of paraprofessionals either said they did not know their status or did not respond to this survey item; similarly, principals did not know or did not report on the qualifications status for 26 percent of paraprofessionals. Despite this fact, approximately 87 percent of paraprofessionals reported holding a qualification that would appear to fulfill the *NCLB* criteria for qualified status (an associate degree, two years or more of college, or a passing score on an assessment).

Most Title I paraprofessionals reported working closely with a supervising teacher, but some indicated that they worked with students on their own without a teacher present.

NCLB requires that Title I paraprofessionals who support instruction should do so "under the direct supervision" of a teacher who is considered highly qualified. For the most part, this requirement was met, as 83 percent of paraprofessionals reported working closely with their supervising teacher on a daily or nearly daily basis. Additionally, over half of paraprofessionals reported receiving either detailed instructions or prepared lesson plans from their supervisor on a daily or near daily basis. However, nearly 10 percent of paraprofessionals reported rarely working closely with their supervising teacher and

19 percent reported not receiving prepared lessons or detailed instructions. Further, only half of paraprofessionals indicated that "all or nearly all" of the time they worked with students was with a teacher present.

Paraprofessionals in high-poverty and low-poverty schools were about equally likely to report being qualified. However, paraprofessionals in medium and high-poverty schools were notably less likely to have completed two years of college or an associate degree than were paraprofessionals in low-poverty schools.

Paraprofessionals in high-poverty and low-poverty schools were about equally likely to report being qualified, after accounting for the unusually high percentage of paraprofessionals in low-poverty schools who did not report their qualification status (40 percent). However, when looking at specific qualifications criteria, paraprofessionals in medium- and high-poverty areas were less likely to have completed two years of college or an associate degree than were paraprofessionals in low-poverty areas. Paraprofessionals in rural schools were also less likely than paraprofessionals in urban schools to have completed two years of college or an associate degree.

Title I districts and schools have decreased their reliance on Title I paraprofessionals in recent years, both in terms of absolute numbers and as a proportion of the Title I workforce.

The share of Title I–funded district and school staff who were paraprofessionals declined from 47 percent in 1997–98 to 32 percent in 2004–05, while teachers rose from 45 percent in 55 percent of Title I staff during the same period. The total number of Title I aides declined from about 68,700 in 1997–98 to 62,000 in 2004–05, while the number of Title I teachers rose from 66,000 to 98,200 and the total number of Title I staff rose from 145,600 to 179,500. The percentage increase in the number of teachers (49 percent) is similar to the inflation-adjusted increase in Title I appropriations during this period (46 percent); the increase in the total number of Title I staff was 23 percent.

CONCLUSION

In general, the findings of this study indicate that states and districts are working to implement and comply with the *NCLB* requirements for teacher qualifications: states have set guidelines for highly qualified teachers under *NCLB* and have been updating their data systems, most teachers have been designated as highly qualified under *NCLB*, over half of paraprofessionals have been designated as qualified, and teachers report participating in many hours of professional development activities, both formal and informal.

If the goal of having an improved teaching workforce and thus better-served students is to be fully realized, several issues warrant attention. First, the variation across states in their policies concerning highly qualified teachers raises questions about whether some states have set high enough standards for teacher qualifications under *NCLB* to ensure that teachers have a solid understanding of the subjects they teach. Second, variation in teachers' highly qualified status across types of teachers and schools highlights enduring inequities in access to highly qualified teachers. Third, because many teachers were not aware or notified of their *NCLB* status, they may not have taken necessary steps to become highly qualified. Finally, the low proportion of teachers participating in content-focused professional development over an extended period of time suggests that more could be done to deepen teachers' content knowledge. The potential for the *NCLB* provisions to effect positive change in the nation's teaching workforce depends, in part, on addressing these issues.

I. INTRODUCTION

Ensuring that every child is taught by a highly qualified teacher is a central feature of the *No Child Left Behind Act of 2001* (*NCLB*), the most recent reauthorization of the *Elementary and Secondary Education Act of 1965* (*ESEA*).[10] *NCLB* "recognizes that teacher quality is one of the most important factors in improving student achievement and eliminating achievement gaps."[11] Title I of *NCLB* requires states to set standards for all teachers to be highly qualified and districts to notify parents of students in Title I schools if their child's teacher does not meet these standards. The requirements apply to all teachers of core academic subjects—English, reading or language arts, mathematics, science, foreign languages, civics and government, economics, arts, history, and geography—and the requirements also apply to teachers of LEP students and students with disabilities. Title II, Part A, of *NCLB* provides funds that states can use to support a wide variety of efforts to improve the qualifications of teachers, from improving certification systems to supporting efforts to recruit and retain highly qualified teachers. Title I, Title II, Part A, and several other programs authorized under *NCLB* provide funds to support ongoing professional development for all teachers.[12] The law also sets standards for the qualifications of instructional paraprofessionals (aides) employed with Title I funds, recognizing that, in many Title I schools, paraprofessionals play a substantial role in children's educational experiences.

By setting requirements for teachers to become highly qualified, *NCLB* holds states, districts and schools accountable for hiring teachers with needed subject matter knowledge and assigning them to teach in their areas of expertise. In doing so, the law reflects what is known about the importance of teacher qualifications. Research indicates that the quality of a teacher is a powerful predictor of student achievement and that subject matter knowledge is a critical aspect of a teacher's qualifications.[13]

The law also recognizes that disadvantaged students are less likely than others to have teachers who are highly qualified; for example, disadvantaged students are less likely to have teachers who are teaching in their own academic fields (NCES, 2004). In keeping with *ESEA*'s historical focus, *NCLB* aims to correct such inequities, for example, by requiring widespread sharing of information about the highly qualified status of teachers so that states, districts schools, parents, and teachers themselves can take appropriate action. In addition, as part of their state plans, state education agencies must document specific steps to ensure that poor and minority students are not taught at higher rates than other children by inexperienced, unqualified, or out-of-field teachers. Title II, Part A, funds may also be used to address such inequities since the funds are weighted toward districts with higher rates of poverty and may be used to assist such districts to recruit and retain highly qualified teachers.

Finally, the law emphasizes high-quality professional development—for example, professional development that focuses on content knowledge and is sustained and intensive—as a key to improving

[10] Throughout this report, the use of the term "highly qualified" refers to the provisions of *NCLB* that describe how teachers are to be determined "highly qualified."

[11] Policy Letter from Secretary of Education Margaret Spellings to the Chief State School Officers, Oct. 21, 2005. Posted at http://www.ed.gov/policy/elsec/guid/secletter/051021.html.

[12] Professional development refers to "activities to enhance professional career growth." Such activities may include individual development, continuing education, and in-service education, as well as curriculum writing, peer collaboration, study groups, and peer coaching or mentoring. Professional development may include both formal and informal activities.

[13] For the relationship of teacher quality and student achievement see Sanders and Rivers, 1996; Scheerens and Bosker, 1997; Whitehurst, 2002; for the importance of subject matter knowledge, see Chaney, 1995; Goldhaber and Brewer, 1997, 1998, 2000; Hawk, Coble, and Swanson, 1985; Monk, 1994; Monk and King, 1994; Rothman, 1969; Rowan, Chiang, and Miller, 1997; Wayne and Youngs, 2003; Wenglinsky, 2000; or Walsh and Tracy, n.d.

teacher knowledge and classroom practice.[14] *NCLB* supports professional development for all teachers, regardless of their highly qualified status, recognizing the importance of ongoing learning even for teachers who are already highly qualified under *NCLB*.

To improve teacher qualifications, *NCLB* requires that all teachers of core academic subjects—English, reading or language arts, mathematics, science, foreign languages, civics and government, economics, arts, history, and geography—have at least have a bachelor's degree, full state certification, and be able to demonstrate subject matter knowledge in each subject they teach. However, raising the bar on teacher qualifications through federal statute poses challenges because of differences in state policies, teacher certification requirements, and conditions affecting the teaching workforce. Fostering high-quality professional development through federal law also poses challenges because of state, district, and school differences in approaches to professional development, capacity to ensure appropriate content, and availability of resources to support long-term, intensive professional development activities.[15] All of these differences bear on the implementation of *NCLB* provisions because states are responsible for specifying how teachers will meet the federal requirements for being highly qualified, and states, districts and schools are generally responsible for designing professional development activities and making them available to teachers.

In addition to addressing teacher qualifications and ongoing professional development, *NCLB* sets requirements for qualified paraprofessionals (instructional aides). These requirements reflect what is known about the qualifications of paraprofessionals and the roles they play in instruction. In the past, many Title I students received services from teachers' aides in pull-out settings; prior studies indicated that in a substantial minority of schools (20 percent), paraprofessionals were not supervised, and that they were more likely to work in high-poverty rather than low-poverty schools and with low-achieving rather than with high-achieving students.[16] These studies raised concerns that low-achieving students were receiving instructional support from aides during time when they should have been receiving attention from teachers with more education.

This report describes the ways in which states, districts and schools are implementing the teacher qualification provisions of *NCLB* and analyzes the progress the nation is making toward the goal of having a highly qualified teacher in every classroom. The report also describes the actions that states, districts, and schools are taking to improve teacher qualifications, such as recruiting and retaining highly qualified teachers, providing support to those who are not highly qualified, and providing teachers with professional development. Finally, the report analyzes implementation of the law's provisions to ensure that Title I paraprofessionals are qualified. Three companion reports address *NCLB* implementation and progress in the areas of accountability, Title I school choice and supplemental educational services, and targeting and resource allocation.

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[14] Research to date suggests that several features of teachers' professional development, especially an emphasis on content knowledge, are related to self-reported changes in classroom practice, and also may be correlated with changes in student achievement. See Cohen and Hill, 1998; Desimone, Porter, Garet, Yoon, and Birman, 2002; Garet, Porter, Desimone, Birman, and Yoon, 2001; Kennedy, 1998. However, existing studies generally were not designed to provide evidence of a causal impact of professional development on teacher or student outcomes.

[15] States set the requirements for teacher qualification, and state requirements for certifying or licensing teachers differ among themselves in many ways. For example, some states require an undergraduate degree in a content area, some require a degree in education, and some allow either option. And while most states require a basic teacher assessment, they vary tremendously in other tests they require. Some states require a test in content knowledge, others require a test in pedagogy, and still others require tests in both. States and districts also differ substantially in the areas in which they experience teacher shortages, their capacity to recruit and retain qualified teachers, and the resources available for funding incentives or high quality professional development.

[16] For studies about the role of paraprofessionals in Title I programs, see Millsap, Moss, and Gamse, 1993; Abt Associates, 1995; U.S. Department of Education, 1999.

OVERVIEW OF TEACHER AND PARAPROFESSIONAL QUALIFICATION PROVISIONS OF *NCLB*

NCLB goes beyond prior federal law in its emphasis on the need for teachers to have subject matter knowledge, the critical role of sharing information about teacher qualifications, and the breadth of activities allowable to improve teacher qualifications. The law's provisions rest on three key premises: (1) setting requirements for the qualifications of teachers will help identify those teachers who do not have adequate subject matter knowledge; (2) widely available information about the number of teachers who are not highly qualified will prompt states, districts, schools, and parents to take action to improve teacher qualifications; and (3) the actions taken—such as teachers participating in professional development or districts stepping up efforts to recruit highly qualified teachers—will improve teacher qualifications and the quality of their teaching (see Exhibit 1). Similar premises—the importance of setting requirements and sharing information to stimulate improvement—underlie the provisions for paraprofessional qualifications. *NCLB* provides for many sources of support for helping teachers and paraprofessionals to meet the law's requirements and for improving the knowledge and skills of the teacher workforce more generally.

Exhibit 1
***NCLB* Strategies for Improving Teacher Quality**

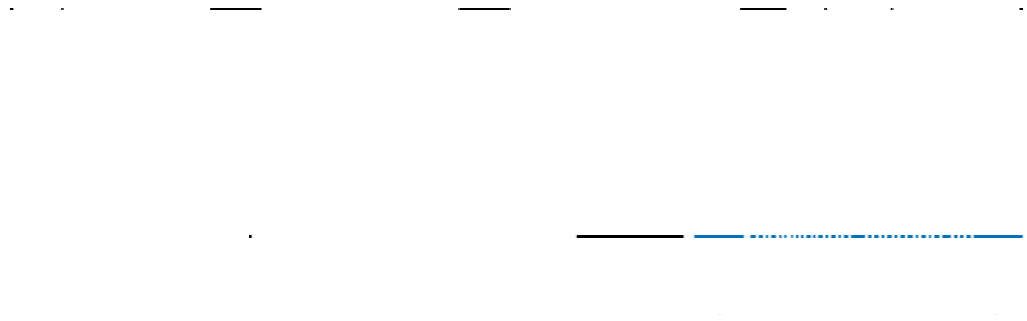


Exhibit Reads: The above characterizes the sequence of key requirements of the *No Child Left Behind Act of 2001* related to highly qualified teachers.

Source: Public Law 107–110, January 8, 2002.

Set requirements for teacher and paraprofessional qualifications

While *NCLB* sets basic requirements for teachers to be designated as highly qualified and for paraprofessionals to be designated as qualified, states determine many of the specifics.

Requirements for highly qualified teachers

The *NCLB* requirements for designating teachers as highly qualified focus in large part on demonstrating subject matter knowledge, and differ somewhat for new teachers compared with existing teachers, and

for elementary compared with secondary teachers. Teachers of students with disabilities and English language learners who provide instruction in core academic subjects are held to the same *NCLB* requirements and must meet additional requirements.

- *NCLB* requires that states implement plans under which all teachers of core academic subjects were to be designated as highly qualified by the end of the 2005–06 school year. (However, in October 2005, the Department announced that states making a good-faith effort to ensure that there was a highly qualified teacher in every classroom were invited to submit a revised state plan for accomplishing that goal by the end of the 2006–07 school year. By July 2006, all states had submitted a revised plan.) In general, a highly qualified teacher must have state certification and at least a bachelor's degree and must have demonstrated subject competency in each core academic subject that he or she teaches (Title IX, Part A, Section 9101(23)). Demonstrating competency differs for new teachers and existing teachers, and by grade level:
    - New elementary teachers must demonstrate competency by passing a rigorous state test in reading, writing, mathematics, and other areas of the basic elementary school curriculum.
    - New secondary teachers must either pass a state test in each subject they teach, have completed an academic major or course work equivalent or an advanced degree in the subject(s) taught, or have obtained advanced certification (for example, certification by the National Board of Professional Teaching Standards).
    - Existing teachers must either pass a rigorous state test, complete an academic major, a graduate degree, course work equivalent to an undergraduate academic major, advanced certification, or demonstrate subject matter competency through a High Uniform Objective State Standard of Evaluation (HOUSSE) process developed by their state.
- *NCLB* requires that teachers who primarily teach LEP students or students with disabilities must meet these same requirements if they teach core academic subjects to these students. These teachers also must meet additional requirements appropriate to the special needs of their students.
    - Teachers who teach in programs for LEP students funded under Title III of *NCLB* must have fluency in English and any other language in which they provide instruction, including written and oral communication skills (Title III, Part A, Section 3116(c)).
    - Teachers who teach students with disabilities must have full state certification as special education teachers, as required by the *Individuals with Disabilities Education Improvement Act* (*IDEA*, Title I, Part A, Section 602(10)).

Requirements for qualified paraprofessionals

The *NCLB* requirements for designating paraprofessionals as qualified address their educational background and knowledge, as well as the roles that they may play in the classroom. Prior to *NCLB*, paraprofessionals funded by Title I were required only to have a high school diploma or GED within two years of being employed, their classroom responsibilities were not clearly defined, and there were no specific limits on the types of activities in which they could engage.

- *NCLB* requires that Title I paraprofessionals must have two years of postsecondary education, an associate degree or higher, or a passing score on a formal state or local academic assessment of ability to assist in teaching reading, writing and mathematics. All new paraprofessionals must

meet these requirements; existing paraprofessionals had until the end of the 2005–06 school year to do so.

- *NCLB* further specifies the allowable duties of paraprofessionals, noting that they may not provide "instructional services" except under the direct supervision of a teacher (Title I, Part A, Section 1119(c)(d)(g)).

Make information on teacher and paraprofessional status available

As with other parts of *NCLB*, the availability of information about teacher and paraprofessional qualifications is critical for prompting action by educators, parents or other stakeholders. *NCLB* requires the following:

- States and local education agencies must report annually on the percentage of classes taught by teachers who are not highly qualified (Title I, Part A, Section 1111(h)).
- States and local education agencies must report annually on progress toward the annual measurable objectives, set forth in their state plans, to ensure that all teachers teaching in core academic subjects were highly qualified by the end of the 2005–06 school year (Title I, Part A, Section 1119(a)).
- School districts must notify parents of children in schools receiving Title I, Part A, funds that they may request information regarding the qualifications of their children's teachers and of paraprofessionals providing services to their children; schools also must notify parents if their child has been assigned to or has been taught for four consecutive weeks by a teacher who is not designated as highly qualified (Title I, Part A, Section 1111(h)).

Provide support to improve teacher qualifications

The law provides many sources of support that can help teachers and paraprofessionals meet the law's requirements, as well as enhance the knowledge and skills of the teaching force more generally. Some *NCLB* programs require that funds be used for teachers' professional development activities; a variety of *NCLB* funding sources may be used to support professional development activities, and Title II, Part A, which provides nearly $3 billion to states, allows use of funds for a wide variety of strategies to improve teacher qualifications.

- *NCLB* requires that districts receiving Title I, Part A, funds must spend at least 5 percent of their allocations for professional development activities to ensure that all teachers are highly qualified by the 2005–06 school year (Title I, Part A, Section 1119(l)). In addition, schools that have been identified for improvement must spend at least 10 percent of their Title I allocations on professional development or other strategies that directly support teachers, although these funds do not necessarily have to be used to address the needs of teachers who are not highly qualified (Title I, Part A, Section 1116(b)(3)(A)(i)).
- In addition to Title I, Part A, several other *NCLB* programs require or may be used to support professional development activities. For example, under Title III, Part A, the *English Language Acquisition, Language Enhancement, and Academic Achievement Act*, districts receiving subgrants are required to provide high-quality professional development to classroom teachers (Title III, Part A, Section 3114(a)). Smaller programs, like the Professional Development for Arts Educators (under Title V) and the National Writing Project (under Title II) also provide funds for this purpose.

- The law defines professional development to include activities that are "high-quality, sustained, intensive, and classroom-focused … and are not 1-day or short term workshops or conferences" (Title IX, Part A, Section 9101(34)). The law's definition of professional development also encourages building teachers' subject matter knowledge; for example, the definition includes a focus on content knowledge, strategies that are grounded in "scientifically based" research, and giving teachers the knowledge to help students meet challenging standards.
- School districts, which receive nearly 95 percent of all Title II, Part A, funds allocated to each state, may use them for activities, including, among others, developing and implementing mechanisms to assist schools in recruiting and retaining highly qualified teachers; providing scholarships, signing bonuses, or other financial incentives, such as differential pay in subjects and schools experiencing a shortage of highly qualified teachers; providing professional development to improve the knowledge of teachers, principals, and in some cases, paraprofessionals; and developing initiatives that promote the retention of highly qualified teachers and principals (Title II, Part A, Subpart 1, Section 2113(c)).
- States use nearly 2.5 percent of Title II, Part A, funds for activities to improve teacher qualifications, including reforming teacher and principal certification; carrying out programs to support teachers and principals, including those new to the profession; carrying out programs that establish, expand or improve alternate routes for state certification; developing and implementing mechanisms to assist school districts and schools in recruiting and retaining highly qualified teachers; providing professional development for teachers; and developing systems to measure the effectiveness of professional development, among others (Title II, Part A, Subpart 1, Section 2113(c)).
- Finally, all districts that receive Title III funds must conduct two required activities: providing a language instruction educational program, and providing high-quality professional development to classroom teachers, principals, administrators, and other school or community-based personnel. Such professional development must be of sufficient intensity and duration to have a positive and lasting impact on teacher performance in the classroom (Title III, Section 3115 (c)(2)).

Through all of these provisions—which set requirements for highly qualified teachers, provide information to stakeholders, and provide support for improving teacher quality—*NCLB* represents a federal effort to provide the nation's children with teachers and paraprofessionals who will help them learn and achieve at high levels of proficiency.

POLICY CONTEXT FOR THE IMPLEMENTATION OF TEACHER QUALIFICATION PROVISIONS

Implementing *NCLB*'s highly qualified teacher provisions is a shared responsibility of all three levels of government. States assume primary responsibility for establishing specific policies to implement the highly qualified teacher requirements. Districts are also active in ensuring that teachers have taken appropriate steps to attain the highly qualified status. The specific roles of the federal government, states, and districts are illustrated in Exhibit 2.

States have been negotiating the implementation of teacher qualification provisions in a complex policy environment (see Exhibit 3). In July, 2003, a bit more than a year after *NCLB* became law, the U.S. Department of Education began sending its Teacher Assistance Corps (TAC)—a team of education experts, researchers and practitioners—to all 50 states plus the District of Columbia and Puerto Rico, to assist in interpreting *NCLB* teacher provisions. In March 2004, former Secretary of Education

Rod Paige reported that the TAC found "Many states were not using the full flexibility of the law, especially to help their middle school and experienced teachers demonstrate they are highly qualified."[17] In August 2005, Education Secretary Margaret Spellings released non-regulatory guidance that incorporated information from TAC and monitoring visits, and was intended to address challenges that states had reported and questions that they had posed. In October 2005, Secretary Spellings issued a policy letter assuring states that they would not lose federal funds even if they did not reach the 100 percent goal in 2005–06. This letter also clarified that states could have an additional year if they could show evidence of a "good faith effort" toward meeting a number of criteria.[18]

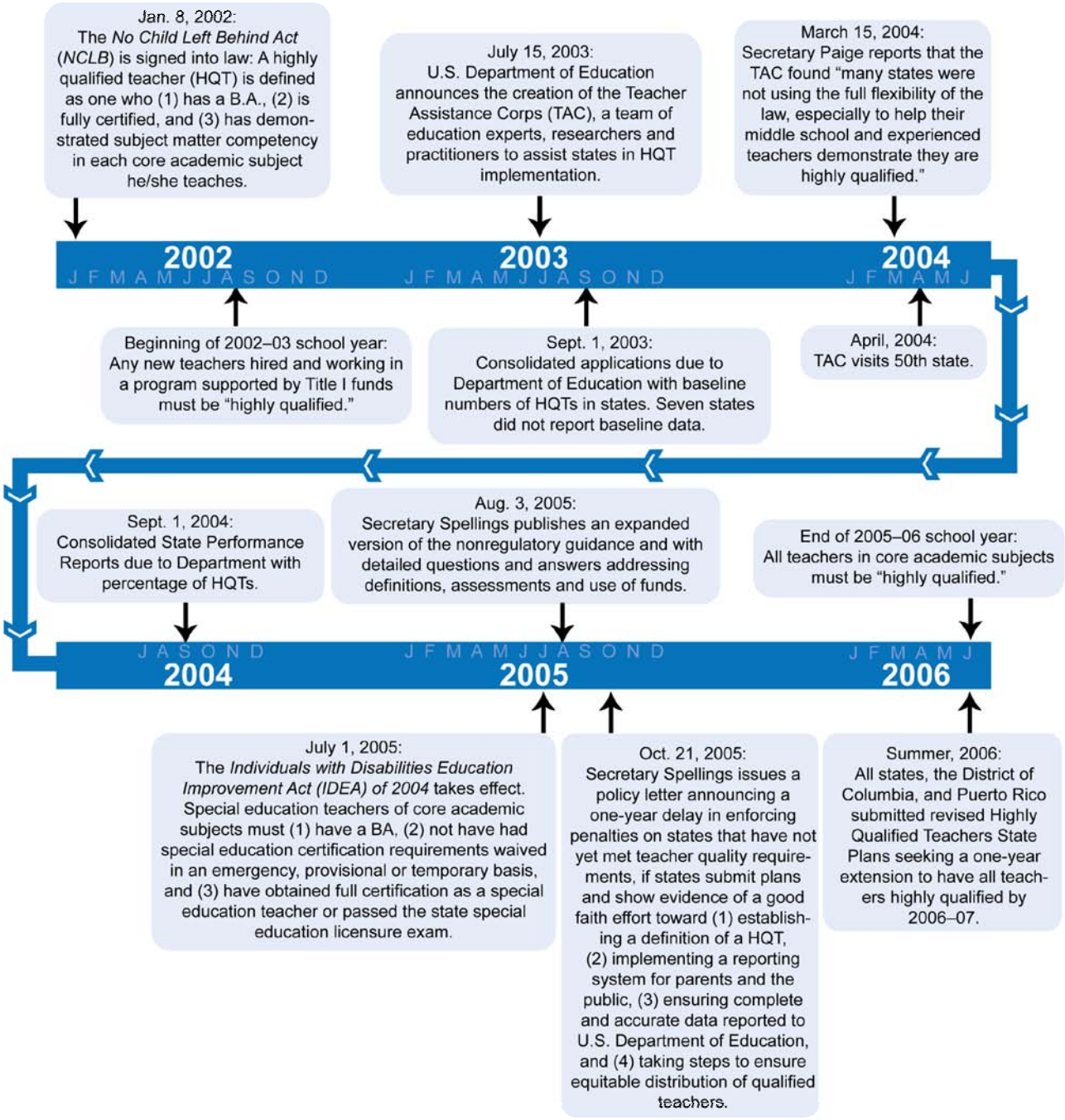
Exhibit 2
Overview of Federal, State, and Local Roles in Identifying Highly Qualified Teachers

Federal	State	District
NCLB sets the standard for highly qualified teachers: • A bachelor's degree • Full state certification, as defined by the state • Demonstrated competency, as defined by the state, in each core academic subject the teacher teaches *NCLB* sets a deadline: • All new teachers of core academic subjects in Title I programs hired beginning with the 2002–03 school year must meet the requirements before entering the classroom. • All teachers of core academic subjects hired before the 2002–03 school year must meet the requirements by the end of the 2005–06 school year. (Special considerations may apply for multi-subject teachers or those in eligible small, rural schools.) • The secretary of education is responsible for monitoring state plans and providing assistance to states as they seek to meet these requirements.	States set policies for highly qualified teachers according to the requirements of *NCLB*. States determine what is meant by "full state certification." For example, they may streamline requirements to make it less burdensome for talented individuals to enter the profession. States develop a plan with goals for their districts, detailing how they will ensure that all teachers of core academic subjects will be highly qualified by the end of the 2005–06 school year. States determine ways in which teachers can demonstrate competency in the subjects they teach, according to the requirements in *NCLB*. (For example, states choose whether or not to adopt their own high, objective, uniform state standard of evaluation [HOUSSE] for teachers not new to the profession.)	Districts ensure that newly hired teachers in Title I schools or programs meet their state's policy for highly qualified teacher before beginning to teach. Districts that accept Title I, Part A, funding must, at the beginning of each school year, notify parents of students in Title I schools that they can request information regarding their child's teacher, and all Title I schools must notify parents of children who are taught for more than four consecutive weeks by a teacher who is not highly qualified. Districts work with states to support teachers who do not meet the highly qualified teacher guidelines in the subjects they teach, providing opportunities or options for them to meet the requirements by the end of the 2005–06 school year. Districts must provide parents access to information about the qualifications of teachers responsible for their children's instruction. Districts must develop their own plans for having all teachers of core academic subjects highly qualified by the end of the 2005–06 school year.

Source: Improving Teacher Quality State Grants, *ESEA* Title II, Part A, Non-Regulatory Guidance, Revised, Aug. 3, 2005 (http://www.ed.gov/teachers/NCLBguide/toolkit_pg23.html).

[17] U.S. Department of Education. (March 15, 2004). *New, flexible policies help teachers become highly qualified.* Available online at: www.ed.gov/news/pressreleases/2004/03/03152004.html.
[18] Policy letter from Secretary of Education Margaret Spellings to the Chief State School Officers, Oct. 21, 2005. Available online at: http://www.ed.gov/policy/elsec/guid/secletter/051021.html.

Exhibit 3
Timeline of Federal Activities With Regard to Highly Qualified Teachers Under *NCLB*



Source: Documents on the U.S. Department of Education, *NCLB* Web site, http://www.ed.gov (accessed July 2006).

EVALUATION QUESTIONS AND DATA SOURCES

This report addresses the following broad questions relevant to *NCLB* provisions for teacher and paraprofessional quality:

- How do states designate teachers as highly qualified? What is the capacity of states to collect and accurately report on teacher and paraprofessional qualifications? (Chapter II)
- How many teachers meet *NCLB* requirements to be highly qualified (as operationalized by their states)? How does this vary across states, districts, schools, and different types of teachers? (Chapter III)
- What are states, districts and schools doing to increase the number of highly qualified teachers? (Chapter IV)
- To what extent are teachers participating in high-quality professional development (e.g., professional development that is sustained, intensive and content focused)? (Chapter V)
- How many instructional paraprofessionals meet the *NCLB* requirements to be qualified? What are states, districts and schools doing to help paraprofessionals meet these requirements? (Chapter VI)

To address these questions, this report presents findings from two studies funded by the U.S. Department of Education—the *Study of State Implementation of Accountability and Teacher Quality Under No Child Left Behind* (SSI-*NCLB*) and the *National Longitudinal Study of No Child Left Behind* (NLS-*NCLB*). Taken together, the purpose of these two studies is to provide an integrated longitudinal evaluation of the implementation of key *NCLB* provisions by states, districts and schools, with particular focus in four areas: (1) accountability, (2) teacher quality, (3) Title I school choice and supplemental educational services, and (4) targeting and resource allocation. This report focuses on the second of these areas, while companion reports address the others.

The SSI-*NCLB* examined state implementation of *NCLB* in the areas of accountability and teacher quality through analysis of school performance data and state documents (including Web sites and consolidated applications and reports), and telephone interviews with state officials responsible for implementation of the accountability, teacher quality, Title III, and supplemental educational services requirements of *NCLB*. Administrators in all 50 states, Puerto Rico and the District of Columbia were interviewed during the fall and winter of 2004–05.

The NLS-*NCLB* assessed the implementation of *NCLB* provisions in districts and schools through analysis of survey data collected in a nationally representative sample of 300 districts, and, within those districts, of 1,483 elementary, middle and high schools. In each school, six teachers were randomly selected to receive surveys: at the elementary school level, one teacher in each grade 1–6; at the secondary school level, three English teachers and three mathematics teachers were randomly selected. In total, the NLS-*NCLB* surveyed 4,772 elementary teachers, 2,081 secondary English or language arts teachers, and 1,938 secondary mathematics teachers. In addition, 1,408 special education teachers, 950 Title I paraprofessionals, 1,483 principals, and 300 district administrators were surveyed. Response rates ranged from 82 percent to 96 percent.[19]

[19] Data reported from the NLS-*NCLB* sample represent national estimates for districts and schools. Data reported on teachers are representative of the teachers sampled—elementary classroom teachers, secondary English teachers, and

This report draws on information collected in fall 2004 and winter 2005 from all sources in both the NLS-*NCLB* and the SSI-*NCLB*. Both studies collected information again in fall 2006.

Technical Note

All differences between numbers, percentages or means derived from survey data that are referred to specifically in the text (e.g., special education teachers were less likely to report that they were highly qualified (52 percent) than were general education teachers (74 percent)) are significant at the 0.05 level. The significance level reflects the probability that a difference between groups as large as the one observed could arise simply due to sampling variations, if there were no true differences between groups in the population. The tests were conducted by calculating a t-value for the difference between a pair of means and comparing that value to a published table of critical values for t. Standard errors for all relevant figures and exhibits are shown in Appendix B.

secondary teachers of mathematics. For simplicity, this report uses the term "all general education teachers" to refer to this sample. The study also surveyed a sample of special education teachers (both elementary and secondary), and data for these teachers are reported separately.

II. STATE POLICIES AND DATA SYSTEMS FOR HIGHLY QUALIFIED TEACHERS

Ensuring that all students are taught by highly qualified teachers is a central goal of the *No Child Left Behind Act of 2001*. *NCLB* seeks to establish a high standard for the teaching workforce: all teachers of core academic subjects were to attain highly qualified status by the end of the 2005–06 school year. However, in October 2005 the U.S. Department of Education announced that states making a good-faith effort to ensure that there was a highly qualified teacher in every classroom were invited to submit a revised state plan for accomplishing that goal by the end of the 2006–07 school year.

Under *NCLB*, a highly qualified teacher is one who (1) has a bachelor's degree, (2) is fully certified, and (3) has demonstrated subject-matter competency in each of the academic subjects that she or he teaches. The *NCLB* requirements for highly qualified teachers apply to all teachers of core academic subjects, which according to statute include English, mathematics, science, foreign languages, civics and government, economics, arts, history, and geography. Beyond these federal requirements, each state has the flexibility to set its own criteria for highly qualified teachers.

Key Findings

- **State standards for highly qualified teachers varied greatly with regard to requirements for teachers to demonstrate content knowledge.**
- **As of 2004–05, all but two states had tests of teacher content knowledge, but their passing scores differed from state to state.**
- **By 2004–05, forty-seven states had developed HOUSSE policies to recognize the expertise of teachers not new to the profession—but some policies were more demanding than others.** In 21 states, teachers could accumulate 40 to 50 percent of the required points simply for having classroom experience, as permitted under *NCLB*.
- **States have worked to update their data systems, but by 2004–05 most still could not connect all variables related to teacher qualifications.** Even though 46 states now have data systems that include unique teacher identifier codes, few states have the capacity to track the newer data elements required under *NCLB*, such as teachers with a major in the subject taught. Moreover, 41 states reported challenges associated with collecting and maintaining data on teacher qualifications.
- **In 2004–05, state officials described challenges associated with middle school teachers, those in rural settings, teachers of students with disabilities, and teachers of students with limited English proficiency.**

STATE POLICIES FOR HIGHLY QUALIFIED TEACHERS UNDER *NCLB*

By December 2004, all states, the District of Columbia and Puerto Rico had drafted criteria for identifying highly qualified teachers under *NCLB*. Since then, many of these state policies were adjusted

to take into account flexibility offered by the U.S. Department of Education. The flexibility afforded by the federal government has resulted in state guidelines that hold teachers to very different standards.[20]

The first two *NCLB* requirements for highly qualified teachers—that they have a bachelor's degree and full certification—are fairly straightforward, and all states incorporated these as basic elements of their policies for highly qualified teachers.[21] However, the third *NCLB* requirement for highly qualified teachers—that they demonstrate adequate content knowledge for every subject taught—revealed the greatest variation in how states approached their policies concerning highly qualified teachers (see Exhibit 4).

Exhibit 4
Components of the *NCLB* Highly Qualified Teacher Requirements, by Teacher Experience and Grade Level

	Full State Certification or Licensure	Bachelor's Degree	Options for Demonstrating Content Knowledge					
			Assess-ment	Academic Major	Graduate Degree	Course work Equivalent to Major	Advanced Certification or Credentials	HOUSSE
New Elementary School Teacher	✓	✓	✓					
Current Elementary Teacher	✓	✓	✓					✓
New Middle or High School Teacher	✓	✓	✓	✓	✓	✓	✓	
Current Middle or High School Teacher	✓	✓	✓	✓	✓	✓	✓	✓

Exhibit Reads: Full state certification or licensure is one of the *NCLB* components of the highly qualified teacher definition and it is applicable to teachers of all grade levels who are new or more experienced.

Note: Teachers not new to the profession have the option of using the High Objective Uniform State Standard of Evaluation (HOUSSE) described below.

Source: *ESEA,* Title II, Part A, Non-Regulatory Guidance, Revised, Aug. 3, 2005, U.S. Department of Education.

[20] The analysis of state definitions of highly qualified teachers was based on a review of policies posted on state education agency Web sites, collected primarily in March and April 2005. However, updates to policies were taken into account when they became available in the summer of 2005.

[21] State requirements for teacher certification vary across states, but an analysis of teacher certification policy was not within the scope of the studies described in this report.

Demonstrating content knowledge

When *NCLB* was passed, the federal statute set distinct requirements for how teachers must demonstrate subject-matter competency depending on whether they were new to the profession or more experienced. However, the statute does not explicitly define what it meant to be new to the profession, and federal policy guidance confirms that states may define this term (U.S. Department of Education, 2005). States most frequently defined a new teacher as one who was hired after the beginning of the 2002–03 school year (26 states and Puerto Rico). Five states, however, considered the date of certification in their definition of new to the profession, and seven states referred to a specific number of years of experience—generally three years or fewer. (The remaining 12 states and the District of Columbia did not specify the definition of new teachers in policy documents available on the Internet as of the summer of 2005.)

In 2004–05, more than half of the states had modified the list of "core academic subjects" under *NCLB*.

The *NCLB* requirement for teachers to be highly qualified applies to teachers who teach core academic subjects, which *NCLB* defines as English, reading or language arts, mathematics, science, foreign languages, civics and government, economics, arts, history, and geography.

Several states had a different list of core academic subjects in 2004–05:

- Six states identified specific science fields such as physics, chemistry, or biology. Science teachers in these states could not simply demonstrate general scientific knowledge, but must have mastered content associated with specific scientific fields of instruction. In these states, teachers at the secondary level who were assigned to more than one field of science were required to document content knowledge in each. In addition, half the states divided the arts into subfields of dance, music and visual arts.
- Although *NCLB* distinguishes among economics, geography, history, and civics and government, 34 states, the District of Columbia and Puerto Rico merged these fields into a single "social studies" requirement and were cited in monitoring reports from the U.S. Department of Education. In these states, middle or high school teachers could demonstrate content knowledge through a broad-field social studies assessment, or could be considered highly qualified in social studies if they held an endorsement or certificate in social studies.

Teacher assessments

In 2004–05, all but two states had tests of teacher content knowledge, but the passing score differed greatly from state to state.

The Praxis II test series was the most common test of teacher content knowledge, adopted by 40 states and the District of Columbia. As of the summer of 2005, of the states that used one or more of the various Praxis II examinations, 24 states and the District of Columbia used the Praxis II exams alone, and 16 listed the Praxis II exams as well as other exams. Ten states and Puerto Rico did not list the Praxis II exams but listed other exams, such as tests developed for use in specific states (e.g., the *Massachusetts Test for Educator Licensure*).

The minimum passing scores on teacher assessments varied considerably between states. For example, on the Praxis II test, *Middle School English Language Arts*, the minimum passing score ranged from 143 in

South Dakota to 165 in Kansas (out of a maximum score of 200). On the Praxis II *Middle School Mathematics* test, the minimum passing scores ranged from 139 in South Dakota to 163 in Virginia. A review of other minimum passing scores on the Praxis II series revealed similar differences across states. Of the 35 states that use the Praxis II Mathematics Content Knowledge exam, 30 states and the District of Columbia set their cut scores below the national median score, and ten states set theirs below the 25th percentile (ranging from the 14th to the 24th percentile).[22] In contrast, four states set the cut score above the national median and one of those four states set its cut score at the 75th percentile. (For a list of states that offered Praxis II content exams and the minimum passing score set by each state, see Appendix Exhibit C.1.)

Academic majors, graduate degrees and advanced certification

For elementary teachers new to the profession, the *NCLB* statute provides only one option to demonstrate content knowledge: they must pass a teacher assessment in reading, writing, mathematics, and other areas of the basic elementary school curriculum. As of early 2005, nine states did not yet require rigorous assessments for new elementary teachers, although monitoring reports from the U.S. Department of Education requested changes to such policies. Although not consistent with *NCLB*, these states conferred highly qualified status on all elementary teachers who were fully certified or had received an elementary education degree. By early 2006, only Iowa and Montana still had not adopted teacher assessments.

The *NCLB* statute delineates options for new secondary teachers to demonstrate subject knowledge in each of the core subjects taught. The five options include: (1) a subject-matter test, (2) an academic major or (3) course work equivalent to a major, (4) advanced certification (e.g., certification through the National Board of Professional Teaching Standards), or (5) a graduate degree. North Dakota was the only state that required new secondary teachers to complete more than one of these options. According to that state's 2004–05 policy for highly qualified teachers, new secondary teachers must have passed a content examination and have completed a major or course work equivalent to a major in the core academic subject taught.

[22] Educational Testing Service, unpublished data provided on Aug. 19, 2005. The national median scores are based on scores of all individuals who took these tests from Oct. 1, 2001, to July 31, 2004.

States' definitions of "course work equivalent to a major" for new secondary teachers also varied greatly. Among the 27 states and the District of Columbia that specified the amount of course work needed to be equivalent to a major,[23] requirements ranged from 15 to 42 credit hours, with the majority citing 30 credit hours (Exhibit 5). Four states and the District of Columbia also mandated the number of credit hours of advanced level course work.

Exhibit 5
State Requirements for Credit Hours Equivalent to a Major for Secondary Teachers, 2004–05

Exhibit Reads: Three states reported that 15–21 credit hours were equivalent to a major.

Note: These data are based on the 27 states and the District of Columbia whose guidelines for highly qualified teacher specified the number of hours equivalent to a major.

[a] Indicates that the District of Columbia is included.

Source: SSI-*NCLB*, analysis of state policies for highly qualified teachers, spring 2005.

High Objective Uniform State Standard of Evaluation (HOUSSE)

Another *NCLB* option to demonstrate content knowledge, available only to teachers not new to the profession, was to complete what is known as the HOUSSE, a state-identified measure of content knowledge. Inclusion of the HOUSSE option in the federal statute enabled states to identify and give credit to teachers who were not new to the profession and who could demonstrate their content knowledge in other ways.

Most states (47) had created HOUSSE policies to recognize the content expertise of teachers not new to the profession—but some were more demanding than others.

By the middle of 2005, 47 states had developed HOUSSE policies, although three states (Colorado, Missouri, and Mississippi), the District of Columbia, and Puerto Rico had opted not to do so. Title I, Part A, Section 1111 of *NCLB* outlines the minimum requirements for state HOUSSE policies, specifying that each HOUSSE system must do the following:

- Measure grade appropriate subject-matter knowledge and teaching skills.
- Be aligned with K–12 learning standards.
- Provide objective, coherent information on teachers' subject matter competency.
- Be applied uniformly.
- Take into consideration, but not be based primarily on, the time a teacher has been teaching a subject.
- Be made available to the public.
- Involve multiple, objective measures of teacher competency (optional).

[23] Twenty-seven states and the District of Columbia specified this information in their state definitions of highly qualified teachers under *NCLB*, as posted on state education agency Web sites.

Broadly speaking, all 47 state HOUSSE systems in effect in 2004–05 could be categorized into one of four approaches: (1) point system, (2) performance-based evaluation, (3) certification, or (4) a menu of options (see Exhibit 6).

A majority of states opted for a HOUSSE system based on the accumulation of points for such accomplishments as years of experience, college course work, professional development, and, in five states, improved student achievement.

In 29 states, teachers not new to the profession could demonstrate content knowledge by accumulating points for such accomplishments as years of experience, professional development or college course work, publications in professional journals, status as a mentor teacher, or having worked on the development of content standards or an assessment. In addition, five states (Georgia, Florida, Minnesota, Oklahoma, and Tennessee) credited teachers who demonstrated that they improved student achievement, as measured by state assessments.

Exhibit 6
Number of States Offering Various Types of HOUSSE Options for Determining Whether Existing Teachers Are Highly Qualified Under *NCLB*, 2004–05

	Number of States
State offered a HOUSSE option.	47
• Used a point system for HOUSSE	29
• Used teacher performance evaluation as a HOUSSE	7
• Used teacher certification systems (or the ongoing evaluation components of those systems) as an official HOUSSE	8
• Used a HOUSSE that provides teachers a menu of options for demonstrating highly qualified status	5
State[a] did not offer a HOUSSE option.	5

Exhibit Reads: Of the 47 states offering a HOUSSE option, 29 used a point system.

Note: Two states (Pennsylvania and Tennessee) are counted twice because they reported using more than one of these approaches.

[a] Indicates that the District of Columbia and Puerto Rico are included.

Source: SSI-*NCLB*, (n = 52).

In 2004–05, nearly all of these states allowed teachers to accrue points for prior teaching experience. States varied greatly, however, in the proportion of the total points that teachers could earn through years of experience alone. In 15 states, teachers could receive up to 50 percent of their points for prior experience (a maximum of 50 percent is permitted under the law), whereas teachers in Ohio and Rhode Island could earn only 24 percent of their total points from prior experience (see Exhibit 7).

In 2004–05, states also differed considerably in the number of points teachers could earn for other activities. For example, among states that require a total of 100 points, seven allocated one point for each professional development activity, while eight states allocated four or more points for each professional development activity in the subject taught. In Minnesota, teachers earned one point for each three-hour activity, with a maximum of 50 points out of the required 100 points (so a Minnesota teacher would have to engage in 150 professional development hours to reach the maximum). In contrast, New York teachers earned 10 points for every five contact hours; a total of 25 hours of professional development would enable those teachers to attain 50 of the required 100 points. Similar differences existed with regard to points for university course work in the subject taught; the points allocated per course hour varied from one to 18 points.

Finally, some states incorporated additional requirements in their HOUSSE point systems. For example, in Georgia and Rhode Island, teachers were required to accumulate points in at least three categories of professional activities. In Alabama, elementary teachers could "activate" HOUSSE only by first completing a minimum of six semester hours in each of the four content areas: English language arts, mathematics, science, and social science.

Exhibit 7
States With Point-Based HOUSSE Systems, Illustrating the Maximum Percentage of Points That Could Be Earned for Each Area, 2004–05

	Prior Teaching Experience	College Course work in Content Area	Professional Development (other than college courses)	Professional Activities or Service	Teaching Awards, Honors and Publications	Improved Student Achievement
Alaska	50%	No maximum	No maximum	No maximum	No maximum	N/A
Alabama	30%	40%	36%		4%	N/A
Arkansas	40%	No maximum	25%	varies	30%	N/A
Arizona	50%	No maximum	No maximum	30%	30%	N/A
California	50%	60%	No maximum	90%	N/A	N/A
Delaware	32%	No maximum	50%	15%		N/A
Georgia	50%	70%	30%	30%	30%	30%
Florida	50%	60%	60%	50%	N/A	50%
Hawaii	45%	No maximum	No maximum	No maximum	30%	N/A
Illinois	50%	No maximum	No maximum	N/A	N/A	N/A
Indiana	50%	No maximum	5% per year	6% per year	6% per year	N/A
Kansas	45%	No maximum	30%	30%	30%	N/A
Kentucky	50%	95%	50%	30%		N/A
Massachusetts	N/A	100%		N/A	N/A	N/A
Maryland	50%	No maximum	10%	10%		N/A
Maine	50%	No maximum	No maximum	No maximum	No maximum	N/A
Minnesota	50%	50%	50%	N/A	50%	50%
North Dakota	30%	No maximum	30%	20%	20%	N/A
New Jersey	30%	No maximum	60%			N/A
New York	50%	50%	50%	50%		N/A
Ohio	24%	27%	24%	25%	6%	N/A
Oklahoma	49%	No maximum	30%	20%	20%	20%
Pennsylvania*	40%	73%	40%	40%	No maximum	N/A
Rhode Island	24%	No maximum	No maximum	No maximum	No maximum	N/A
Tennessee	40%	40%	40%	30%	10%	No maximum
Texas	50%	No maximum	No maximum	No maximum	No maximum	N/A
Utah	Unclear	No maximum	No maximum	No maximum	No maximum	N/A
Vermont	50%	No maximum	No maximum	No maximum	N/A	N/A
Wyoming	50%	No maximum	15%	15%	15%	N/A

Exhibit Reads: In Alaska, a teacher may acquire up to 50 percent of HOUSSE points for prior teaching experience.

Note: Pennsylvania's HOUSSE system applied only to secondary school teachers; for elementary school teachers, Pennsylvania was counted as a certification system. Data only reflect policies in effect as of spring 2005.

Source: SSI-*NCLB*, review of state HOUSSE policies, spring 2005 (n=29).

In seven states, the HOUSSE requirements were based on a performance evaluation.

In 2004–05, for existing teachers in seven states (Connecticut, Kansas, New Hampshire, New Mexico, North Carolina, South Carolina, and West Virginia), demonstrating subject knowledge by means of their state's HOUSSE required an evaluation in which they must demonstrate competency on criteria related to their subject, often through a portfolio or observation. New Hampshire's policy provided one example of a state evaluation approach, which shared similarities with policies of the other six states. In New Hampshire, teachers who were fully credentialed but did not have certification in the subject or grade they taught could complete the HOUSSE review process. The first phase of this process was a self-assessment, in which teachers documented evidence that they had the appropriate content knowledge (for example, through professional development or course work). Then, teachers would select a content partner to help determine whether they had the appropriate content knowledge and develop a plan if additional training was needed. The content partner could be a principal, supervisor, consultant, or colleague, preferably in the same school or district and must have been trained in evidence evaluation, credentialed in the core content area being assessed, and have taught for at least three years. After completing the self-assessment, teachers would review it with their content partner. If areas for improvement were identified in the self-assessment, the candidates would develop a Highly Qualified Teacher (HQT) Plan to engage in high-quality professional development activities and would continue to work with their content partner through the implementation of the HQT Plan.

In eight states, full certification was equivalent to HOUSSE.

As of 2004–05, for existing teachers in eight states (Idaho, Montana, Nebraska, Oregon, Pennsylvania, South Dakota, Washington, and Wisconsin), demonstrating subject knowledge by means of their state's HOUSSE required full certification and appropriate assignment to classes for which they were certified. In policy documents, these states asserted that their teacher licensure approach already incorporated the requirements of HOUSSE.[24] For example, Idaho affirmed that its certification requirements adequately incorporated measures of content knowledge because existing teachers were required to successfully complete a minimum of 20 semester credit hours in any content area posted on their certificate. Moreover, teachers must pass six semester credit hours of college or university course work every five years to maintain their certification. Unlike other states, Idaho specifically stated that prior classroom experience was not a criterion for maintaining certification—and hence for meeting HOUSSE.

Five states offered a "menu of options" to demonstrate content knowledge.

For teachers in five states (Louisiana, Michigan, Nevada, Tennessee, and Virginia), demonstrating subject knowledge by means of their state's HOUSSE entailed choosing from a list of possible activities offered by the state and meeting the criteria for that particular activity. For example, the Nevada HOUSSE policy required teachers to have three years of verified full-time teaching experience by the end of the 2005–06 school year in the subject area(s) and the appropriate grade spans. In addition, teachers could be approved through HOUSSE by completing one of the following: (1) a graduate degree, (2) a "professional license" issued by Nevada State Licensing, (3) NBPTS certification, or (4) 150 hours of professional development (in the subject taught) after initial licensure.

[24] These eight states, however, were not counted as "no HOUSSE" states, because they had policy documents indicating that they considered their certification or licensure system to be equivalent to HOUSSE.

State policies for specific groups of teachers

Determining criteria for a highly qualified teacher under *NCLB* involved some challenges for state officials; the challenges most frequently noted in state interviews are discussed below. States were faced with the task of developing policy that encompassed federal requirements but also met the needs of different types of teachers. In some cases, these issues were still being resolved in 2004–05.

Special education teachers

Special education teachers faced greater challenges because they were held to two sets of requirements.

Special education teachers who teach core academic subjects also face particular challenges in attaining highly qualified status: current law requires those who teach core academic subjects to meet *NCLB* requirements *and* to obtain special education certification in their state as required under the *Individuals with Disabilities Education Act* (*IDEA*). *NCLB* requires special education teachers providing instruction in core academic subjects to meet the same requirements as general education teachers and does not designate special education as a core academic subject. In March 2004, the U.S. Department of Education issued guidance that allowed current multiple-subject teachers, including special education teachers, to demonstrate subject knowledge through a single HOUSSE covering multiple subjects. Under *IDEA*, this flexibility was extended to new special education teachers as well, provided that they were already considered highly qualified in either reading, mathematics, or science. Under this policy, special education teachers who were new to the profession and highly qualified in either reading, mathematics, or science also had two additional years from the date of employment to become highly qualified in other core academic subjects.

Officials from 11 states expressed concerns about subject knowledge requirements for special education teachers, particularly those teaching multiple core academic subjects. The following comment was echoed by other state officials:

> I would say the biggest challenge is for teachers of students with disabilities … at the middle and high school level, who teach multiple core academic subjects and are required to demonstrate subject-matter competency in every one of those core subjects. That remains our greatest challenge. We have HOUSSE, and it provides some flexibility, but it's still difficult for teachers to demonstrate subject-matter competency for four different high school level subjects.

Teachers of limited English proficient students

Teachers of limited English proficient students must become highly qualified under Title I and demonstrate language fluency under Title III.

Teachers who provide instruction in core academic subjects to LEP students also face a dual set of requirements: they must demonstrate content knowledge required under Title I and meet fluency requirements codified under Title III. Title III–funded districts must ensure that teachers of LEP students are fluent in English and any other language of instruction, including written and oral communication skills.

This requirement is critical for English as a second language (ESL) programs (in which English is typically the only language of instruction) and for the 40 states that have a bilingual or heritage language

program, each of which provides at least some of the instruction in the student's native language (*Title III Biennial Report,* 2005). The statute does not, however, specify how states or districts must determine language fluency. The most common method for determining both English fluency and fluency in other languages was reported to be a university-based certification process (34 states, the District of Columbia and Puerto Rico).[25] Of the states that reported relying on a university certification process to determine English fluency, half reported using a specific assessment. Notably, only six states reported that English fluency was determined by means of a state assessment that was separate from the university certification system.

To assist teachers of LEP students in becoming highly qualified under *NCLB*, six states included policies specifically targeted to such teachers as of 2004–05. Three states, for example, reported consultation and collaboration plans through which teachers who were not highly qualified in a core academic subject could consult with teachers who were highly qualified to deliver instruction in that subject. In two states, an endorsement in ESL was sufficient to be considered highly qualified. The 2004–05 Pennsylvania Bridge Certificate program enabled ESL teachers (along with special education and middle school teachers) to become highly qualified.

Middle school teachers

Most states held middle school teachers to the same requirements as high school teachers.

NCLB distinguishes between elementary and secondary teachers with regard to the requirements for highly qualified teachers. However, the law does not make a distinction between middle school and high school teachers. Thus, middle school teachers—who may teach multiple subjects, or have K–8 certification—are generally held to the same content knowledge requirements as high school teachers. Non-regulatory guidance issued in August 2005 extended flexibility to states in determining competence for teachers in grades 6–8, and states incorporated this flexibility into state policy in 2005–06.[26] Because the law does not define a "middle school," states were permitted to treat teachers in grades 6–8 to be part of an elementary school for purposes of determining highly qualified status. In such cases, middle school teachers could pass a rigorous broad-field assessment for elementary-level subjects appropriate to the content standards of the subject(s) being taught.

In 2004–05, 42 states, the District of Columbia and Puerto Rico reported holding middle school teachers to the same requirements as high school teachers. Eight states had different requirements for middle school teachers to be considered highly qualified. For example, in Wyoming in 2004–05, new middle school teachers in grades 7 and 8 had two licensing options: K–8 (elementary) and 7–12 (secondary). Teachers with the K–8 license, even those teaching more advanced courses in middle school grades, were not required to demonstrate content knowledge above the elementary level.[27] Rhode Island allowed a school to determine whether the subject matter a middle school teacher taught was at the

[25] According to the state interviews, states generally assume that teachers who have completed a degree program in a U.S. university must be fluent in English. University certification programs may include specific exams assessing teacher language fluency.

[26] At the time of SSI-*NCLB* data collection, U.S. Department of Education staff were monitoring states and in some cases, states made changes to their requirements for highly qualified middle school teachers based on U.S. Department of Education findings.

[27] U.S. Department of Education, (Aug. 8, 2005). Highly Qualified Teachers and Improving Teacher Quality State Grants Monitoring Report, Wyoming Department of Education, Critical Element 1.3. www.ed.gov/programs/teacherqual/hqt/wy.doc. Note that the U.S. Department of Education requested that Wyoming change licensure requirements for middle school teachers to ensure they appropriately demonstrate content knowledge.

elementary or secondary level. On the basis of this determination, the school was able to decide whether the teacher should demonstrate content knowledge through elementary or secondary requirements.

Officials from six states expressed concerns about middle school teachers meeting the requirements for highly qualified teachers. One official explained the following:

> The biggest challenge substantively has been our upper middle grades like grades 7 and 8 because in the past [our state] had an elementary certificate that allowed teachers to teach from grades 1 through 8 without having a major in any given content area. … So I think probably one big challenge has been, for the teachers in grades 7 and 8, making sure that they have the content that they need to meet the highly qualified teacher definition.

The distinction between elementary and middle school varies among states. Under *NCLB*, states maintained the flexibility to classify the grade span of schools and denote them as elementary, middle and high. For instance, in 2004–05, in New Mexico, middle school included grades 4 through 9, in South Carolina it included grades 5 through 8, and in Nevada middle school consisted only of grades 7 and 8. So while a sixth-grade teacher may have had to demonstrate the same subject matter competency as high school teachers in one state, in another state this same teacher would have been held to the requirements set for elementary school teachers.

Teachers in rural schools

State officials in nine states described challenges rural districts faced in ensuring that all teachers were highly qualified.

Because teachers in small rural schools often teach multiple subjects, state officials in nine states reported that rural districts were struggling to ensure that all teachers were highly qualified. In particular, state officials commented on the difficulties in finding teachers who met *NCLB* requirements in all subjects. As one state administrator explained,

> Because we have many rural school districts … and it's difficult for some of those districts to have all of their teachers meet the highly qualified guidelines. The hugest problem is in rural [parts of our state] where there are two-teacher schools. And a person has to be highly qualified in six to eight different areas. It's next to impossible to find someone with those qualifications.

Federal guidance issued in March 2004 extended flexibility to certain categories of rural teachers to become highly qualified. This provision applied to teachers who were not new to the profession who taught in districts eligible for the Small Rural School Achievement (SRSA) program. Such teachers often teach multiple subjects but may be highly qualified in only one; under this flexibility, they may take an additional three years to become highly qualified in the other subject areas they are teaching. Existing teachers in rural areas must, however, be highly qualified in at least one core academic subject by the 2005–06 deadline. The guidance also specifies that new teachers have until their third year of teaching to become highly qualified in all of their core subjects, although they must be highly qualified in at least one to be hired. Although states welcomed these extensions, some states discussed the continued challenge of meeting the extended deadlines. As one state official commented, "… passing a rigorous state test requirement (in all subjects) is simply … not going to happen in rural districts."

Furthermore, the extensions for determining rural teachers to be highly qualified did not apply as widely as some state officials had thought. Officials in three states were surprised to find they have no (or very few) "rural" school districts according to the federal definition. According to the flexibility provisions announced in March 2004, the federal government considers a district "rural" if (1) its average daily attendance is less than 600 *or* all schools in the district are located in counties with a population density of fewer than 10 persons per square mile and (2) all schools served by the district have a "school locale code" of 7 or 8 *or* all schools served by the district are located in an area defined as rural by the state.[28] The few states that found this definition overly restrictive expressed concern that it left many schools and districts unable to benefit from the federal flexibility, even though they were widely perceived as rural:

> Another of our areas that's been a challenge related to teacher quality is that we have some very rural areas, which are K through 12 schools … And even when we got flexibility for rural school systems, in March of this year, there was no school system in [our state] that met that very strict rural definition, so we were not able to apply any of that flexibility in our state.

COLLECTING AND REPORTING DATA ON TEACHER QUALIFICATIONS

For *NCLB* to function effectively, states must provide clear information to districts, schools and the public about performance, teacher status and other key components of the law. This necessitates both clear communication and sophisticated data management.

The *Higher Education Act of 1998* set in place the first accountability mechanisms for teacher preparation, requiring states to review teacher preparation programs, track licensure, and maintain teacher assessment data. Under *NCLB*, however, states have new responsibilities with regard to tracking teacher qualifications. Districts accepting Title I, Part A, funds must notify the parents of students in Title I schools of their right to request information about their child's teacher, and must notify parents of students taught by a teacher who is not highly qualified for four or more consecutive weeks. Moreover, state, district, and school report cards must include data on the percentage of classes taught by highly qualified teachers. The implication of these new expectations and responsibilities is that state and local education agencies must maintain detailed disaggregated information about each teacher hired to work in the schools of the state.

State data systems

Maintaining a record of teachers who were granted certification is an important responsibility of the state certification office. Traditionally, states have taken on other data responsibilities, including teacher supply and demand studies, and tracking teacher professional development hours. However, the most critical component of a state data system for teacher qualifications is a mechanism through which the state can track individual teachers—or a unique teacher identifier. For states to track all the variables associated with a teacher's status as a highly qualified teacher, they must have the capacity to connect all relevant variables through an identification code that is unique for each teacher in the state.

[28] School locale code of 7 is defined as outside a Metropolitan Statistical Area (MSA) with a population of fewer than 2,500 persons. A school locale code of 8 is defined as inside an MSA with a population of fewer than 2,500 persons.

States reported they were improving their data systems for teacher qualifications, but still could not connect all relevant variables.

As of the 2004–05 school year, 46 states maintained data on teacher qualifications that included a unique teacher identifier. Forty-six states and the District of Columbia reported that they were tracking the licenses or certification held by teachers, including the subject, grade, and date of certification. However, the complexities of "highly qualified teacher" policies require that states develop the capacity to connect certification and licensure information to other important variables. At a minimum, states need to track undergraduate degrees and teacher assessment results to determine highly qualified status. To determine the content knowledge requirements of secondary school teachers, states must also track information such as graduate degrees, teachers who have been certified by the National Board for Professional Teaching Standards, and fulfillment of HOUSSE requirements.

Exhibit 8
Number of States With Statewide Data Systems Containing Key Data Elements, 2004–05

Exhibit Reads: Forty-seven states maintained a data system with data items on licenses or certificates held.

Notes: Data is based on responses from 48 states.

[a] Indicates that the District of Columbia is included.

Source: SSI-*NCLB*, Teacher Quality Introductory Materials.

Although the majority of states could track the data elements that were most likely to be associated with certification, in 2004–05 far fewer states had the capacity to track data elements that were directly related to the newer requirements of *NCLB*, such as whether teachers had passed HOUSSE (23 states) or whether the teacher had completed course work equivalent to an academic major (20 states) (see Exhibit 8).

In 2004–05, few states were able to connect data on teacher qualifications to other important data. For example, 10 states were able to link data on classes taught by highly qualified teachers to student test scores, and only six states were able to connect data on teachers' professional development to other data elements. Connections between teacher qualifications, student achievement and professional development are not required under *NCLB* but are necessary for these data to inform school improvement and to fully track the highly qualified status of all teachers.

Most states were unable to determine whether LEP students received instruction from teachers who were highly qualified under *NCLB*. Interviews with state Title III directors in 2004–05 indicated that 17 states were able to disaggregate data on teacher qualifications for teachers of a language instruction educational program, and only 12 states could disaggregate data on mainstream classroom teachers of LEP students.[29]

Most states (41) reported challenges associated with collecting or maintaining data on teacher qualifications.

Overall, 41 states reported challenges associated with collecting, maintaining and reporting data on teacher qualifications (see Exhibit 9). First, states reported challenges associated with simply collecting the required data: officials indicated that the level of detail required to comply with reporting requirements—both for highly qualified teachers and professional development—was labor-intensive and time-consuming. Several states also noted that they did not have adequate data systems at the time that *NCLB* was passed, and needed to develop more robust ways to manage data. Some of the challenges were amplified by reporting deadlines that were perceived as too tight, and the limited number of state and district personnel who could assist with processing data. The following quotes from state officials best illustrate the nature of these challenges.

- **Collecting data:** "One of the challenges is the method that we have to use to verify that the data are accurate. Any time you have data that is input at the system level, that you expect to use at the state level, there's got to be some kind of verification process … And that is a very time and labor intensive activity. Also, we do not have a system at this time for collecting the high quality professional development participation. So we have to do that by survey, which means that you have to do some verification, which means that you have to do some review of documentation. And that, again, is a very time-consuming kind of activity."

[29] A language instruction educational program is a course that helps LEP students develop and reach English proficiency, may use both English and the student's native language, and may include English proficient students to allow all students in the course to become language proficient. Mainstream classrooms focus on academic content and contain both LEP and non-LEP students.

Exhibit 9
Number of States Reporting Specific Challenges Associated With Data on Teacher Qualifications, 2004–05

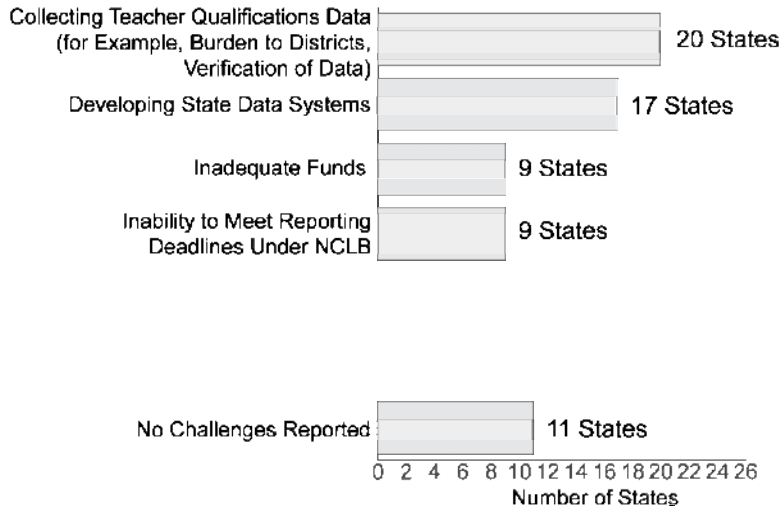


Exhibit Reads: In 20 states, challenges were associated with collecting teacher data related to the highly qualified provisions of *NCLB*.

Note: Forty-one states reported data challenges, but responses may fall into multiple categories.

Source: SSI-*NCLB*, Teacher Quality Interviews.

- **Developing data systems:** "We certainly have a database, we can tell you exactly what kind of certificate every teacher in [our state] holds. We've been able to do that well for a long time … However, we now layer in a whole host of other potential factors: test scores from other states, credits in a subject area, master's degree in one or more subject areas. The state has never had a database for that, and many local systems haven't either. So it becomes very, very difficult and very staff intensive to try to capture those data. But at the same time we can't report data that we don't have. And there seems to be a real gap, in my personal view, between what the law requires us to report and the resources to enable us to obtain the information that we are, in fact, required to report."
- **Reporting deadlines and inadequate resources:** "So that's why we were late … The problem is it takes us so long to compile all of this, [thousands of] records that the timing is a challenge. And frankly, we really could use the resources to convert this into an electronic system, but we're all so strapped for resources that we haven't done that."
- **Insufficient personnel:** "The fact that [in] our small districts one person is doing 25 jobs makes data collection difficult, in a timely fashion."

Nonetheless, most states reported that they were working to refine their data systems and that despite reports of inadequate resources, they expected the quality of teacher data to improve over the coming years.

Thirty-five state education agencies[30] shared responsibility with districts for data on teacher qualifications but districts sometimes lacked a uniform system for collecting data.

Districts, too, have data responsibilities with regard to teachers working in their schools. Most importantly, districts are often responsible for both collecting data and verifying teacher qualifications.

Overall, districts assumed some responsibility for teacher quality data in 34 states and the District of Columbia. In 30 states, school districts were responsible for collecting core teacher qualification variables related to the state's standards for highly qualified teachers, although the state performed calculations to determine which teachers were highly qualified. In five states, the districts both collected data and made determinations about teachers' highly qualified status. Of the remaining 17 states, 13 collected data and made teacher quality determinations at the state level, and four did not respond to this question.

When state education agencies rely on districts for critical data on teacher qualifications, districts must develop strategies for collecting and maintaining these data. However, the quality of district data systems varied greatly. Among the 35 states in which districts were responsible for collecting teacher qualifications data, only 28 reported that districts had computerized data systems of teacher qualifications. In 22 of these states, districts used a uniform system for collecting data. Nine of these states reported that few districts (less than 25 percent) were able to report teacher data by subject area; six reported that few districts were able to report teacher data by poverty level. One state official reported some initial confusion at the district level, but with time the "bugs have been worked out." Finally, other states noted that gathering the class count information required to determine the highly qualified teacher status of secondary teachers was burdensome, and district data systems were not always equipped to comply with this request.

DISCUSSION

Since *NCLB* was signed into law, states have worked to develop policies for identifying "highly qualified teachers"—and more specifically, how teachers can demonstrate mastery of the subjects they teach. For most new teachers, state policies require that they pass a test to demonstrate content knowledge. For teachers not new to the profession, states have developed HOUSSE policies to enable them to demonstrate content knowledge without having to pass a test. In both of these areas, state policies vary considerably, and some states have set the bar much higher than others. Half of states' HOUSSE policies give considerable weight to teaching experience, while a few rely on more direct measures of teacher performance, such as improved student test scores. Consistent the *NCLB*'s criteria for HOUSSE, half of states' HOUSSE policies give considerable weight to teaching experience, while a few rely on more direct measures of teacher performance, such as improved student test scores. The variation in state policies and criteria for highly qualified teachers may be reasonable in that all states may have HOUSSE procedures that appropriately identify teachers with an inadequate content knowledge. But it is also possible that this variation, coupled with the weight the statute allows states to give to teaching experience, raises questions about whether states have in fact set high enough standards for teacher quality under *NCLB* to ensure that all students are taught by teachers who have a solid understanding of the subject matter they teach.

[30] One of these state education agencies is the District of Columbia. In this case, the agency relies on District of Columbia Public schools (a separate local education agency) and charter schools (which, in turn, are local education agencies) to collect data on highly qualified teachers.

III. TEACHERS' HIGHLY QUALIFIED STATUS UNDER *NCLB*

In the years since *NCLB* became law, states have established their own standards for what it means to be highly qualified under *NCLB* and determined the extent to which teachers met the guidelines. Although the law requires that all teachers were to be highly qualified by 2005–06, in October 2005 Education Secretary Margaret Spellings announced that states were allowed an additional year to meet the *NCLB* objective, provided that they could demonstrate progress according to specific criteria. States are also required to develop strategies to ensure an equitable distribution of highly qualified teachers; indeed, in order to be eligible for Title I funds, each state must have a plan to "ensure that poor and minority children are not taught at higher rates than other children by inexperienced, unqualified, or out of field teachers" (Section 111 (b)(8)(C)). These mandated State Equity Plans (as part of their Revised State Highly Qualified Teachers Plans) were due to the U.S. Department of Education in the summer of 2006, and as of July 2007, 50 states and the District of Columbia had approved plans in place. Finally, *NCLB* includes provisions that require schools to provide information to ensure that parents know whether their child's teacher meets *NCLB* requirements.

Key Findings

- **In 2004–05, about three-quarters of teachers reported they were considered highly qualified under *NCLB* for the subjects they taught. Nearly one-quarter did not know if they were highly qualified, and 4 percent were considered not highly qualified.**
- **Middle school teachers were more likely to report that they were not highly qualified (9 percent) than were elementary teachers (2 percent) or high school teachers (4 percent).**
- **Special education teachers were almost four times more likely to report that they were not highly qualified (15 percent) than were general education teachers (4 percent).**
- **Half of all secondary teachers who reported they were highly qualified under *NCLB* did not have a degree in the subject they taught. Highly qualified secondary teachers in high-poverty and rural schools were less likely to have a degree in their field than were highly qualified teachers in low-poverty or suburban schools.**
- **Traditionally disadvantaged schools had higher percentages of teachers who were not considered highly qualified than did other schools.**
- **Highly qualified teachers in high-poverty, high-minority schools were more likely to be new to the profession than were highly qualified teachers in low-poverty or low-minority schools.**
- **While a majority of teachers seemed to be aware of state requirements for highly qualified teachers, nearly half of all teachers reported they had not been notified of their 2004–05 status.**

TEACHERS' HIGHLY QUALIFIED STATUS

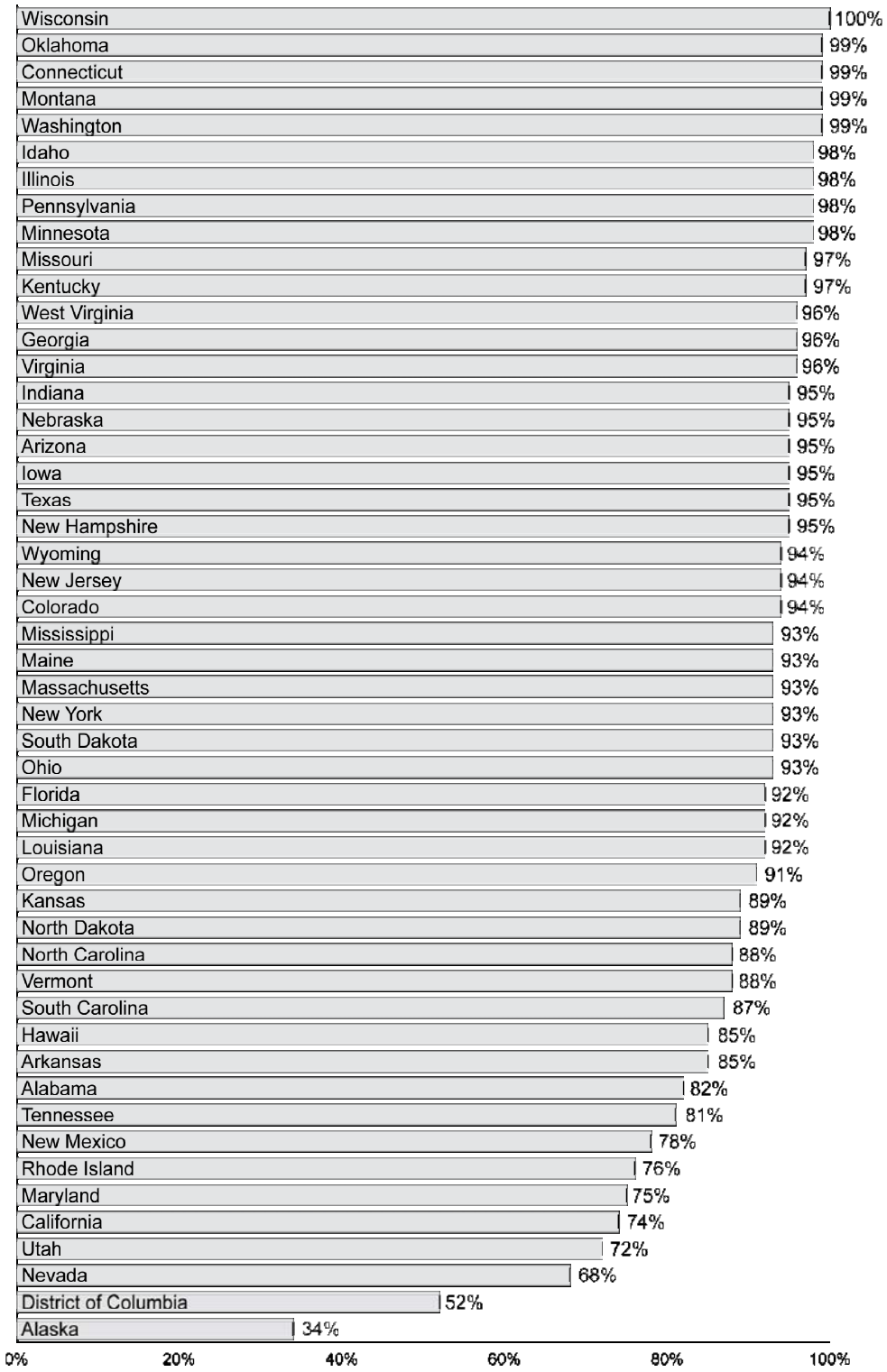
Thirty-three states reported that at least 90 percent of classes were taught by teachers considered highly qualified under *NCLB* in 2004–05.

According to state reports, 91 percent of all classes were taught by highly qualified teachers in 2004–05.[31] Despite the variation in state policies for highly qualified teachers, state reports indicated generally high percentages of teachers who meet state requirements. Thirty-three states reported that 90 percent or more of classes were taught by highly qualified teachers; four states reported that this percentage was 75 percent or lower; and the District of Columbia and Alaska reported that it was below 60 percent (see Exhibit 10). Among the states reporting relatively low percentages of highly qualified teachers, special circumstances should be acknowledged. For example, in Nevada, a complex set of issues contributed to the relatively low percentage of classes taught by highly qualified teachers, including high proportions of teachers in rural areas and special education teachers, both of whom were eligible for flexibility with regard to *NCLB* requirements.[32]

[31] Analyses conducted by Westat for the U.S. Department of Education, based on data from states that reported both the total number of classes and the number of classes taught by highly qualified teachers.

[32] Please refer to the discussion in Chapter II regarding challenges reported by states regarding the establishment of data systems to track information on teacher qualifications; see also U.S. Dept. of Education Title II monitoring reports.

Exhibit 10
Percentage of Classes Taught by Teachers Who Were Highly Qualified Under *NCLB*, as Reported by States, 2004–05



Source: Consolidated State Performance Reports under *NCLB*, 2004–05 (n=50).

About three-quarters of teachers reported they were considered highly qualified under *NCLB* for the classes they taught. Nearly one-quarter did not know their status, and 4 percent reported they were not considered highly qualified.

Principal and teacher reports provided somewhat different estimates of the percentage of teachers who were highly qualified under *NCLB*.[33] About three-quarters (74 percent) of teachers[34] reported that they were considered highly qualified in 2004–05, and another 4 percent reported that they were not highly qualified. Nearly one-quarter did not know their status (see Exhibit 11).

Elementary principals reported that 82 percent of elementary teachers were highly qualified in 2004–05, 2 percent were not highly qualified and the *NCLB* qualification status of 16 percent of elementary teachers was either not yet determined or unknown by principals. Secondary principals reported that 77 percent of secondary classes were taught by highly qualified teachers, 3 percent of classes were taught by teachers who were not highly qualified and 21 percent of classes were taught by teachers whose status was either not yet determined or was unknown by principals.

The qualifications of teachers who reported they did not know their status under *NCLB* were similar to teachers who were considered highly qualified.

A statistical analysis of the characteristics of the teachers who did not know their highly qualified status found that 92 percent of such teachers were very similar in their educational and professional qualifications to teachers who reported they were highly qualified. Taking the likely status of "don't

Exhibit 11
Percentage of Teachers Reporting That They Were Considered Highly Qualified or Not Highly Qualified, or That They Did Not Know Their Status Under *NCLB*, 2004–05

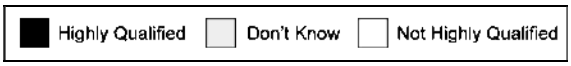


Exhibit Reads: Seventy-four percent of general education teachers reported they were considered highly qualified under *NCLB*, 4 percent were not highly qualified, and 23 percent reported they did not know their status.

Note: Column totals may not sum to 100 percent due to rounding.

Source: NLS-*NCLB*, Teacher Survey.

[33] Data on the classes taught by highly qualified teachers were derived from state reports, as well as teacher and principal surveys. The surveys asked somewhat different questions: Teachers were asked if they were highly qualified in all the subjects they teach; this question yielded data on the percentage of teachers highly qualified, those not highly qualified, *and* the percentage who did not know their status. Principals reported the percentage of classes taught by highly qualified teachers for all secondary teachers and the percentage of elementary teachers who were highly qualified. Principal estimates included the percent of classes taught by teachers whose status was not determined. The state estimates reported on the percentage of classes taught by highly qualified teachers (not including respondents who did not know).

[34] The term "teachers" means general education teachers. The NLS-*NCLB* surveyed general education elementary teachers, middle school teachers (teaching English or mathematics or both subjects), and high school teachers (teaching English or mathematics or both subjects). Middle and high school general education teachers teaching core subjects other than mathematics and English or language arts were not surveyed. The NLS-*NCLB* also surveyed special education teachers as defined below.

know" respondents into account suggests that more than 90 percent of all teachers met their state standards for being highly qualified under *NCLB* as of 2004–05.

Twenty-nine percent of special education teachers indicated they did not know their status (see Exhibit 12). Of the *elementary* special education teachers who reported they did not know their status, 100 percent are likely to be highly qualified based on their qualifications, indicating that they had indeed fulfilled *NCLB* requirements, but were uncertain about reconciling their known qualifications with the state guidelines. In contrast, 83 percent and 56 percent of *middle* and *high school* special education teachers, respectively, are predicted to be highly qualified based on their qualifications as of 2004–05, indicating that there was more uncertainty and that there were perhaps some gaps in meeting the *NCLB* standards.

Middle school teachers were more likely to report that they were *not* considered highly qualified (9 percent) than were elementary teachers (2 percent) or high school teachers (4 percent).

Among teachers who reported they were not highly qualified, middle school teachers were more likely than teachers at other levels to report they were considered not highly qualified under *NCLB*: 9 percent of middle school teachers reported they were not highly qualified, compared with 2 percent of elementary teachers and 4 percent of high school teachers (see Exhibit 11). The differences in percentages of teachers who were not highly qualified may reflect the challenges facing those who teach multiple subjects, as reported by state-level respondents in Chapter II. Under *NCLB*, both middle and high school teachers are required to be highly qualified in each subject they teach, although middle school teachers often teach multiple subjects.

Special education teachers were almost four times more likely to report that they were *not* considered highly qualified (15 percent) than were general education teachers (4 percent).

State respondents also described unique challenges facing special education teachers regarding *NCLB* requirements. Overall, special education teachers[35] were less likely than general education teachers to report they were considered highly qualified under *NCLB*: of all special education teachers, 52 percent reported they were highly qualified compared with 74 percent of all general education teachers (see Exhibits 11 and 12).

[35] Special education teachers are those who teach students with disabilities, including any part-time or itinerant special education teachers who might share their time with another school. As a rule, one special education teacher was randomly sampled from a roster of all special education teachers at each of the sampled schools. The total number of special education teachers who completed and submitted a special education survey was 1,186.

The percentage of special education teachers who reported they were highly qualified varied by school level: the percentage was lower for high school teachers (39 percent) than for elementary and middle school teachers (61 and 53 percent, respectively).

Similarly, secondary special education teachers were more likely than elementary special education teachers to report they were *not* highly qualified under *NCLB* (19 percent of high school and 20 percent of middle school special education teachers, compared with 8 percent of elementary special education teachers).

Four percent of all special education teachers reported they did not need to meet the state requirements for being highly qualified under *NCLB*. The percentage of such teachers ranged from 3 percent of high school special education teachers to 6 percent of middle school special education teachers. *NCLB*'s standards for teachers apply to teachers of record in core academic classes; some special education teachers moved between schools or within schools, assisting general education teachers. These teachers are not responsible for one specific class and were exempt from the highly qualified provisions.[36]

Exhibit 12
Percentage of Special Education Teachers Reporting That They Were Highly Qualified, Not Highly Qualified, or That They Did Not Know Their Status Under *NCLB*, 2004–05

Exhibit Reads: Fifty-two percent of special education teachers reported they were considered highly qualified, 29 percent reported they did not know their status, and 15 percent reported they were not highly qualified. An additional 4 percent of special education teachers indicated that they did not need to meet requirements to be highly qualified under *NCLB*.

Notes: Column totals may not sum to 100 percent due to rounding.

Source: NLS-*NCLB*, Teacher Survey.

[36] The 2004 reauthorization of *IDEA*, which took place after the development and mailing of the surveys, changed the requirements for highly qualified teachers under both *IDEA* and *NCLB* in such a way that some special education teachers are exempt from meeting the core subject area requirements. There may be teachers in the special education sample that do not provide instruction in core academic subjects. These teachers can be considered exempt from the *NCLB* subject area requirements, and would have selected "I do not need to meet the requirements" on the survey. Those special education teachers who are the exclusive teacher of core academic subjects to students with disabilities, whether new or not new to the profession, must demonstrate competence in all core subjects they teach. The *IDEA* amendments allow those special education teachers who are new to the profession and who teach multiple core academic subjects exclusively to students with disabilities to be highly qualified in one core academic subject at the time of hire and to have two additional years to become highly qualified in all other core academic subjects they teach.

Teachers of LEP students were more likely to report they were not highly qualified than were other teachers.

In general, teachers of LEP students[37] were just as likely as all other teachers to be considered highly qualified under *NCLB* (74 percent and 74 percent, respectively). However, teachers of LEP students more likely than other teachers to report that they were not highly qualified under *NCLB* (6 percent and 4 percent, respectively) (see Appendix Exhibit B.3). If teachers of LEP students provide instruction in multiple core subjects, they are required to demonstrate content knowledge in each, which may account for some of the differences between teachers of LEP students and other teachers.

Under *NCLB*, teachers of LEP students are not required to have certification for English as a Second Language or bilingual education, however, 94 percent of teachers of LEP students do have such certification, compared with 52 percent of teachers who do not teach LEP students. However, only 3 percent of teachers of LEP students have a degree in a field related to the instruction of LEP students (see Appendix Exhibit B.36).

Nearly a quarter (23 percent) of all general education teachers and 29 percent of special education teachers did not know their highly qualified status under *NCLB*.

Most teachers should have some indication of whether they meet the requirements for highly qualified teachers: they know if they have obtained a bachelor's degree and whether they are fully certified within their states. Moreover, many teachers would know if they had passed a test of teacher knowledge. Nonetheless, nearly one quarter of general education teachers were not sure if they were highly qualified under *NCLB*.

Teachers' uncertainty about their status under *NCLB* may reflect primarily a lack of official notification: 97 percent of general education teachers who reported they did not know their status also reported they were not notified; this was true for 91 percent of special education teachers who did not know their status (see Appendix Exhibit B.4). Because some states and districts maintain the data necessary to determine teachers' status under *NCLB*, they conducted analyses of teachers' status and included these data in official reports, but did not always report to teachers.

Education and credentials of teachers who were considered highly qualified

The *NCLB* provisions concerning teacher qualifications highlight specific education and credentials that highly qualified teachers must attain. Among these, full certification is a basic requirement, while others are more closely linked to content knowledge, such as a master's degree or a major in the subject taught or course work equivalent to a major.

Teachers considered highly qualified under *NCLB* were likely to be fully certified, although not *all* highly qualified teachers had state certification.

Most teachers (87 percent) who reported being highly qualified had earned either regular or advanced certification, compared with 69 percent of teachers who were not highly qualified (see Exhibit 13).

[37] Teachers of LEP students are defined as those who teach at least one of the following types of classes: (1) ESL class, (2) sheltered content class for students with LEP—regular academic content delivered using basic English, (3) bilingual class, and (4) class taught in student's primary language (other than English). Of all 7,340 general education teachers sampled for the study, 1,295 are considered as teachers of LEP students, and 5,939 as teachers of non-LEP students.

Similarly, 86 percent of highly qualified special education teachers reported they held a certificate compared with 51 percent of those who reported they were not highly qualified (see Appendix Exhibit B.6). The fact that highly qualified teachers were more likely to be certified under *NCLB* is not surprising because certification is one of the *NCLB* requirements for attaining this status. In fact, it is surprising that not *all* highly qualified teachers reported being certified.[38]

Exhibit 13
Percentage of Teachers with Regular or Advanced Certification, Fewer Than Three Years of Teaching Experience, or Participation in Alternate Route Programs, by Teacher's Highly Qualified Status, 2004–05

Exhibit Reads: Eighty-seven percent of highly qualified teachers reported they had regular, standard or advanced certification.

Source: NLS-*NCLB*, Teacher Survey.

There are several plausible reasons for the reported gaps in the certification of teachers who were considered highly qualified. First, teachers participating in an approved alternate route program may not be certified when hired; under federal regulations, a teacher who participates in an approved alternate route program is considered to be fully certified for up to three years while the individual seeks state certification, and thus may teach for this period as a highly qualified teacher if the individual has a bachelor's degree and subject matter competence. Indeed, of the teachers who reported they were highly qualified, but not certified, 21 percent were in an alternate route program. In addition, in some states the first teaching certificate is provisional. While this certificate reflects fulfillment of all teaching requirements to be a first-year teacher, some beginning teachers with this provisional certificate may have responded that they were not yet fully certified because they had not yet fulfilled teaching and other professional development obligations needed to earn the true full certification. Of the teachers who responded that they were highly qualified but not fully certified, 61 percent had probationary or provisional certification. Another reason for the reports of a lack of certification among teachers who are considered highly qualified may be that some states and districts continued to allow some teachers who were not highly qualified to teach for a limited period on a waiver or as a long-term substitute. *NCLB* prohibits highly qualified teachers to be teaching with waivers or emergency certificates but this requirement apparently has yet to be fully implemented (U.S. Department of Education, 2005).

Teachers who reported they were not considered highly qualified under *NCLB* were more likely to be new to the profession.

Teachers who reported they were *not* highly qualified under *NCLB* were three times more likely to be new to teaching (23 percent) than were teachers who reported they were highly qualified (8 percent).

[38] Note that with regard to highly qualified teachers, the U.S. Department of Education has interpreted "full certification" to mean that teachers must simply be fully certified in any subject and in any grade, not necessarily the subject of instruction.

Studies that have examined the relationship between student learning and teacher experience have found that students learn more from teachers with more experience (Greenwald, Hedges, and Laine, 1996). Recent studies also found that students learn less when their teachers are new (Jepsen and Rivkin, 2002) or have two or fewer years of experience (Rivkin, Hanushek, and Kain, 2001).

Half of all secondary teachers who reported they were considered highly qualified under *NCLB* did not have a degree in the subject they taught. However, they were more likely to have a degree in the subject taught than were teachers who reported they were not considered highly qualified.

Under *NCLB*, secondary teachers may demonstrate subject matter competence if they have an undergraduate major or graduate degree in the subject they teach.[39] About 50 percent of highly qualified middle and high school teachers reported having an undergraduate or graduate degree in the subject taught, compared with 23 percent of teachers who reported they were not considered highly qualified. Among highly qualified high school mathematics teachers, 59 percent had completed an undergraduate or graduate degree in mathematics, compared with 15 percent of high school mathematics teachers who reported they were not highly qualified (see Exhibit 14). This is important to note, because research on mathematics achievement has shown that a master's degree related to mathematics *can* make a difference in student achievement (Goldhaber and Brewer 1997, 2000; Rowan, Chiang, and Miller, 1997).

[39] Under *NCLB*, secondary school teachers are required to be highly qualified for each subject they teach; hence, teachers who taught both English and mathematics classes in a given year were included in the estimation of the percentage of highly qualified teachers for secondary teachers of English and for secondary teachers of mathematics. Thus, the two analytic categories of "Middle School English Teachers" and "Middle School Mathematics Teachers" were not mutually exclusive. Similarly, "High School English Teachers" and "High School Mathematics Teachers" were not mutually exclusive. For further details, see Appendix A.

Exhibit 14
Percentage of Middle and High School Teachers With a Degree in the Subject They Taught, by Teacher's Highly Qualified Status, 2004–05

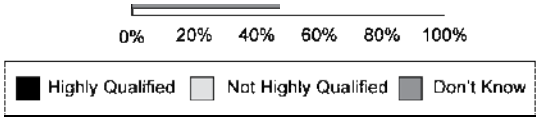


Exhibit Reads: Thirty-nine percent of middle school English teachers who were highly qualified had a degree in the subject they taught, compared with 13 percent of middle school English teachers who were not highly qualified.

Note: This aggregate category includes bachelor's degrees (1st or 2nd), master's degree (1st or 2nd), professional diploma, certificate of advanced graduate studies, or doctoral degree in English or mathematics. It does not include undergraduate degrees in mathematics education or English and language arts education. Middle school n = 947 to 1,087; high school n = 664 to 688.

Source: NLS-*NCLB*, Teacher Survey.

Highly qualified teachers completed more courses in subjects related to their teaching assignment than did teachers who were considered not highly qualified.

Teachers who reported they were highly qualified and those who reported they were not highly qualified under *NCLB* also differed on another qualification indicating subject matter expertise. At each level of school assignment, except for high school English, teachers who reported being highly qualified completed more courses related to their teaching assignment than did teachers who were not considered highly qualified (see Exhibit 15). For example, high school mathematics teachers who reported being highly qualified completed an average of 13.1 courses, while mathematics teachers who were not highly qualified reported they completed an average of 6.8 courses.

Exhibit 15
Average Number of College Courses Completed by Teachers in English and Mathematics, by Teaching Assignment, 2004–05

Exhibit Reads: Highly qualified elementary teachers completed an average of 8 courses in English; teachers who were not highly qualified reported an average of 5.9; elementary teachers who did not know their status reported an average of 6.8 completed.

Note: Elementary school n = 3,838 to 3,860; middle school n = 928 to 1,053; high school n = 647 to 679.

Source: NLS-*NCLB*, Teacher Survey.

Teacher reports on college course-taking shown in Exhibit 15 may include courses in teaching methods as well as in-depth courses in English and mathematics, and may include graduate courses taken after they became classroom teachers in addition to undergraduate course work. Some data suggest that the mathematics courses taken by elementary teachers are more likely to focus on instructional strategies for teaching mathematics than on in-depth study of mathematics. For example, data from the 2005 NAEP Mathematics Teacher Background Questionnaire indicate that fourth-grade teachers were more likely to have completed three or more college courses in mathematics education (46 percent) than in advanced mathematics (14 percent). Eighth-grade teachers, however, were more likely to have completed three or more college courses in advanced mathematics (77 percent) than in mathematics education (63 percent).

Special education teachers who reported being highly qualified and those who reported being not highly qualified under *NCLB* completed a similar number of college courses overall. As expected, special education teachers (both highly qualified and not highly qualified) reported completing a much higher average number of courses covering how to teach students with disabilities than did general education teachers (see Exhibit 16). More notable, however, was the difference in the study of mathematics and English among special education teachers. Special education teachers completed a lower average number of courses in either of these subjects than did general education teachers at each level and within each subject matter area (see Appendix Exhibits B.8 and B.9).

Exhibit 16
Average Number of College Courses Completed by Special Education Teachers in Reading, Mathematics and Teaching Students With Disabilities, by Teacher's Highly Qualified Status, 2004–05

Exhibit Reads: Highly qualified special education teachers reported completing an average of 6.4 courses in English.

Source: NLS-*NCLB*, Teacher Survey.

Under *NCLB*, teachers of LEP students are not required to have specific course work to prepare for teaching such students. However, 69 percent of teachers of LEP students had course work on instructional strategies for teaching LEP students in their preservice preparation. In contrast, 33 percent of teachers who do not instruct LEP students had such course work.

ACCESS TO HIGHLY QUALIFIED TEACHERS

NCLB seeks to ensure that all students are taught by a highly qualified teacher: states are required to report on the percent of classes taught by highly qualified teachers in high- and low-poverty schools, and Title II, Part A, funds may be targeted specifically to address inequities in the distribution of highly qualified teachers. Previous studies, including analyses of teacher responses to the Schools and Staffing Survey, have found that the faculties of high-poverty and high-minority schools were more likely to include teachers who were the least experienced, those who had the lowest scores on assessments and attended the least rigorous training programs, or were teachers on emergency certificates (NCES, 2004; U.S. Department of Education, 2003, 2004, 2005; Eide, Goldhaber, and Brewer, 2004).

Traditionally disadvantaged schools had higher percentages of teachers who were not considered highly qualified than did other schools.

Although the percentages of teachers who were not highly qualified were rather low overall, the percentage of teachers who were not highly qualified under *NCLB* was higher in high-poverty and high-minority schools than in other schools (see Exhibit 17).[40] For example, teachers who were not highly qualified were three times more likely to be teaching in high-minority schools than in low-minority schools (7 percent compared with 2 percent).

In addition, the percent of not highly qualified teachers was related to school size: smaller high schools had a higher percentage of not highly qualified teachers than did medium or large high schools (i.e., 21 percent compared with 2–3 percent) (see Appendix Exhibit B.12).

Exhibit 17
Percentage of Teachers Who Were Highly Qualified, Not Highly Qualified, and Who Did Not Know Their Status, by School Characteristics, 2004–05

Exhibit Reads: The percentage of general education teachers who were not highly qualified was 4 percent overall.

Note: n = 7,276.

Source: NLS-*NCLB*, Teacher Survey.

[40] Although there were statistically significant differences among the percentages of *not* highly qualified teachers by school characteristics (school improvement status, poverty, minority concentration, and urbanicity), the percentage of teachers who reported they were highly qualified under *NCLB* was not significantly related to these four key school characteristics. Similarly, the percentage of teachers who did not know about their own highly qualified status was also not related to the school variables.

Exhibit 18
Percentage of General Education Teachers Considered Not Highly Qualified Under *NCLB*, by School Improvement Status, 2004–05

Exhibit Reads: Three percent of general education teachers in non-identified schools reported they were not considered highly qualified, compared with 8 percent in schools that were in the first or second year of being identified for improvement.

Source: NLS-*NCLB*, Teacher Survey.

Teachers in schools that were identified for improvement for 2004–05 were less likely to be considered highly qualified under *NCLB* than were teachers in non-identified schools (see Exhibit 18). For example, only 3 percent of teachers in non-identified schools reported they were considered not highly qualified, compared with 8 percent in schools that were in the first or second year of identification for improvement, 8 percent in schools in corrective action, and 10 percent of schools in restructuring.

Highly qualified teachers in high-poverty, high-minority schools were more likely to be new to the profession than highly qualified teachers in low-poverty or low-minority schools.

Teachers who were highly qualified in 2004–05 constituted the majority of the teacher workforce. This large and diverse group included teachers who had varying levels of experience, preparation and graduate study. In 2004–05, teachers who were considered highly qualified included those in their first year of teaching and those who had spent decades in front of the classroom, those with graduate degrees in their field, and those with none. When considering the qualifications of highly qualified teachers in schools with different characteristics, some inequities were evident.

Highly qualified teachers in high-poverty and high-minority schools were more likely to have three or fewer years of experience than were highly qualified teachers in low-poverty and low-minority schools. As noted earlier, some studies suggest that students learn less from teachers who have less experience. Highly qualified teachers who lacked experience were also more likely to teach in schools that did not make AYP. Thus, the faculty in schools that made AYP were not only highly qualified under *NCLB*, but also more experienced (see Exhibit 19).

Exhibit 19
Percentage of Highly Qualified Teachers With Fewer Than Three Years of Teaching Experience, by School Characteristics, 2004–05

Exhibit Reads: Eight percent of highly qualified general education teachers had fewer than three years of teaching experience.

Note: n = 5,014.

Source: NLS-*NCLB*, Teacher Survey.

Highly qualified teachers in high-poverty and rural schools were less likely to have a degree in their field than were highly qualified teachers in low-poverty or suburban schools.

Among highly qualified secondary teachers of English and mathematics, those in low-poverty schools and suburban schools were more likely to have a degree in their field, compared to highly qualified teachers in high-poverty and rural schools (see Exhibit 20 and Appendix Exhibit B.13). That is, secondary mathematics teachers were more likely to have an undergraduate degree, master's degree, or further advanced degree in mathematics if they taught in a school with few students living in poverty. Rural schools, too, had fewer teachers with degrees in English or mathematics. This is consistent with state officials' reports that districts in rural areas had difficulty finding staff with appropriate credentials.

Finally, among highly qualified teachers, those who had participated (or were participating) in an alternate route program were more likely to teach in high-poverty schools, high-minority schools, or those that did not make AYP. Other indicators of teacher training, such as full certification or the number of courses taken, did not show statistically significant differences between different types of schools when only considering highly qualified teachers.

Exhibit 20
Percentage of Highly Qualified Secondary English and Mathematics Teachers With a Degree in the Field in Which They Teach, by School Characteristics, 2004–05

Exhibit Reads: Fifty percent of highly qualified secondary general education teachers have a degree in the field in which they teach (either English or mathematics).

Note: n = 2,261. Analyses did not include teachers with undergraduate degrees in mathematics education or English language arts education.

Source: NLS-*NCLB*, Teacher Survey.

NOTIFYING TEACHERS AND PARENTS ABOUT *NCLB* REQUIREMENTS FOR HIGHLY QUALIFIED TEACHERS

Notification of teachers

While a majority of teachers seemed to be aware of state requirements for highly qualified teachers, nearly half of all teachers reported they had not been notified of their 2004–05 status.

Teachers in 2004–05 were, according to their own accounts, generally aware of their state's requirements to be considered highly qualified under *NCLB*. Eighty-three percent of general education teachers reported they were aware of the requirements for highly qualified teachers in their state (see Exhibit 21). High school teachers were least likely to be aware of their state requirements (76 percent) compared with middle and elementary school teachers (86 percent and 85 percent, respectively).

States, districts, and schools adopted various strategies for communicating with teachers about state requirements and for informing teachers about their status. Hawaii, for example, had a Web-based questionnaire that enabled each teacher to immediately determine his or her qualification status. Elsewhere, district and school administrators reported they assumed responsibility for determining teacher qualifications and notifying teachers in a timely manner.

Exhibit 21
Percentage of Teachers Who Were Aware of Their State's Requirements for Them to Be Considered a Highly Qualified Teacher Under *NCLB*, by Teacher Type and Level, 2004–05

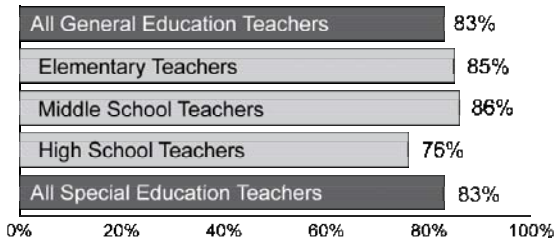


Exhibit Reads: Eighty-three percent of all general education teachers responded that they are aware of their state's requirements for highly qualified teachers under *NCLB*.

Note: n = 7,340, 4,087, 1,887, 1,366, and 1,186 for all general education teachers, elementary teachers, middle school teachers, high school teachers, and all special education teachers, respectively.

Source: NLS-*NCLB*, Teacher Survey.

Teachers most commonly learned about the highly qualified teacher requirements from a principal or another administrator (73 percent of general education teachers) (see Exhibit 22). Thirty-six percent of all general education teachers reported that a professional development opportunity was a source of information about the highly qualified teacher requirements in their state.

While teachers were generally aware of *NCLB* requirements, the law is silent with regard to procedures for notifying the teachers of their own status. In fact, nearly one-half (48 percent) of all general education teachers reported they were not notified of their highly qualified status as of the 2004–05 school year (see Exhibit 23). Among general education teachers, high school teachers were least likely to be notified of their own highly qualified status (43 percent), compared with elementary (54 percent) and middle school teachers (53 percent). Special education teachers were even less likely to be notified of their highly qualified status than general education teachers (43 percent compared with 52 percent).

Exhibit 22
Percentage of Teachers Who Reported Sources Through Which They Learned About Requirements to Be Considered a Highly Qualified Teacher Under *NCLB*, by Teacher Type, 2004–05

Exhibit Reads: Seventy-three percent of all general education teachers reported they learned about the requirements of *NCLB* through a principal or administrator.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit 23
Percentage of Teachers Who Were Notified of Their Highly Qualified Status, by Teacher Type and Level, 2004–05

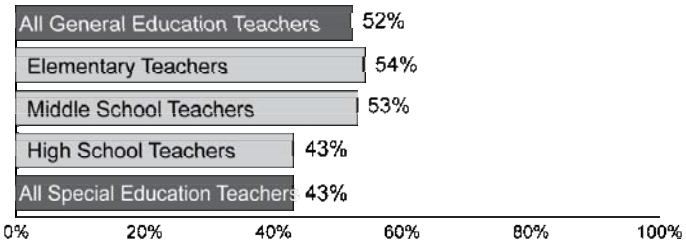


Exhibit Reads: Fifty-two percent of all general education teachers responded that they had been notified of their own highly qualified teacher status under *NCLB*.

Note: n = 7,207, 4,021, 1,843, 1,343, and 1,153 for all general education teachers, elementary teachers, middle school teachers, high school teachers, and all special education teachers, respectively.

Source: NLS-*NCLB*, Teacher Survey.

The large percentage of teachers who did not know their status were potentially limited in their ability to take action to become highly qualified if needed. By contrast, those teachers who had been notified that they were not yet considered highly qualified could address deficiencies in their qualifications.

Notification of parents

Teachers and their supervisors are not the only stakeholders who require notification of teachers' highly qualified status. *NCLB* also requires that districts provide parents access to information about the qualifications of the teachers who are responsible for their children's instruction. Such communication can serve as an explicit incentive for teachers to become highly qualified themselves or for principals to staff classes with highly qualified teachers. The reporting requirements of Section 1111(h)(6) of *NCLB* are specific; the law states that at a minimum, the following information should be provided to parents upon their request:

i. Whether the teacher has met state qualification and licensing criteria for the grade levels and subject areas in which the teacher provides instruction.

ii. Whether the teacher is teaching under emergency or other provisional status through which state qualification or licensing criteria have been waived.

iii. The baccalaureate degree major of the teacher and any other graduate certification or degree held by the teacher, and the field of discipline of the certification or degree.

iv. Whether the child is provided services by paraprofessionals and, if so, their qualifications.

In addition, if a school received Title I funds, the district must also provide "timely notice" to each parent if his or her child is assigned to or has been taught for four or more consecutive weeks by a teacher who is not highly qualified.

Many districts did not notify parents as required under *NCLB*, and parental notification letters regarding teacher qualifications were not consistently clear.

Many districts and schools reported that they did not notify parents about whether their child's teacher was highly qualified, as required under *NCLB*. High-poverty schools with teachers who did not meet the highly qualified requirement were much more likely to report having notified parents of the highly qualified status of their child's teacher (76 percent) than were low-poverty schools (31 percent).

In an analysis of parent notification letters from a subsample of 25 districts,[41] about one-third of the letters informed parents of their "right to know" in the first two sentences. However, this notification was not always expressed in clear language. One letter began, "As a parent of a student attending a school that is receiving Federal Title I dollars, you have the right to know if your child is assigned to, or taught for four or more consecutive weeks by a teacher who has a bachelor's degree but does not hold the required state certification." Others started with an affirmation that the district was committed to ensuring a high-quality education ("It is the intent and goal of every school in the district to employ highly qualified teachers and staff to provide the best education possible for your child") while providing information on parents' information rights in the second paragraph. Only one letter in the sample clearly outlined the state policy for highly qualified teachers.

[41] The NLS-*NCLB* collected documents pertaining to *NCLB* from a sub-sample of 25 districts. Document analyses were based on this sub-sample.

Among the 20 letters informing parents that their child was assigned to a teacher who was not highly qualified under *NCLB*, most reassured parents that their child's teacher was working toward becoming highly qualified. More than half of the letters further explained that the teacher was being closely monitored or supported during this process. Nine letters informed parents of the teacher's present qualifications, and eight letters expressed confidence in the teacher and the quality of the education the students were receiving.

Few of these letters included clear contact information if parents wanted more information: two letters included the principal's phone number, one included a district Web site, and nine others advised parents to contact the principal or school but did not include the phone number. Still others provided no contact information or did not allude to further contact. A little more than half of the letters reviewed had been translated into languages other than English, including Spanish, Vietnamese, Cambodian, Chinese, Portuguese, Haitian, Somali, and Cape Verdean.

REASONS TEACHERS WERE NOT YET CONSIDERED HIGHLY QUALIFIED, AND PLANS TO BECOME HIGHLY QUALIFIED

The relatively small percentage of teachers who reported they were not yet considered highly qualified attributed their status to one of three factors: (1) a lack of full certification, (2) insufficient demonstration of subject area knowledge in their teaching assignment, or (3) insufficient demonstration of subject area knowledge in another subject they teach. Elementary teachers who were not highly qualified (35 percent) were more likely than middle (18 percent) or high school (11 percent) teachers to attribute their status to a lack of full certification (see Exhibit 24). Middle school (55 percent) and high school mathematics teachers (61 percent) who were not highly qualified were more likely to report this designation was due to not having demonstrated subject matter competency in their primary assignment; this reason was also reported, to a lesser extent, by middle school English teachers (25 percent) (see Exhibit 24).

Exhibit 24
Reasons Why Teachers Were Considered Not Highly Qualified, by Teacher Level and Subject Taught, 2004–05

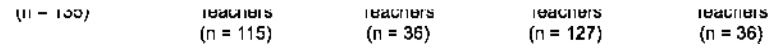


Exhibit Reads: Thirty-five percent of elementary teachers indicated they were not highly qualified because they lacked full certification or licensure.

Source: NLS-*NCLB*, Teacher Survey.

Teachers who reported they were not considered highly qualified indicated they would take action to improve their status. Common actions identified by teachers were (1) obtaining certification or licensure and (2) demonstrating content expertise in the subject of their teaching assignment by taking a state test (see Exhibit 25). Passing state assessments is often part of obtaining certification or licensure, so these particular choices made by teachers seem reasonable if they want to achieve highly qualified *NCLB* status.

The specific pathway to becoming highly qualified under *NCLB* differed by the grade level and subject taught. For example, more elementary teachers (44 percent) reported that they intended to earn a master's or doctoral degree, compared with middle (27 percent) or high school (21 percent) teachers or special education teachers (28 percent). Demonstrating content expertise through a teacher assessment such as Praxis II or a state-designed assessment was the approach most frequently reported by middle school teachers (48 percent) (see Exhibit 25).

One in 10 teachers who reported they were not highly qualified said they were considering a change in teaching assignments; fewer said they were considering leaving the teaching profession.

Very few teachers at any level who were not highly qualified under *NCLB* were contemplating leaving their profession; the range was between 4 percent of special education teachers and 7 percent of middle school teachers. However, 23 percent of high school teachers, as well as 27 percent of special education teachers, were considering a change in teaching assignments (e.g., subject or grades), which was not an option for elementary teachers (4 percent) (see Exhibit 25).

Exhibit 25
Percentage of Teachers Reporting Taking Actions or Making Plans in Response to Their Own Not Highly Qualified Status Under *NCLB*, by Teacher Level and Type

Exhibit Reads: Forty-three percent of all general education teachers indicated they would obtain licensure in their subject area to become highly qualified.

Note: Respondents were asked to "check all that apply."

Source: NLS-*NCLB*, Teacher Survey.

DISCUSSION

In 2004–05, the great majority of students were taught by teachers who were considered highly qualified under *NCLB*, although precise numbers differ depending on the source. For example, about three quarters of teachers (74 percent) reported they were considered highly qualified and principals reported that 82 percent of teachers were highly qualified. However, 23 percent of teachers reported that they did not know if they were considered highly qualified. Analyses of the qualifications of teachers who did not know their status indicated that most had the qualifications necessary to be considered highly qualified.

These findings are tempered by data that provide evidence of enduring inequities. In 2004–05, teachers in schools identified for improvement were more likely to be *not* highly qualified than were teachers in other schools. Even among teachers who were considered highly qualified, those in high-need schools had less experience and were less likely to have a degree in their field. Thus, the designation of highly qualified is not a guarantee that students will be taught by teachers with similar skills and knowledge—and the differences among teachers continued to disadvantage the students who are most in need.

States, districts, and schools did not consistently inform teachers or parents of whether teachers met *NCLB* requirements. Nearly half of teachers were not notified of whether they were considered highly qualified under *NCLB*. In low-poverty districts, one-third of parents were notified if their children were taught by a teacher who was not highly qualified. If teachers are to take steps to improve their qualifications, they must be aware of their own status under *NCLB*.

IV. RECRUITMENT AND RETENTION OF HIGHLY QUALIFIED TEACHERS AND SUPPORT FOR TEACHERS WHO WERE NOT HIGHLY QUALIFIED

To support the law's requirements to staff every core academic classroom with a highly qualified teacher by the end of the 2005–06 school year, *NCLB* allows states and districts to use Title II, Part A, funds to implement strategies to improve teacher qualifications. As noted in Chapter III, *NCLB* also requires states to develop strategies to ensure an equitable distribution of highly qualified and experienced teachers. Districts, which receive close to 95 percent of Title II, Part A, funds, can use this federal money to provide recruitment and retention incentives for highly qualified teachers as well as to provide support for teachers who are not considered highly qualified. The law also weights Title II, Part A, funds toward districts with higher rates of poverty so these districts can better address the challenges they face in improving teacher qualifications. This chapter discusses strategies and actions that states and districts took to increase and maintain their proportion of highly qualified teachers, paying particular attention to high-need subject areas and the activities of high-needs districts (i.e., districts with high rates of poverty and districts with high concentrations of minority students).

Key Findings

- **In 2004–05, a majority of states and districts reported difficulty attracting highly qualified teachers in special education, mathematics, and science.**
- **Two-thirds of high-minority, high-poverty and urban districts reported that they faced workforce challenges, such as inadequate teacher salaries and competition with other districts, when recruiting highly qualified applicants during the 2003–04 school year.**
- **High-poverty, high-minority, and large districts were most likely to report offering financial incentives and alternate certification routes to recruit highly qualified teachers.**
- **High-poverty, high-minority, large, and urban districts were most likely to report providing instructional coaching and sustained mentoring programs to retain highly qualified teachers.**
- **During the 2003–04 school year, 40 states and the District of Columbia used an array of strategies to recruit highly qualified applicants, and more than half of states had programs in place to retain highly qualified teachers.**

RECRUITMENT AND RETENTION CHALLENGES

Districts reported several subject and specialty area challenges as well as workforce barriers associated with attracting and retaining highly qualified teachers. Some of the most frequently cited subject and specialty area challenges included recruiting highly qualified applicants in mathematics, science, and special education. Commonly reported workforce barriers included competition with other districts and lack of financial resources.

A majority of districts reported difficulty attracting highly qualified applicants in special education, mathematics, and science.

Approximately 60 percent of districts faced challenges in attracting qualified candidates in special education, mathematics, and science, compared to 36 and 29 percent, respectively, in ESL and reading. With regard to workforce challenges, 53 percent of districts reported inadequate teacher salaries as a barrier to improving teacher qualifications, in contrast with 36 percent of districts that described competition with other districts as a workforce challenge (see Exhibit 26).

Exhibit 26
District Challenges to Improving Teacher Qualifications, 2003–04

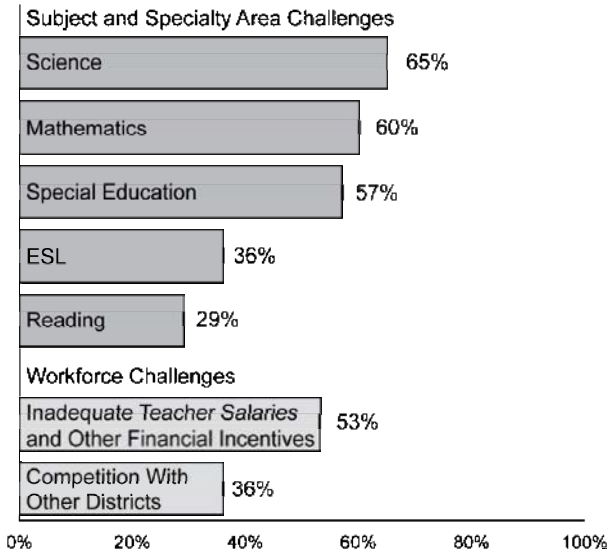


Exhibit Reads: Sixty-five percent of districts reported that attracting qualified science applicants posed a moderate or major challenge to improving teacher qualifications in 2003–04.

Note: n = 277 to 281.

Source: NLS-*NCLB*, District Survey.

Over 90 percent of high-minority districts reported difficulty attracting highly qualified applicants in science and mathematics.

Challenges related to recruiting highly qualified applicants in particular subject areas differed by district characteristics. In mathematics and science, for example, more than 90 percent of high-minority districts reported challenges associated with attracting highly qualified applicants, compared with about 60 percent of low-minority districts (see Exhibit 27). In reading, almost half of high-minority, high-poverty and rural districts faced these barriers, compared to less than 30 percent of low-minority and low-poverty districts and 20 percent of urban districts (see Appendix Exhibit B.22).

Exhibit 27
Percentage of Districts Facing Challenges in Recruiting Qualified Applicants in Science and Mathematics, by District Characteristics, 2003–04

Exhibit Reads: Sixty-five percent of districts reported that an insufficient number of qualified applicants in science posed a moderate or major challenge to improving teacher qualifications in 2003–04.

Note: n = 277 to 281.

Source: NLS-*NCLB*, District Survey.

Compared with other districts, high-poverty, high-minority, and urban districts were more likely to describe competition with other districts and inadequate teacher salaries as recruitment barriers.

Workforce challenges also differed by district characteristics. High-poverty, high-minority, and urban districts were more than twice as likely as low-poverty, low-minority, and rural districts to report competition with other districts as a barrier to improving teacher qualifications (see Exhibit 28). Similarly, high-poverty and high-minority districts were more likely to report that inadequate teacher salaries were a moderate or major challenge to improving teacher quality in their district (71 percent and 64 percent, respectively, compared with about half of low-poverty and low-minority districts).

Exhibit 28
Percentage of Districts Facing Competitive and Financial Challenges in Recruiting Highly Qualified Applicants, by District Characteristics, 2003–04

Exhibit Reads: Thirty-six percent of districts reported competition with other districts as a moderate or major challenge to improving teacher qualifications in 2003–04.

Note: n = 277 to 281.

Source: NLS-*NCLB*, District Survey.

Although districts assume much of the burden in recruiting and retaining teachers, respondents at the state level also spoke of specific challenges associated with teacher recruitment, primarily with regard to rural areas, special education, and mathematics and science. Often, these challenges were overlapping, e.g., states reported difficulty attracting highly qualified mathematics teachers in rural areas. As one state interviewee explained, "The problem exists within districts that are very rural and they have a hard time particularly in mathematics and science recruiting highly qualified teachers … I know of at least three districts that have called me in recent weeks expressing that frustration." Another state official reported, "[If] a school district loses a teacher in a small rural school, and they can't find a teacher who can come in with a major to teach two courses, they have to assign people out of their area."

STRATEGIES TO RECRUIT HIGHLY QUALIFIED TEACHERS

District-level recruitment strategies

In response to these subject and specialty area challenges as well as workforce barriers, districts employed a wide range of recruitment strategies allowable under Title II, Part A. The most common of these, used by 40 percent of districts, was to create partnerships with institutions of higher education. About one-third of districts streamlined the hiring process, compared with one-fifth that offered financial incentives or alternate certification routes (see Exhibit 29).

Over 80 percent of high-poverty and large districts reported engaging in partnerships with higher education institutions as a recruitment strategy.

Exhibit 29
Percentage of Districts Using Selected Strategies to Recruit Highly Qualified Teachers, 2003–04

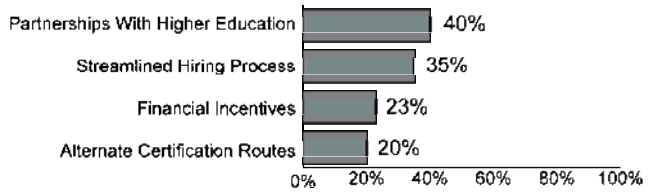


Exhibit Reads: Forty percent of districts used partnerships with higher education as a means to recruit highly qualified teachers in 2003–04.

Note: n = 278 to 284.

Source: NLS-*NCLB*, District Survey.

Districts can bolster recruitment efforts when they partner with institutions of higher education that feature teacher preparation programs. Districts differed, however, in the extent to which they reported forming such partnerships. Eighty-one percent of high-poverty districts and 80 percent of large districts reported establishing partnerships with higher education to recruit highly qualified teachers, compared with 29 percent of low-poverty districts and 27 percent of small districts (see Appendix Exhibit B.23).

About 70 percent of medium and large districts reported offering streamlined hiring processes to recruit teachers.

Districts with streamlined hiring systems, such as reduced bureaucracy or Web sites that list current vacancies and feature efficient online application procedures have a distinct advantage in recruitment over districts with lengthy and burdensome hiring processes. Medium and large districts were most likely to employ streamlined hiring systems; almost 70 percent of medium and large districts reported streamlining the hiring process, compared with less than one-quarter of small districts (see Appendix Exhibit B.23).[42] To gauge the influence of *NCLB* regarding teacher recruitment practices, districts were asked whether they had introduced streamlined hiring processes only within the past three years. Approximately one-quarter of medium and large-size districts reported recent introductions of streamlined process, compared to only 3 percent of small districts.

[42] This strategy is consistent with suggestions made in The New Teacher Project's report, Missed Opportunities, which cites the failure of many large urban districts to make job offers in the early summer months is largely to blame for high-quality teacher candidates not accepting jobs in these districts. This report is available at: http://www.tntp.org/files/MissedOpportunities.pdf. (accessed October 2006).

High-poverty and high-minority districts were most likely to offer financial incentives and alternate certification routes to recruit highly qualified teachers.

Although districts reported offering alternate certification routes and financial incentives less frequently than other strategies, these strategies differed greatly by district characteristics. For example, even though fewer than one-quarter of districts used financial incentives, such as increased salaries, signing bonuses, or housing incentives to attract highly qualified candidates, more than three-quarters of high-minority districts offered such incentives. High-poverty, high-minority, and large districts were also more likely than low-poverty, low-minority and small districts to offer alternate or "fast track" certification routes as a strategy to attract highly qualified applicants (see Exhibit 30).

Exhibit 30
Percentage of Districts Using Financial or Alternate Certification Incentives to Recruit Highly Qualified Teachers, by District Characteristics, 2003–04

Exhibit Reads: Twenty-three percent of districts used financial incentives, such as increased salaries or signing bonuses, to recruit highly qualified teachers in 2003–04.

Note: n = 277 to 281.

Source: NLS-*NCLB*, District Survey.

More than two-thirds of high-poverty, high-minority, and large districts reported targeting recruitment efforts to increase the number of highly qualified teachers in hard-to-staff subjects.

Because most districts reported facing challenges in recruiting science, mathematics, and special education teachers, it is not surprising that districts targeted efforts to attract teachers in hard-to-staff subject areas. Overall, 36 percent of districts targeted recruitment efforts in hard-to-staff subjects, but more than two-thirds of high-poverty, high-minority, and large districts targeted recruitment in this way (see Appendix Exhibit B.23).

Less than 10 percent of districts reported placing a major emphasis on increasing the proportion of highly qualified teachers in the district's lowest-performing schools.

Teachers transfer between schools within districts—often *away* from schools that have the most difficulty attracting and keeping highly qualified teachers—so districts often pay particular attention to retaining highly qualified teachers in the highest-need schools. Eight percent of districts reported placing a major emphasis on increasing the number of highly qualified teachers in the district's lowest performing schools (see Appendix Exhibit B.25). However, there were differences by district characteristics with about 40 percent of large districts and 25 percent of urban districts reporting such an emphasis on the lowest performing schools in the district.

State-level recruitment strategies

During the 2003–04 school year, 40 states and the District of Columbia used an array of strategies—including scholarships, bonuses, and loan forgiveness—to recruit teachers; the strategy offered varied by state.

Many state education agencies were involved in activities to help recruit highly qualified teachers, particularly in subjects and schools that are traditionally hard to staff. As one state official explained,

> "The office of the [our state's] Teacher Center provides assistance with school districts in finding highly qualified teachers. We do teacher recruitment, helping with teacher certification, so in that respect, that particular office has an ongoing program, a staff of recruiters that assist districts as needed. We wait for the districts to give us a call, we provide a kind of placement service."

Thirty states offered incentives to attract individuals to the teaching profession, without focusing on a particular subject or school type. These incentives often took the form of scholarships (17 states) and loan forgiveness (15 states). Other incentives included bonuses with a specific purpose; Nevada, for example, provided a $2,000 signing bonus to teachers who were new to the state. Ohio earmarked funds for incentives to increase the number of minority teachers in the state. In Rhode Island, the Office of Special Needs provided support to districts in engaging activities to recruit teachers who are culturally diverse.

State recruitment strategies that focused on hard-to-fill subjects (offered in 23 states) and those that were intended to attract teachers to high-poverty, low-performing schools (21 states) often overlapped; 10 states had strategies with this dual focus. These incentives were generally targeted to fill particular instructional needs within the state, and some states adjusted the incentives on the basis of the length of

time that a teaching position was advertised and unfilled. One state official, who explained that his state did not have a targeted incentive, described another policy through which the state had redistributed teachers: "We have the salary equity mandate that … encouraged a lot of teachers to go into the more rural, high-poverty areas once the salary was equalized with urban [districts]." To help avoid potential teacher shortages in given subjects, Ohio created an annual teacher supply-and-demand report and provided it to institutions of higher education that train future teachers. Finally, in 17 states, recruitment efforts were targeted primarily to individuals who reach the teaching profession through alternate routes. Additional state strategies included offering focused technical assistance, using Title II, Part A, funds for incentives, and using teacher quality data to redistribute teachers to the highest-need schools.
Three states that did not use incentives to attract teachers to hard-to-fill subjects, high-poverty schools, or low-performing schools indicated that they were considering such legislation or state board policy in 2004–05, but one state official noted that the incentive program would be cut due to budget shortfalls.

Thirty-seven states and Puerto Rico operated a job bank or central recruiting system to facilitate the recruitment of highly qualified teachers, usually Web-based (30 states). Four other states indicated that although they did not have a state job bank, local job banks existed or the state partnered with other organizations to fill this role. Some states have undertaken creative strategies to reach potential teachers; for example, Delaware sought to recruit out-of-state teachers by broadcasting a five-minute information video on televisions in beachside hotels.

STRATEGIES TO RETAIN HIGHLY QUALIFIED TEACHERS

District-level retention strategies

In addition to support for recruitment, *NCLB* provides funds for districts to retain highly qualified teachers. The retention strategies most frequently reported by districts were fostering collegial learning activities (82 percent) and providing mentoring or induction programs (69 percent). Financial incentives, instructional coaching and career enhancement opportunities complemented these approaches (see Exhibit 31).

With the exception of financial incentives and special career enhancement opportunities, the proportion of districts using these retention strategies varied by district characteristics. Nearly all large and urban districts (98 percent) offered collegial activities, such as common planning time, teacher networks or work groups, but small and rural districts were less likely to do so (see Appendix Exhibit B.24).

Exhibit 31
Percentage of Districts Using Various Strategies to Retain Highly Qualified Teachers, 2003–04

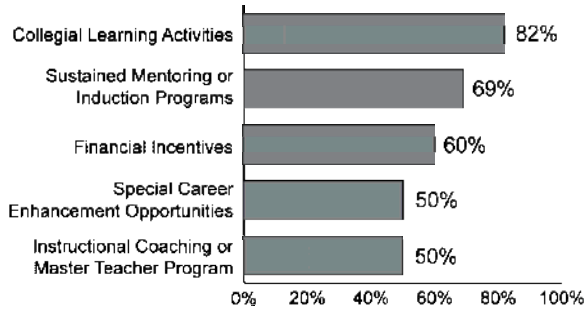


Exhibit Reads: Eighty-two percent of districts reported using collegial learning activities in order to support or retain highly qualified teachers in 2003–04.

Note: n = 286 to 289.

Source: NLS-*NCLB*, District Survey.

High-poverty, high-minority, large, and urban districts were most likely to report providing instructional coaching and sustained mentoring programs to retain highly qualified teachers.

Almost 80 percent of high-minority districts reported providing mentoring as a retention mechanism for highly qualified teachers, in contrast to 57 percent of low-minority districts. Virtually all medium and large districts, 94 percent and 98 percent respectively, reported providing sustained mentoring programs (see Exhibit 32).

Barely one-third of low-minority districts offered instructional coaching programs, but districts with greater proportions of minority students were more than twice as likely to implement such programs (see Exhibit 32).

Special career enhancement opportunities, such as career ladders and support for advanced certification were used by about half of all districts. Stipends for college course work, paid release time, and merit pay were only somewhat more common, implemented in about 60 percent of all districts. Again, these strategies were more commonly used among high-minority districts than among those with lower proportions of minority students (see Appendix Exhibit B.24).

Exhibit 32
Percentage of Districts Using Instructional Coaching or Mentoring Programs to Retain Highly Qualified Teachers, by District Characteristics, 2003–04

Exhibit Reads: Fifty percent of districts offered instructional coaching or master teacher programs to support or retain highly qualified teachers in 2003–04.

Note: n = 286 to 289.

Source: NLS-*NCLB*, District Survey.

State-level retention strategies

More than half of states had programs in place to retain highly qualified teachers, and these programs were targeted both to new teachers and existing teachers.

Most of the retention strategies used by states focused on mentoring or induction programs for teachers new to the profession: 27 states required or funded such programs for all new teachers in 2003–04. Moreover, seven states reported plans to add an induction program in either the 2004–05 or 2005–06 school year. Such programs were designed to support new teachers in ways that encouraged them to stay in the classroom. For example, through the Louisiana Teacher Assistance and Assessment Program, new teachers in Louisiana were assigned a trained mentor who worked with them for their first two years. The role of the mentor was to coach the new teachers in classroom management and instructional

improvement, to model effective teaching strategies, and to help the new teachers determine appropriate professional development.

In 2003–04, 17 states implemented activities to retain existing teachers; of these, 12 were focused on encouraging teachers to obtain certification through the National Board for Professional Teaching Standards. Because teachers who completed National Board certification received pay increases (an annual increase ranging from $2,000 to $7,500) and were recognized for their expertise, state interviewees perceived these activities as effective tools for retaining teachers not new to the profession. In addition, states devised other strategies for retaining teachers, including performance-based incentives and leadership programs that enable teachers to build new skills. Three states established task forces or action teams to research possible recruitment and retention strategies.

TECHNICAL ASSISTANCE FOR RECRUITING AND RETAINING HIGHLY QUALIFIED TEACHERS

Districts also reported on the extent to which they needed, received and found sufficient state technical assistance in recruiting and retaining highly qualified teachers. Compared to implementing their own recruitment and retention strategies, districts were less likely to report utilizing state technical assistance.

Less than 20 percent of districts reported that they needed state technical assistance for recruitment and retention—but large districts were most in need.

Only 17 percent of districts overall said they needed assistance in recruiting and retaining teachers, but large districts (41 percent) were most likely to report this need. Although only 20 percent of districts reported receiving state technical assistance regardless of whether they said they needed it, half of large districts reported receiving it. More than 80 percent of districts that received state technical assistance found it to be sufficient (see Appendix Exhibit B.27).

Overall, one-third of schools reported they were in need of technical assistance from an outside source to support their recruitment and retention efforts, with almost 50 percent reporting that they received technical assistance in this area regardless of need. Similar to the district data, more than 85 percent of schools found the technical assistance sufficient (see Appendix Exhibit B.28).

In the areas of recruitment and retention, schools varied in their need of, receipt of, and satisfaction with technical assistance. More than 60 percent of principals in schools identified for improvement reported a need for state or district technical assistance, compared with about 25 percent of principals in schools not identified for improvement. High-poverty, high-minority, and middle and high schools were more likely than low-poverty, low-minority, and elementary schools to report this need (see Exhibit 33).

With regard to receiving technical assistance, about two-thirds of schools identified for improvement and two-thirds of high-poverty and high-minority schools received this type of technical assistance. Similar to the district data, more than 85 percent of principals said the technical assistance they received was sufficient to meet their school's needs (see Appendix Exhibit B.28).

Exhibit 33
Percentage of Schools Needing Technical Assistance for Recruitment and Retention of Highly Qualified Teachers, by School Characteristics, 2003–04

Exhibit Reads: Thirty-three percent of principals reported needing technical assistance to develop strategies to recruit and retain highly qualified teachers in 2003–04.

Note: n = 258 to 262.

Source: NLS-*NCLB*, Principal Survey.

STRATEGIES TO SUPPORT TEACHERS WHO ARE NOT HIGHLY QUALIFIED

A minority of districts provided targeted support for teachers who were *not* considered highly qualified.

In addition to efforts to recruit and retain highly qualified teachers, some districts and schools reported providing support for teachers who were not highly qualified to meet state criteria. One-quarter of all districts required new—not yet highly qualified—teachers to complete an induction or mentoring program, and such programs were much more common in large districts (60 percent) than in small districts (19 percent). Seventeen percent of districts assigned teachers who were not highly qualified to an instructional coach or master teacher; this approach also was more common in large districts (43 percent) than in small districts (11 percent) (see Exhibit 34). Districts also reported providing increased amounts of professional development to teachers who were not highly qualified (35 percent); there was little variation by poverty or minority level or district size (see Appendix Exhibit B.29). Very few districts (4 percent) transferred teachers who were not highly qualified to other schools in the district upon review of their qualifications.

Exhibit 34
Percentage of Districts Providing Coaching or Mentoring Support for Teachers Who Were Not Highly Qualified, by District Characteristics, 2003–04

Exhibit Reads: Twenty-five percent of districts required teachers who were newly hired and not highly qualified to participate in mentoring programs in 2003–04.

Note: n = 261 to 275.

Source: NLS-*NCLB*, District Survey.

More than two-thirds of all principals reported that their schools provided teachers who were not highly qualified with increased amounts of professional development, and approximately 9 in 10 principals in high-poverty and high-minority schools did so.

Schools also reported providing assistance and incentives to teachers designated as not highly qualified. More than two-thirds of the principals reported providing such teachers with increased amounts of professional development. Approximately 90 percent of principals in high-poverty and high-minority schools, compared with 38 percent in low-poverty and 56 percent in low-minority schools, provided teachers who were not highly qualified with increased amounts of sustained, intensive, content-focused professional development. These differences were similar between schools identified and not identified for improvement (see Exhibit 35).

Principals also reported on the extent to which they reassigned teachers who were not highly qualified from subjects for which they were not highly qualified. Such reassignments were more common at the school level than at the district level. Four in ten principals reassigned teachers to other subjects after reviewing their credentials. This practice was most common in high schools (56 percent) and high-poverty schools (45 percent) (see Exhibit 35).

Exhibit 35
Percentage of Schools Providing Teachers Who Were Not Highly Qualified With Increased Amounts of Professional Development or Reassigning Teachers Who Were Not Highly Qualified to Other Subjects, by School Characteristics, 2003–04

Exhibit Reads: Sixty-nine percent of principals reported providing increased amounts of sustained, intensive and content-focused professional development to teachers who were not highly qualified to increase their qualifications in 2003–04.

Note: n = 328 to 334.

Source: NLS-*NCLB*, Principal Survey.

DISCUSSION

Districts worked to recruit highly qualified teachers by establishing partnerships with higher education, streamlining the hiring process, offering financial incentives, and providing alternate certification routes. Forty-two states assisted with recruitment during the 2003–04 school year through such strategies as scholarships to pay for taking courses, signing bonuses, and loan forgiveness programs. District retention strategies, which were more common than recruitment strategies, included offering collegial

learning activities, sustained mentoring or induction programs, financial incentives, and instructional coaching or master teacher programs. Recruitment and retention strategies were more likely to be reported by districts most in need of highly qualified teachers—districts with high proportions of high-poverty schools, high-minority schools, and schools identified for improvement. States and districts both reported facing difficulties in attracting highly qualified applicants in the subjects of math and science and in the field of special education.

District support strategies for teachers who were not considered highly qualified included assigning an instructional coach, providing sustained mentoring, and offering increased amounts of professional development. Although a minority of districts reported providing these forms of targeted assistance, large and high-poverty districts were more likely to do so. Schools also reported providing support to teachers who were not considered highly qualified by providing increased amounts of professional development and, less frequently, by reassigning teachers from subjects which they were not qualified to teach.

Districts were not likely to report needing or receiving state technical assistance in recruitment and retention, although large districts more commonly reported needing and receiving such assistance. Schools were more likely than districts to report needing and receiving technical assistance in recruitment and retention, and principals of high-poverty and large schools were especially likely to need and receive such technical assistance. Nearly all district and school respondents that received technical assistance found it to be sufficient.

V. PROFESSIONAL DEVELOPMENT

Under *NCLB*, schools are held accountable for ensuring that all students reach proficiency on state assessments by 2013–14, so it is vital that teachers have the knowledge and skills to teach effectively. *NCLB* makes professional development a key strategy for improving teachers' knowledge and skills by requiring Title I districts to spend at least 5 percent of their Title I, Part A, allocation on professional development and Title I schools identified for improvement under *NCLB* to spend 10 percent of their Title I funds for professional development—requirements that continued from the previous reauthorization of *ESEA*. Several other *NCLB* programs authorize use of funds for professional development, ranging from large formula programs such as Title II, Part A, to a variety of smaller discretionary programs.

The quality of the professional development teachers receive will be critically important if it is to have the intended effects of improving instruction and student learning. *NCLB* requires states to report annually on the percentage of teachers who participate in high-quality professional development and to set targets for increases in participation from 2002–03 to 2006–07. *NCLB* supports professional development for all teachers regardless of their highly qualified status; therefore the current chapter focuses on professional development experienced by all teachers.

Key Findings

- **Nearly all teachers reported that they participated in content-focused professional development in reading or mathematics in 2003–04, but few participated for more than 24 hours.**
- **Teachers in Title I elementary schools identified for improvement were more likely than teachers in non-identified schools to report receiving content-focused professional development in reading and mathematics that lasted more than 24 hours.**
- **Professional development activities were often consistent with standards, assessments and improvement plans, but few teachers reported that their activities often built on what they had learned in earlier professional development experiences.**
- **Teachers in high-poverty, high-minority, and urban schools and Title I schools identified for improvement reported that they participated in more hours of professional development than teachers in other schools.**
- **Special education teachers were less likely than general education teachers to report that their professional development was focused on instructional strategies for teaching reading and mathematics, involved active learning, or was designed to support state or district standards or assessments.**
- **Both highly qualified and not highly qualified teachers reported similar amounts of professional development experiences.**

Several *NCLB* programs authorize use of funds for professional development—ranging from formula programs with large allocations such as Title II, Part A, to large discretionary programs like the Teaching American History Program, which has provided hundreds of millions of dollars over the past several years, to programs with small allocations such as Professional Development for Arts Educators

(under Title V). As did the previous reauthorization of *ESEA*, *NCLB* requires districts to spend at least 5 percent and schools identified for improvement to spend 10 percent of Title I, Part A, funds on professional development—a requirement designed to ensure that identified schools focus on instructional improvement.

To promote attention to the quality of the activities purchased by these funds, *NCLB* requires states to report on the percentage of teachers who participated in high-quality professional development. The definition of professional development included in the law (Title IX) emphasizes that professional development activities:

> "Are high quality, sustained, intensive, and classroom-focused in order to have a positive and lasting impact on classroom instruction and the teacher's performance in the classroom and are not 1-day or short-term workshops or conferences …"
> (Section 9101(34))

Research to date suggests that a similar set of features of professional development are related to self-reported changes in classroom practice; professional development that emphasizes content knowledge also may be correlated with changes in student achievement (Cohen and Hill, 1998; Desimone, Porter, Garet, Yoon, and Birman, 2002; Garet, Porter, Desimone, Birman, and Yoon, 2001; Kennedy, 1998).[43] Specifically, studies of the former Eisenhower Professional Development Program conducted by Garet et al. (2001) found that three core features of professional development activities were related to teachers' self-reported increases in knowledge and skills and changes in classroom practice. These core features include (1) a focus on teachers' knowledge of curricular content in their subject(s); (2) opportunities for active learning (e.g., observing classroom instruction, being observed while teaching a lesson, or reviewing student work); and (3) coherence with other learning activities. The following three structural features were related to the core features: (1) the duration of the activity, in terms of both the number of contact hours and span of time over which the activities were spread; (2) the form of the activity (e.g., workshop vs. study group); and (3) collective participation of teachers from the same school, grade, or subject. After a brief discussion of state-reported participation in high-quality professional development, the remainder of the chapter examined teachers' reports of the extent to which their professional development experiences included these three core and three structural features of professional development.

STATE AND DISTRICT USES OF TITLE II, PART A, FUNDS FOR PROFESSIONAL DEVELOPMENT

NCLB requires states to report on the percentage of teachers who participated in "high-quality" professional development, but the validity of these data was unclear.

Despite the *NCLB* requirement for states to report on the percentage of teachers who participated in "high-quality" professional development, 14 states could not report this information in their September 2003 Consolidated State Performance Reports. The reported percentage of teachers participating in high-quality professional development varied greatly, with 11 states reporting 90 percent or greater participation and 9 states and Puerto Rico reporting fewer than 50 percent of their teachers participating. Teachers in states that reported high participation rates did not report receiving more professional development than teachers in states that reported low participation rates. Similarly, teachers in states that reported high participation rates were no more likely to report on NLS-*NCLB* surveys that their

[43] These and other existing studies generally were not designed to provide evidence of a causal impact of professional development on teacher or student outcomes.

professional development experiences met indicators of higher quality learning opportunities based on the measures included in this study than teachers in other states (see Appendix Exhibit B.30).

States and districts frequently used Title II, Part A, funds for professional development activities, although a larger share of the funds were used for class size reduction. Substantial support for professional development is also provided through the Title I, Part A, program.

At the district level, the most common uses of Title II, Part A funds in 2004–05 were for teacher salaries to reduce class size (70 percent of districts), professional development activities for teachers (66 percent), and professional development for principals (27 percent). Based on an analysis of district financial records, districts spent an average of 19 percent of their Title II, Part A, funds for professional development activities, amounting to approximately $529 million in 2004–05. A greater share of Title II, Part A, funds were used for teacher salaries (56 percent), which included funds used for class size reduction but also included other types of expenditures such as recruitment and retention incentives.[44] In contrast, Title I spending on professional development accounted for a smaller percentage of Title I funds (8 percent), but, due to the size of the Title I program, this amounted to a larger amount of money ($988 million).

When districts were asked directly about how they spent their Title II, Part A, funds, district responses indicated that a higher share of funds supported professional development (34 percent, or $1.14 billion). It is possible that some expenditures for professional development were not clearly identified as such in district financial accounting systems. The largest share of the Title II funds was reportedly used for teacher salaries to reduce class size (50 percent), a figure that is similar to the estimate based on the financial records analysis (56 percent).

At the state level, professional development was the most common use of Title II, Part A, funds (42 states), based on state reports for 2003–04. Other commonly-reported uses of the state-level funds included support for activities designed to ensure that teachers are able to implement state standards (38 states), provision of new teacher mentoring and induction programs (27 states), and development or improvement of alternative routes for teacher certification (18 states).

CORE FEATURES OF PROFESSIONAL DEVELOPMENT

Content focus

In both the research and in the *NCLB* definition of professional development, an important aspect of professional development is its focus on academic content and content-specific instructional strategies. Furthermore, professional development focused on building teachers' content knowledge is at the core of the law's definition of a highly qualified teacher, and all states that use a point system as part of their HOUSSE procedure allow teachers to count professional development hours toward their demonstration of required content knowledge. In contrast to training focused mainly on processes for the delivery of instruction (e.g., classroom management, use of technology, or planning), professional development focused on teachers' knowledge of academic subject matter and how students learn that content is most likely to be related to changes in classroom practice and enhanced student outcomes (Cohen and Hill, 1998; Corcoran, 1995; Kennedy, 1998; Garet, Porter, Desimone, Birman, and Yoon, 2001).

[44] The remaining Title II, Part A, funds were spent on salaries for teacher aides (6 percent), other instructional expenditures (4 percent), other instructional support expenditures (4 percent), and administrative costs (11 percent).

Most districts reported placing a major emphasis on professional development activities related to reading (58 percent) and mathematics (54 percent) rather than other academic content areas (18 percent).

Exhibit 36
Percentage of Districts That Placed a Major Emphasis on Selected Professional Development Topics, 2003–04

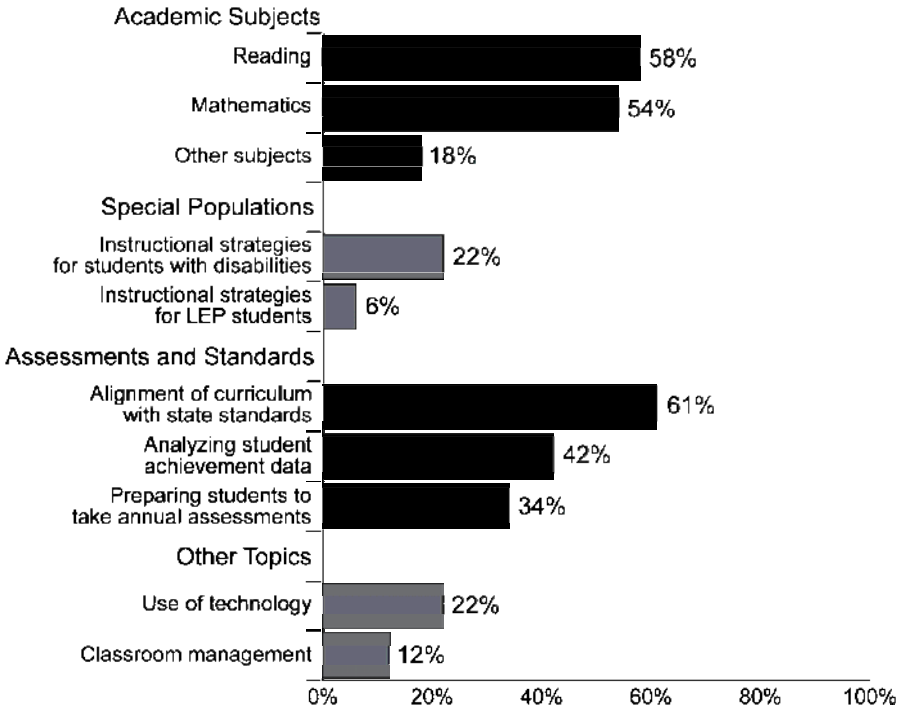


Exhibit Reads: Fifty-eight percent of districts placed a major emphasis on professional development activities related to reading.

Note: n = 281 to 284.

Source: NLS-*NCLB*, District Survey.

Over half of districts reported placing a major emphasis during 2003–04 on aligning the curriculum with state standards (61 percent) and on the subjects of reading (58 percent) and mathematics (54 percent) (see Exhibit 36). In contrast, fewer districts placed a major emphasis on other subjects such as science (18 percent) or on instructional strategies for teaching students with disabilities (22 percent).

Districts with high poverty levels generally placed more emphasis on the full range of the professional development topics examined than did low-poverty districts (see Appendix Exhibit B.31). Smaller proportions of rural districts than urban or suburban districts reported placing major emphasis on all of the professional development topics listed in Exhibit 36, with the single exception of professional development on instructional strategies for student with disabilities. Similarly, school principals indicated that improving the quantity and quality of professional development was a "major focus" for almost two-thirds (63 percent) of high-poverty schools and for just over one-third of low-poverty schools (35 percent).

Districts expenditures on professional development showed a similar pattern: the highest poverty districts spread Title II funds across a range of academic and non-academic subjects. Districts with the highest poverty levels spent 27 percent of their Title II professional development funds on reading and 21 percent on mathematics. In addition, the highest poverty districts spent 21 percent of Title II funds on professional development in other non-academic subjects. In contrast, the lowest poverty districts only spent 8 percent of Title II funds on professional development in other non-academic subjects, instead focusing most expenditures on reading (37 percent) or mathematics (16 percent) (see Appendix Exhibit B.33).

Finally, the emphasis on professional development activities varied by the proportion of students of limited English proficiency. Notably, 37 percent of districts with a high concentration of LEP students reported that they put a major emphasis on professional development in instructional strategies for teaching LEP students, compared to two percent of all other districts (see Appendix Exhibit B.32).

Nearly all teachers reported that they participated in content-focused professional development in reading or mathematics, but few participated for more than 24 hours.

Ninety percent of elementary teachers reported that they participated in professional development focused on instructional strategies for teaching reading, but only 20 percent participated for more than 24 hours over the entire 2003–04 school year and summer (see Exhibit 37). Smaller proportions of teachers of mathematics (9 percent for elementary and 16 percent for secondary mathematics) reported that they participated in professional development in mathematics that lasted more than 24 hours.

Although there is little hard evidence on the minimum number of contact hours or duration necessary for professional development to have an impact on teaching practice and student achievement, one study found that professional development is more likely to be effective if it involves a substantial number of contact hours spread over multiple days.[45] For example, in the Closing the Reading Gap study of reading interventions, teachers participating in the interventions received an average of 70 hours of training in the intervention over the course of the school year, including an initial week of intensive introduction to the program, an additional 24 hours during a seven-week period at the beginning of the year when teachers practiced their assigned method with students in their schools, and about 14 hours of supervision during the intervention phase. These interventions were found to be effective in raising reading achievement for third-grade students (but not fifth-graders); it is not known whether the interventions would have been equally effective with a smaller amount of teacher training.[46]

Exhibit 37
Percentage of Teachers Participating in Professional Development Focused on Instructional Strategies for Reading and Mathematics, 2003–04

Exhibit Reads: Twenty percent of elementary teachers reported that they received more than 24 hours of professional development focused on instructional strategies for teaching reading. Ten percent of elementary teachers participated in no such professional development during school year 2003–04 (including the summer of 2004).

Source: NLS-*NCLB*, Teacher Survey.

On average, teachers reported more hours of professional development on reading and mathematics than in other academic subjects. Over the 12 months spanning the 2003–04 school year and the summer of 2004, teachers averaged 14.7 hours of professional development on instructional strategies for teaching reading and 10.1 hours on the in-depth study of topics in the subject of reading. During the same period teachers reported participating in 8.3 hours of professional development on how to teach mathematics and 5.2 hours on the study of topics in mathematics. In contrast, teachers reported 4.6 hours of professional development on all other academic subjects (see Exhibit 38).

[45] Michael S. Garet, Beatrice F. Birman, Andrew C. Porter, Laura Desimone, Rebecca Herman, and Kwang-Suk Yoon (1999). *Designing Effective Professional Development: Lessons From the Eisenhower Professional Development Program.* Washington, D.C.: U.S. Department of Education, Office of the Under Secretary, Planning and Evaluation Service.

[46] Joseph Torgeson, David Myers, Allen Schirm, Elizabeth Stuart, Sonya Vartivarian, Wendy Mansfield, Fran Stancavage, Donna Durno, Rosanne Javorsky, and Cinthia Haan (2006). *National Assessment of Title I Interim Report to Congress: Volume II: Closing the Reading Gap, First Year Findings From a Randomized Trial of Four Reading Interventions for Striving Readers.* Washington, D.C.: U.S. Department of Education, Institute of Education Sciences.

Exhibit 38
Mean Hours Teachers Spent in Professional Development Focused on Specific Topics, 2003–04

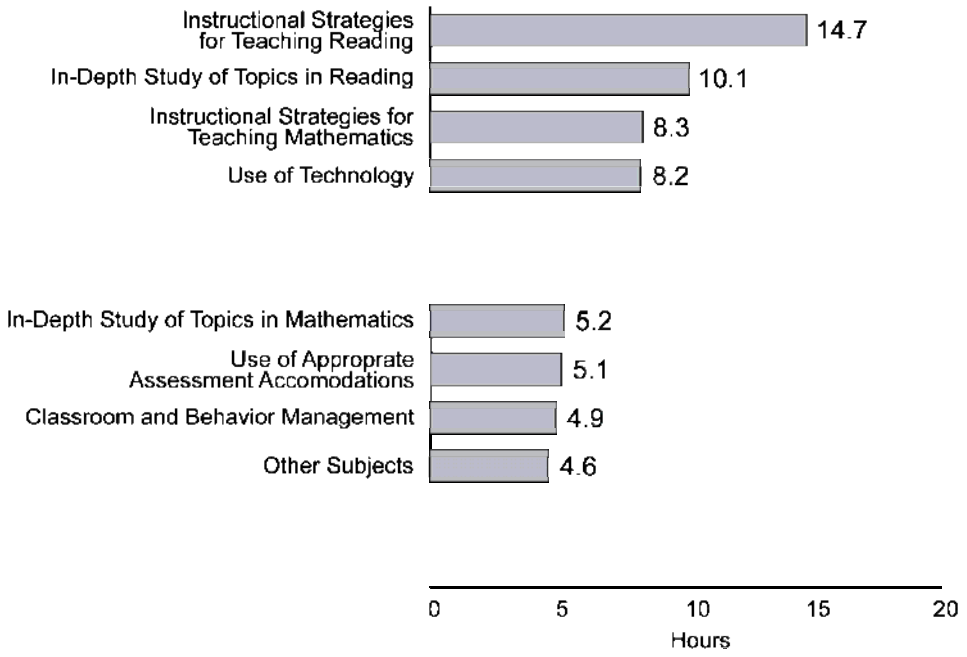


Exhibit Reads: Teachers spent an average of 14.7 hours in professional development focused on instructional strategies for teaching reading.

Note: Mean hours of professional development were calculated by recoding the original response categories (0, 1–5, 6–24, 25–40, 41–80, more than 80 hours) to their midpoints (0,3,15, 32.5, 60.5, 90 hours) n = 7,027 to 7,133 for general education teachers.

Source: NLS-*NCLB*, Teacher Survey.

Overall, teachers participated in 3.6 hours of professional development on instructional strategies for students of limited English proficiency. However, teachers of LEP students were more likely to participate in such professional development: 62 percent of teachers of LEP students participated in professional development related to instructional strategies for LEP students, compared with 28 percent of teachers who do not instruct LEP students (see Appendix Exhibit B.36).

Teachers were unlikely to participate in extended professional development focused on "in-depth study" of reading and mathematics topics.

During the 2003–04 school year and following summer, only 13 percent of elementary teachers and 16 percent of secondary English teachers reported that they participated in more than 24 hours of professional development involving the in-depth study of topics in reading[47] (see Exhibit 39). Among

[47] Professional development which includes "in-depth" study of topics in a subject such as reading refers to activities designed to build foundational knowledge about language structure and the processes involved in learning oral and written language that teachers must possess in order to understand *what* they are teaching. For example, at the elementary school level, this includes a solid understanding of five major domains of reading instruction—phonemic

teachers of mathematics, even lower proportions reported that they participated in in-depth study of mathematics topics, and about half did not participate in *any* professional development focused on the in-depth study of mathematics (51 percent of elementary teachers and 49 percent of secondary mathematics teachers).

Exhibit 39
Percentage of Teachers Participating in Professional Development Focused on In-Depth Study of Topics in Reading and Mathematics, 2003–04

Exhibit Reads: Thirteen percent of elementary teachers reported that they received more than 24 hours of professional development focused on the in-depth study of topics in reading. Twenty-seven percent of elementary teachers participated in no such professional development during school year 2003–04 (including the summer of 2004).

Source: NLS-*NCLB*, Teacher Survey.

Teachers in Title I elementary schools identified for improvement were more likely than teachers in non-identified schools to report participating in content-focused professional development in reading and mathematics that lasted more than 24 hours.

Among Title I elementary schools, a greater percentage of teachers in schools identified for improvement under *NCLB* reported that they participated in 24 hours or more of professional development in instructional strategies for teaching reading than teachers in non-identified elementary schools (39 percent compared with 19 percent) (see Exhibit 40). The results were similar in the subject of mathematics (17 percent compared with 8 percent) (see Appendix Exhibit B.34).

awareness, phonics, fluency, vocabulary, and text comprehension. In contrast, professional development that focuses on instructional strategies for teaching reading addresses pedagogical knowledge of *how* to teach reading effectively.

These results indicate that accountability systems under *NCLB* may play an important role in determining of the focus of professional development, at least at the elementary level. However, there are other factors to consider. For instance, the percentages of elementary teachers who reported that they participated in such extended professional development in instructional strategies for teaching reading and mathematics were also higher in the high-poverty, high-minority, urban schools that were most likely to be identified for improvement than in other schools without these demographic characteristics (see Exhibit 40).

Exhibit 40
Percentage of Elementary Teachers Participating in More Than 24 Hours of Professional Development in Instructional Strategies for Teaching Reading, by Teacher, School and District Characteristics, 2003–04

Exhibit Reads: Twenty percent of elementary general education teachers participated in more than 24 hours of professional development on instructional strategies for teaching reading during the 2003–04 school year (including the summer of 2004).

Note: n = 4,005.

Source: NLS-*NCLB*, Teacher Survey.

Among Title I elementary schools, teachers in identified schools were also more likely to report participating in professional development on curricular content and topics in both reading and mathematics that lasted more than 24 hours (see Appendix Exhibit B.34). Higher proportions of teachers in identified elementary schools participated in more than 24 hours of in-depth study of the topics and curricular content of reading than in non-identified elementary schools (25 percent compared with 13 percent respectively). In mathematics, a larger proportion of teachers in identified compared to non-identified elementary schools participated in more than 24 hours of professional development on the topics and content of the subject, but the difference (10 percent compared with 6 percent, respectively) was less pronounced than in reading. These differences in the percentages of teachers that participated in extended content-focused professional development between identified and non-identified elementary schools did not exist between identified and non-identified middle and high schools.

Opportunities for active learning

Fewer than one in four teachers reported that they often participated in professional development that involved active learning opportunities.

Professional development activities that engage teachers in the learning process by having them apply knowledge to real-world classroom tasks—referred to here as "active learning"—are more likely to facilitate instructional change on the part of teachers (Desimone, Porter, Garet, Yoon, and Birman, 2002).

Less than one-quarter of teachers reported that they participated in professional development that often provided opportunities to practice what they had learned, lead discussions, or conduct demonstrations (see Exhibit 41). Sixteen percent of teachers never participated in professional development activities where participants reviewed student work or scored assessments. Similarly, 19 percent of teachers never participated in professional development activities where participants conducted a demonstration of a lesson or skill.

Exhibit 41
Percentage of Teachers Whose Professional Development Experiences Often Involved Active Learning, 2003–04

Exhibit Reads: Twenty-three percent of teachers reported that their professional development activities (during the 2003–04 school year, including the summer of 2004) often involved participants reviewing student work or scoring assessments.

Note: n = 7,111 to 7,120.

Source: NLS-*NCLB*, Teacher Survey.

Professional development experiences that involved active learning were most common for teachers in high-poverty schools.

The percentage of teachers who often had professional development experiences in which they practiced what they had learned or received feedback was higher in high-poverty than low-poverty schools (26 percent compared with 18 percent, respectively) (see Exhibit 42). The percentage of teachers who never had such experiences was lower in high-poverty than low-poverty schools (12 percent compared with 19 percent, respectively). Teachers in high-poverty schools reported more frequent participation on the other four active learning measures as well.

Exhibit 42
Extent to Which General Education Teachers Practiced What They Learned and Received Feedback, by School Poverty Level, 2003–04

Exhibit Reads: Twelve percent of teachers in high-poverty schools never participated in professional development activities in which they practiced what they had learned and received feedback, during the 2003–04 school year, including the summer of 2004.

Note: n = 7,111.

Source: NLS-*NCLB*, Teacher Survey.

Coherence of professional development

The coherence of professional development concerns the extent to which teachers perceive that their professional development activities are a part of a logical, aligned and sequenced program of teacher learning. A coherent professional development activity is linked to standards and assessments, consistent with individual teachers' needs and goals, or designed to build on previous professional learning.

Exhibit 43
Percentage of Teachers Whose Professional Development Experiences Were Often Coherent, 2003–04

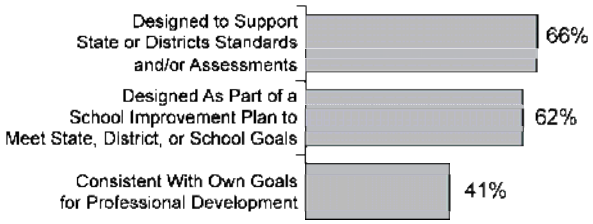


Exhibit Reads: Sixty-six percent of teachers reported that their professional development activities were often designed to support state or district standards and assessments during the 2003–04 school year, including the summer of 2004.

Note: n = 7,136 to 7,164.

Source: NLS-*NCLB*, Teacher Survey.

Professional development activities were often consistent with standards, assessments and improvement plans, but few teachers reported that their activities often built on what they had learned in earlier professional development experiences.

Two-thirds of teachers reported that their professional development was often designed to support standards and assessments (see Exhibit 43). Likewise, 62 percent reported that it was often designed as part of a school improvement plan.

However, only 41 percent of teachers reported that professional development was often consistent with their own goals for professional development. Therefore, more than half of teachers reported that their professional development was not often meeting their own goals, despite the fact that *NCLB* requires professional development plans and activities to be developed with extensive participation of teachers and 84 percent of districts reported that they involved teachers in the planning of their own professional development at least some of the time. Furthermore, relatively few teachers (18 percent) reported that professional development was often based on earlier professional development experiences. Thus, professional development activities were more likely to be derived from standards and improvement plans but were less likely to explicitly build on earlier activities (see Appendix Exhibits B.41 and B.42).

STRUCTURAL FEATURES OF PROFESSIONAL DEVELOPMENT

Amount of professional development

On average, teachers participated in a substantial amount of professional development. The most basic measure of the quantity of teachers' professional development was the total number of hours in which teachers participated across the full range of potential professional development activities (e.g., workshops, institutes, courses, internships, and informal job-embedded learning experiences such as planning lessons and exchanging feedback on instruction with coaches and other teachers). Over the 12 months spanning the 2003–04 school year and the summer of 2004, teachers averaged 66 hours of professional development across this wide range of activities.[48] Although the number of hours individual teachers reported ranged widely—from several hundred hours to none at all—the average number of

[48] Teachers' reports of total hours of professional development are difficult to compare with other data sources. Relative to most previous professional development surveys, teachers who responded to NLS-*NCLB* surveys were more directly prompted to include a wide range of professional development activities in their responses about the number of total hours of professional development they experienced. On NLS-*NCLB* surveys, teachers were asked to report the total number of hours they spent in professional development activities including conferences, institutes, workshops, college courses, internships, as well as collegial professional learning opportunities often embedded in teachers' ongoing work such as coaching, classroom observations, and collaborative curriculum development and lesson planning. In contrast, the 1999–2000 Schools and Staffing Survey (SASS), for example, was not designed to produce a total number of hours teachers spent in professional development activities and teachers were not asked for such a total. Rather, teachers were asked a series of yes-or-no questions about their participation in a range of professional development activities. However, the SASS did not directly prompt teachers to include all of these activities when teachers were separately asked to indicate the range of hours they spent in "any" professional development activities related to each of six separate specified topic areas. On the SASS, a majority of teachers reported receiving eight or fewer hours of professional development in each of six separate specified areas in the previous year, which would seem to indicate a majority of teachers participated in less than 48 hours of professional development. However, due to the uncertainty around combinations of responses across separate topic areas, it is not clear that this would be an accurate estimate. In addition, 18 percent of teachers on the SASS reported at least 33 hours of professional development on the single topic area—content—in the previous year, and 10 percent reported at least 33 hours in activities focused on methods of teaching, but because this highest range of hours is unbounded, it is not clear how many hours this response represents (NCES, 2005). In sum, on the NLS-*NCLB* surveys teachers were counting a full range of both formal and embedded professional development in their reports of the total number of hours of participation.

hours of professional development reported by each type of teacher was remarkably consistent (62 to 67 hours) across elementary teachers, middle, and high school teachers of both English and mathematics, and special education teachers (see Appendix Exhibit B.43).

Teachers in high-poverty, high-minority, and urban schools and Title I schools identified for improvement reported that they participated in more hours of professional development than teachers in other schools. Likewise, new teachers participated in more professional development than did existing teachers.

Teachers with fewer than three years of experience generally took part in more hours of professional development than did teachers with three or more years of experience (77 hours compared with 64) (see Exhibit 44). The single exception was new secondary mathematics teachers who took part in fewer hours than existing secondary mathematics teachers (49 hours compared with 64).

Teachers in Title I schools identified for improvement averaged 87 hours of professional development while teachers in Title I schools that were not identified under *NCLB* averaged 64 hours during 2003–04. This finding is consistent with the *NCLB* requirement that Title I funds be set aside for professional development in schools identified for improvement. The amount of professional development was also higher for teachers in large, urban schools with high proportions of poor and minority students (see Exhibit 44).

Among general elementary and special education teachers, those in high poverty schools reported receiving more total hours of professional development than those in low poverty schools. Similarly, higher total

Exhibit 44
Average Number of Professional Development Hours Reported by Teachers, by Teacher and School Characteristics, 2003–04

Exhibit Reads: General education teachers participated in an average of 66 hours of professional development during the 2003–04 school year (including the summer of 2004).

Note: n = 6,883.

Sources: NLS-*NCLB*, Teacher Survey.

hours of professional development were reported by elementary and special education teachers in high minority schools, urban schools, and schools in large districts as well as identified Title I schools as compared to their counterparts (i.e., teachers in low minority schools, rural schools, schools in small districts, and non-identified schools). Results for secondary school teachers were not consistent. As expected, teachers with fewer than three years of experience also reported receiving a higher total number of hours of professional development then teachers with three or more years of experience.

Sustained professional development

Researchers and practitioners alike have questioned the value of short-term, "one shot" workshops as an approach to professional development (Whitehurst, 2002), and *NCLB*'s definition of professional development discounts the value of short-term workshops or workshops lasting one day or less. Most teachers (82 percent) reported that they took part in at least one formal, course-like professional development activity that was at least minimally sustained—that is, it lasted two days or longer (e.g., conferences, institutes, series of connected workshops, courses, and internships lasting two days or longer) (see Appendix Exhibit B.44). For the other 18 percent of teachers, their formal professional development consisted *exclusively* of workshops or short-term professional development activities lasting one day or less, although nearly all of these teachers engaged in some form of professional development embedded in their ongoing work (e.g., collegial interaction, peer collaboration, or instructional coaching) on at least a monthly basis.

In addition to the formal types of activities discussed above, teachers sometimes participated in embedded forms of professional development that were sustained across the school year, such as collegial interaction, peer collaboration, or instructional coaching. Large majorities of teachers reported that at least once or twice a month they interacted and exchanged feedback with colleagues through consultations about individual students (90 percent), discussion of student work (82 percent), and joint planning of lessons or courses (73 percent) (see Exhibit 45). However, informal monthly exchanges were less likely to be based on observations of other teachers' instruction (47 percent). Only about one-third of teachers

Exhibit 45
Percentage of Teachers Participating in Sustained Forms of Professional Development at Least Once or Twice a Month, 2003–04

Exhibit Reads: Ninety percent of general education teachers consulted with other teachers about individual students at least once or twice a month during the 2003–04 school year, including the summer of 2004.

Note: n = 7,155 to 7,199.

Source: NLS-*NCLB*, Teacher Survey.

reported participating in a teacher collaborative network or study group or receiving coaching or mentoring on a monthly basis (see Appendix Exhibit B.45).

Collective participation

Nearly half (49 percent) of teachers reported that they often participated collectively in professional development with most or all of the teachers in their department, grade or school (see Exhibit 46). Elementary teachers were more likely to participate collectively than secondary teachers. Teachers with more experience (50 percent) were more likely to participate collectively than teachers with fewer than three years of experience (34 percent).

Exhibit 46
Percentage of Teachers Whose Professional Development Often Involved Collective Participation, by School and Teacher Characteristics, 2003–04

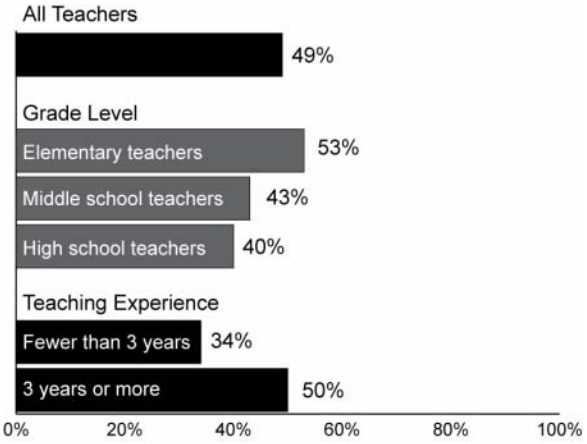


Exhibit Reads: Forty-nine percent of teachers reported that they often participated in professional development activities together with most or all of the teachers in their department or grade level during the 2003–04 school year, including the summer of 2004.

Note: n = 7,154.

Source: NLS-*NCLB*, Teacher Survey.

PROFESSIONAL DEVELOPMENT AND SPECIAL EDUCATION TEACHERS

Special education teachers reported that they participated in a similar total number of hours as other teachers (64 compared with 66 hours, respectively). Likewise, comparable proportions of special education and general education teachers (84 percent and 85 percent, respectively) experienced at least one professional development activity that was at least minimally sustained, meaning it lasted two days or longer.

Special education teachers' professional development experiences were more likely to be focused on instructional strategies for teaching students with disabilities (88 percent), than were general education teachers' experiences (50 percent) (see Exhibit 47). Nevertheless, fewer than one in six special education teachers (15 percent) received more than 24 hours of professional development on instructional strategies for teaching students with disabilities. Similarly, only 6 percent of special education teachers experienced extended professional development in the use of appropriate assessment accommodations.

Exhibit 47
Comparison of the Professional Development Experiences of Special Education and General Education Teachers, 2003–04

	Special Education Teachers (n = 1,098)	General Education Teachers (n = 6,883)
Average number of professional development hours	64	66
Percentage of teachers who participated in at least one professional development activity lasting two days or longer	84%	85%
Percentage of teachers participating in at least one hour of professional development on:		
Instructional strategies for teaching students with disabilities	88%	50%
Instructional strategies for teaching reading	63%	90%
Instructional strategies for teaching mathematics	48%	71%
Percentage of teachers participating in more than 24 hours of professional development on:		
Instructional strategies for teaching students with disabilities	15%	2%
Use of appropriate assessment accommodations	6%	4%
Instructional strategies for teaching reading	10%	18%
Instructional strategies for teaching mathematics	5%	9%
Percentage of teachers whose professional development often involved active learning through participants reviewing student work or scoring assessments	14%	23%
Percentage of teachers whose professional development was often coherent because it was designed to support state or districts standards and/or assessments	52%	66%
Percentage of teachers who often participated in professional development collectively with most of the teachers in their school	31%	41%

Exhibit Reads: On average, special education teachers reported participating in 64 hours of professional development during the 2003–04 school year (including the summer of 2004).

Source: NLS-*NCLB*, Teacher Survey.

Special education teachers were less likely than general education teachers to report that their professional development was focused on instructional strategies for teaching reading and mathematics, involved active learning, or was designed to support state or district standards or assessments.

Special education teachers were less likely than general education teachers to participate in professional development focused on reading and mathematics. While 71 percent of general elementary teachers reported that they participated in at least some training on instructional strategies for teaching mathematics, only 48 percent of special educators reported that they participated in training in this area. Furthermore, one out of ten special education teachers participated in more than 24 hours of professional development on instructional strategies for teaching reading. By comparison, general education teachers participated in such extended professional development at nearly twice that rate (18 percent).

Participation in such extended professional development in instructional strategies for teaching reading was lowest among high school special education teachers, of whom only 6 percent received more than 24 hours of learning opportunities in the use of instructional strategies for teaching reading. However, extended professional development in strategies for teaching reading was more common for special

education teachers in *identified* middle schools. In identified middle schools, 31 percent of special education teachers participated in such extended professional development compared with 11 percent in non-identified middle schools.

Similarly, a smaller proportion of special education teachers than general education teachers reported that they participated in professional development that often involved active learning. High school special education teachers were the least likely to have had opportunities for active learning. Such teachers reported more commonly than other teachers that they never led discussions, conducted demonstrations, developed materials, or reviewed student work. Special education teachers were also less likely to have had professional development activities that were aligned to standards and assessments (52 percent compared with 66 percent for general education teachers). Most notably, at the high school level, only 41 percent of special education teachers reported that their professional development was often designed to support standards or assessments, and 35 percent reported that it was often designed as part of a school improvement plan.

Special education teachers were less likely to report often engaging in professional development activities involving collective participation of teachers in their school (31 percent compared with 41 percent for general education teachers). High school special education teachers were least likely to report often engaging in such activities. Notably, only 26 percent of high school special education teachers had often participated in activities with most or all teachers from their schools.

PROFESSIONAL DEVELOPMENT FOR TEACHERS WHO WERE NOT HIGHLY QUALIFIED

The professional development experiences reported by teachers who were and were not highly qualified were not significantly different.

Teachers who reported that they were not highly qualified as of 2004–05 were no more likely than highly qualified teachers to report that they experienced content-focused professional development during 2003–04. However, elementary teachers who said they were not highly qualified under *NCLB* were more likely to report participation in a mentoring or new-teacher induction program (47 percent, compared with 26 percent of highly qualified elementary teachers) during the 2003–04 school year. No significant differences between experiences of highly qualified and not highly qualified teachers were found for secondary teachers or for other types of support, such as peer coaching or release time for course preparation or college courses.

DISCUSSION

Teachers reported an average of 66 hours of professional development during the 2003–04 school year, including the summer of 2004. Most teachers reported that they participated in content-focused professional development in reading and mathematics; however, few teachers reported participating in these activities for more than 24 hours in 2003–04. Teachers in Title I schools that were identified for improvement and in high-poverty schools experienced greater amounts of professional development in reading and mathematics than teachers in less-challenged schools. Compared with general education teachers, special education teachers were less likely to report that their professional development was focused on instructional strategies for teaching reading and mathematics, involved active learning, or was designed to support state or district standards or assessments.

NCLB set a goal that every teacher would receive high-quality professional development by the end of 2006 and required states to report their annual progress toward that goal. The law provided great detail about what constituted high-quality professional development, but this detailed description still left a great deal of flexibility for interpretation. The entire discussion of the quality of teacher professional development turns on the interpretation of this definition. If high-quality professional development is defined minimally as at least one experience that is longer than a one-day workshop, most teachers were receiving high-quality professional development. However, if high-quality professional development means content-focused, sustained learning experiences, most teachers were not receiving high-quality professional development.

VI. IMPLEMENTATION OF *NCLB* REQUIREMENTS FOR TITLE I PARAPROFESSIONALS

To ensure that instructional paraprofessionals in Title I schools have the appropriate education and training, *NCLB* set requirements that are more demanding than those in prior authorizations of the *ESEA* statute. For example, the *Improving America's Schools Act of 1994* had required that paraprofessionals obtain a secondary school diploma within two years of becoming a paraprofessional. However, *NCLB* requires that all current and newly hired paraprofessionals must hold an associate degree, have completed two or more years of college, or pass a paraprofessional assessment. In addition, *NCLB* more clearly circumscribes the roles that instructional paraprofessionals can fulfill, and *NCLB* requires that instructional paraprofessionals act under the direct supervision of highly qualified teachers.

NCLB initially set January 2006 as the date by which all paraprofessionals must be qualified. Subsequent guidance released by the U.S. Department of Education extended this deadline to the end of the 2005–06 school year to align it with the deadline for highly qualified teachers.

Key Findings

- **In 2004–05, nearly two-thirds (63 percent) of Title I instructional paraprofessionals were identified as "qualified" under *NCLB* as of the 2004–05 school year.** Sixty-three percent of paraprofessionals were qualified as of the 2004–05 school year, according to both principal and paraprofessional reports. However, 28 percent of paraprofessionals did not know their status or did not report their status, and principals did not know or did not report the qualifications status for 26 percent of paraprofessionals.
- **Most Title I instructional paraprofessionals reported working closely with a supervising teacher, but some paraprofessionals indicated that they worked with students on their own without a teacher present.**
- **In 2004–05, paraprofessionals in Title I schools of different poverty levels were about equally likely to report being qualified.** However, paraprofessionals in medium and high-poverty schools were notably less likely to have completed two years of college or an associate degree (one of the three *NCLB* requirements) than were paraprofessionals in low-poverty schools.
- **The number of Title I paraprofessionals decreased by 10 percent from 1997–98 to 2004–05, even as the number of Title I–funded staff increased by 23 percent**
- **Support for paraprofessionals to receive test preparation courses was targeted toward paraprofessionals who were not qualified.** Paraprofessionals who were not qualified were much more likely to report having received test preparation courses than were qualified paraprofessionals (42 percent compared with 16 percent, respectively).

WHAT IT MEANS TO BE A QUALIFIED TITLE I INSTRUCTIONAL PARAPROFESSIONAL

Since the earliest years of Title I, teacher's aides—or paraprofessionals—have played a role in supporting the instructional activities of classroom teachers. In 1997–98, paraprofessionals made up over half of Title I–funded instructional staff, despite the fact that they accounted for only a small percentage (15 percent) of Title I expenditures (Chambers et al., 2000). Unfortunately, prior evaluations indicated

that paraprofessionals in many Title I schools were often assigned instructional tasks for which their educational backgrounds did not qualify them (Chambers et al., 2000). Prior to *NCLB*, paraprofessionals funded by Title I were required only to have a high school diploma or GED within two years of being employed; their classroom responsibilities were not clearly defined, and there were no specific limits on the types of activities in which they could engage.

Under *NCLB*, all Title I instructional paraprofessionals[49] hired on or before Jan. 8, 2002, must have met *NCLB* requirements for qualified paraprofessionals by the end of the 2005–06 school year. Paraprofessionals hired after *NCLB* took effect were expected to meet *NCLB* requirements at the time of hire. Under *NCLB*, paraprofessionals are considered qualified if they have at least one of the following:

- Two years of study at an institution of higher education;
- An associate degree or higher; or
- A passing score on a formal state or local academic assessment of ability to assist in instructing reading, writing and mathematics.

NCLB has clearly defined the expected qualifications for Title I paraprofessionals and has also limited their range of classroom responsibilities. *NCLB* specifies that Title I instructional paraprofessionals may only be assigned to do the following:

- Provide one-on-one tutoring for eligible students, if the tutoring is scheduled at a time when a student would not otherwise receive instruction from a teacher;
- Assist with classroom management, such as organizing instructional and other materials;
- Provide assistance in a computer laboratory;
- Conduct parental involvement activities;
- Provide support in a library or media center; and
- Serve as a translator.

The Title I regulations further clarify the list of activities, noting that the term qualified paraprofessional applies to individuals performing instructional support duties and to paraprofessionals in both targeted assistance and schoolwide program schools supported by Title I, Part A, funds. Two exceptions exist: (1) for paraprofessionals who are proficient in English and a language other than English and provide services primarily to enhance the participation of students in Title I programs by acting as a translator, and (2) for paraprofessionals who are solely conducting parental involvement activities. These paraprofessionals are exempt from *NCLB* requirements for qualified paraprofessionals.

The *NCLB* requirements for qualified paraprofessionals offer states limited flexibility. By contrast, the *NCLB* requirements for highly qualified teachers offer much more flexibility by giving states a role in defining certification status and subject matter requirements.

[49] Hereafter, the term "paraprofessional" refers to Title I instructional paraprofessionals, which the U.S. Department of Education defines as "an employee of an LEA who provides instructional support in a program supported by Title I, Part A, funds" (U.S. Department of Education. [March 1, 2004]. *Title I paraprofessionals: Non-regulatory guidance.* Washington, D.C.: Author).

States defined the requirement of two years of study at an institution of higher education differently but have set passing scores on paraprofessional assessments that are relatively consistent across states.

In 2004–05, 31 states and the District of Columbia opted to define the number of credit hours that constitute "two years of study" at an institution of higher education—of these, 24 defined "two years" as 48 credit hours, seven (including the District of Columbia) set the bar at 60 credit hours, and one accepted 32 credit hours. Several states identified particular requirements for the number and type of credit hours. In Hawaii, for example, qualified paraprofessionals were required to "obtain 48 credits at the 100 level or higher, from a regionally accredited institution of higher education, recognized by the Hawaii Department of Education," including three credits from a mathematics course and three credits from an English course.[50]

The March 2004 nonregulatory guidance for qualified paraprofessionals notes that two years of study means the equivalent of two years of full-time study as defined by the institution of higher education, not by the state education agency. Only three states explicitly reflected this in their paraprofessional policy, as of 2004–05. For example, Florida noted that "a school district may choose to use a measure that equates to the standard number of credits for full-time study for a community college or four-year institution for at least four semesters,"[51] indicating that the school district should defer to the institution of higher education's definition.

One of the primary state responsibilities with regard to qualified paraprofessionals deals with the authorization of paraprofessional assessments. States can either approve assessments for district use or leave the choice entirely to districts. In the 2004–05 school year, assessments were an option available for most Title I paraprofessionals; in 43 states, the state had approved specific assessments; in the other seven states, the District of Columbia and Puerto Rico, the selection of assessments was left to their districts. Most states approved multiple tests, thus extending additional flexibility to districts and schools.

Among the paraprofessional assessments authorized by states, ParaPro (by ETS) was used in 38 states. States specified passing scores for the ParaPro assessment that ranged from 450 to 467, which is significantly narrower than the variation in passing scores for teacher assessments described earlier (see Appendix Exhibit C.2).

Other paraprofessional assessments approved by states include WorkKeys, ParaEducator, the Paraprofessional Assessment of Knowledge and Skills (PAKS), and the Western Governors University Exams. Several states developed their own paraprofessional assessments, such as the Kentucky Paraeducator Assessment and a test developed through New Hampshire's Center for Paraeducator Professional Development.

Some states that approved assessments for statewide use also allowed districts to select their own tests if they preferred. Some "local selection" states mention specific assessments in their policy documents; for example, Iowa's policy states, "Examples of measures available to districts include WorkKeys,

[50] State policy document available at http://www.rrsc.k12.hi.us/ea/NCLBpara.pdf. (accessed September 2005).
[51] State policy document available at http://info.fldoe.org/docushare/dsweb/Get/Document-722/NCLB_Parapro_Q_A.pdf. (accessed September 2005).

ParaPro Assessment from ETS, and COMPASS from ACT. Many Iowa districts have established a COMPASS score cut-off at 150."[52]

Districts have considerable flexibility with regard to paraprofessional assessments, and they made use of this flexibility: 32 percent of districts selected a commercially available assessment, and 40 percent adopted a state-provided assessment (see Exhibit 48).

Exhibit 48
Percentage of Districts Reporting Various Approaches for Assessing Paraprofessionals, 2004–05

District Has…	Percentage
Adopted a state-provided assessment for paraprofessionals	40%
Selected a commercially available assessment for paraprofessionals	32%
Developed their own new district paraprofessional assessment	8%
Adopted a paraprofessional assessment developed by another district	6%
Hired an organization or outside expert to create a new assessment for paraprofessionals	5%

Exhibit Reads: Forty percent of districts reported having adopted a state-provided assessment for paraprofessionals.

Note: n = 276 to 279.

Source: NLS-*NCLB*, District Administrator Survey.

STATUS, CHARACTERISTICS AND DISTRIBUTION OF QUALIFIED PARAPROFESSIONALS

Nearly two-thirds (63 percent) of Title I instructional paraprofessionals were reported as being qualified as of the 2004–05 school year, but nearly a third (28 percent) of paraprofessionals reported that they did not know their status or did not provide a response.

According to principals' reports, 63 percent of paraprofessionals were qualified as of the 2004–05 school year. Data from paraprofessionals mirrored the principal reports, as 63 percent of paraprofessionals also reported they were qualified (see Exhibit 49). State performance reports from 2003–04 showed that the percentage of paraprofessionals who were qualified in each state varied but averaged 64 percent among the 44 states reporting (see Exhibit 50).[53]

[52] State policy document available at http://www.state.ia.us/educate/ecese/cfcs/ibp/para/index.html. (accessed September 2005).

[53] These results, from the 2003–04 state performance reports, predate the results reported by principals and paraprofessionals in 2004–05. The state performance report results are thus not strictly comparable to the reports from principals and paraprofessionals. In addition, states may have had different methods for accounting for paraprofessionals whose qualified status was unknown.

Exhibit 49
Paraprofessional Qualified Status, as Reported by Principals and Paraprofessionals, 2004–05

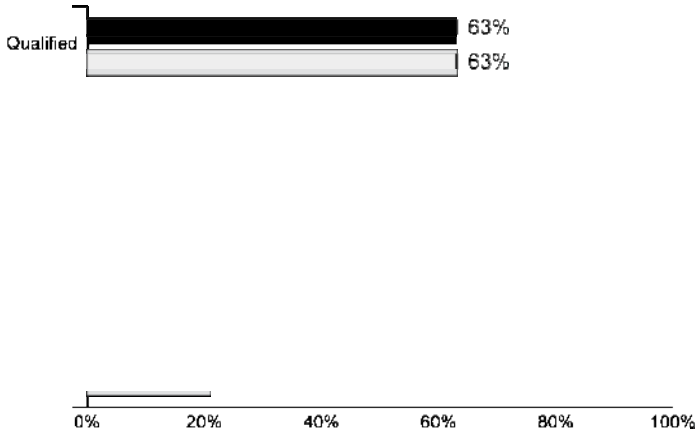


Exhibit Reads: According to principals' reports, 63 percent of paraprofessionals were qualified.

* This response option was not included in the principal survey.

Note: Principals n = 760; paraprofessionals n = 781.

Source: NLS-*NCLB*, Principal and Paraprofessional Surveys.

Paraprofessionals in secondary schools were more likely to report being qualified under *NCLB* (74 percent, compared with 61 percent in elementary schools). Both principals and paraprofessionals often appeared to be unsure about paraprofessionals' qualified status. Twenty-eight percent of paraprofessionals either said they did not know their status or did not respond to this survey item; similarly, principals did not know or did not report on the qualifications status for 26 percent of paraprofessionals (see Appendix Exhibit B.49 for data by grade level).

Paraprofessionals who did not know or report their status sometimes were qualified, based on other information they provided about their qualifications and training. Approximately 87 percent of all paraprofessionals reported holding a qualification that would meet the *NCLB* criteria (an associate degree, two or more years of college, or passing an assessment). Considering the qualifications separately, 56 percent had completed an associate degree or two or more years of college, and 55 percent had passed a paraprofessional assessment (see Appendix Exhibit B.51).

Exhibit 50
Percentage of Paraprofessionals Were Qualified Under *NCLB*, as Reported by States, 2003–04

Exhibit Reads: Iowa reported that 99 percent of paraprofessionals were qualified in 2003–04.

Note: Exhibit is based on responses from the 40 states and the District of Columbia that reported the percentage of qualified paraprofessionals in 2003–04. The remaining 10 states and Puerto Rico had not reported data at the time of this report.

Source: Consolidated state performance reports, 2003–04.

The majority of paraprofessionals worked with students at the elementary level. They spent most of their time working with students in groups, or one-on-one.

About 80 percent of paraprofessionals served in elementary schools (see Appendix Exhibit B.55). A limited number (15 percent) served in middle schools, and very few (4 percent) served in high schools.[54]

While Title I paraprofessionals support the instructional activities of teachers in many different subjects, the most common subjects reported by paraprofessionals to have supported were reading (95 percent) and mathematics (85 percent).

Title I instructional paraprofessionals spent most of their time working with students in groups and tutoring students one-on-one. Eighty-seven percent of paraprofessionals spent at least some time working with students in groups, and, on average, paraprofessionals spent 37 percent of each day working with students in groups. Paraprofessionals spent an average of 3 percent of each day communicating or meeting with parents (see Exhibit 51).

Exhibit 51
Percentage of Title I Instructional Paraprofessionals With Selected Responsibilities, 2004–05

Responsibilities	Percentage of Paraprofessionals	Average percentage of Paraprofessionals' Time
Working with students in groups	87%	37%
Tutoring students one-on-one	77%	25%
Preparing teaching materials or correcting student work	61%	13%
Testing students	26%	4%
Working with students in a computer lab	12%	5%
Communicating or meeting with parents	19%	3%
Working in a library or media center	14%	4%
Translating for LEP students	11%	2%
Other	30%	7%

Exhibit Reads: Eighty-seven percent of paraprofessionals reported working with students in groups.

Note: Because the categories were not mutually exclusive, the sum of column percentages may not add up to 100 percent (n= 703 to 781).

Source: NLS-*NCLB*, Paraprofessional Survey.

[54] Note that the limited number of paraprofessionals in high schools prevents comparing survey results across all three school levels, but results are compared for elementary and secondary schools, in which "secondary" includes both middle and high schools. Relatively few of the high schools in the NLS-*NCLB* sample reported having Title I instructional paraprofessionals.

Most Title I paraprofessionals reported working closely with a supervising teacher, but some indicated that they worked with students on their own without a teacher present.

NCLB requires that paraprofessionals who support instruction should do so "under the direct supervision" of a teacher who is considered highly qualified. A paraprofessional works under the direct supervision of a teacher if "(1) the teacher prepares the lessons and plans the instructional support activities the paraprofessional carries out, and evaluates the achievement of the students with whom the paraprofessional is working, and (2) the paraprofessional works in close and frequent proximity with the teacher."[55] Over half of paraprofessionals reported receiving either detailed instructions or prepared lesson plans from their supervisor on a daily or near daily basis. Additionally, 83 percent of paraprofessionals reported working closely with their supervising teacher on a daily or nearly daily basis. Eighty-nine percent of paraprofessionals reported being evaluated by a school principal, teacher or other school staff; 24 percent received evaluations at least monthly (see Exhibit 52).

Exhibit 52
Percentage of Title I Instructional Paraprofessionals Reporting on Time Spent Working With Supervising Teacher, 2004–05

Exhibit Reads: Eighty three percent of paraprofessionals reported they worked closely with a supervising teacher "daily or almost daily."

Note: n = 739 to 752.

Source: NLS-*NCLB*, Paraprofessional Survey.

[55] U.S. Department of Education. (March 1, 2004). *Title I paraprofessionals: Non-regulatory guidance.* Washington, D.C.: Author.

Non-regulatory guidance issued in March of 2004 says, "[A] program where a paraprofessional works with a group of students in another location while the teacher provides instruction to the rest of the class would also be inconsistent with the requirement that paraprofessionals work in close and frequent proximity to a teacher."[56] Half of paraprofessionals indicated that "all or nearly all" of the time they worked with students was with a teacher present. However, nearly one-quarter of respondents reported that they spent half or less of that time in a classroom with a teacher present (see Exhibit 53).

As noted, prior evaluations have indicated that paraprofessionals were often assigned instructional tasks for which their educational backgrounds did not qualify them (Chambers et al., 2000). Paraprofessionals typically do not have the qualifications of teachers. While all paraprofessionals in the NLS-*NCLB* sample reported having a high school diploma or GED, only 22 percent of paraprofessionals reported that they held bachelor's degrees, and 8 percent reported having a teaching certificate.[57]

Exhibit 53
Title I Instructional Paraprofessionals' Time Spent Tutoring or Working With Students in a Classroom With a Teacher Present, 2004–05

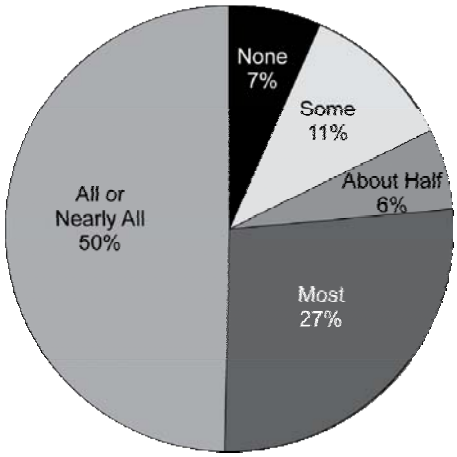


Exhibit Reads: Fifty percent of paraprofessionals reported that all or nearly all of their time tutoring or working with students was in a classroom with a teacher present.

Note: n = 769.

Source: NLS-*NCLB*, Paraprofessional Survey

Paraprofessionals in schools of different poverty levels were about equally likely to report being qualified. However, paraprofessionals in medium and high-poverty schools were notably less likely to have completed two years of college or an associate degree than were paraprofessionals in low-poverty schools.

Paraprofessionals in schools of different poverty levels were about equally likely to report being qualified, after accounting for the unusually high percentage of paraprofessionals in low-poverty schools who did not report their qualification status (40 percent) (see Appendix Exhibit B.56).

Paraprofessionals in medium and high-poverty schools were notably less likely to have completed two years of college or an associate degree than were paraprofessionals in low-poverty schools (see Exhibit 54). Paraprofessionals in rural schools were also less likely than paraprofessionals in urban schools to have completed two years of college or an associate degree (39 percent compared to 64 and 58 percent, respectively). However, nearly three-quarters of paraprofessionals in rural schools (74 percent) reported having passed an assessment, whereas about half of paraprofessionals in urban and suburban schools (48 and 52 percent respectively) reported having passed an assessment.

[56] Ibid.

[57] These findings are consistent with a 1997–98 survey of Title I paraprofessionals conducted by Chambers et al. (2000), which found that 99 percent of paraprofessionals had a high school diploma or GED and 25 percent had a bachelor's degree.

Exhibit 54
Percentage of Paraprofessionals With Selected Qualifications, by School Poverty and Urbanicity, 2004–05

Exhibit Reads: Fifty-six percent of paraprofessionals had either two years of college or an associate degree.

Note: n = 642 to 714.

Source: NLS-*NCLB*, Paraprofessional Survey.

States, districts and paraprofessionals reported several challenges to meeting the *NCLB* requirements for qualified paraprofessionals.

Among the challenges to meeting the *NCLB* requirements for paraprofessionals, those cited by states as the most significant challenge included costs (five states) and the lack of a HOUSSE equivalent for qualifying current paraprofessionals (five states). Of 48 states reporting on their challenges, eight states said they had faced no substantial challenges, and four states reported that earlier challenges had dissipated by the time of the interview. Other states reported challenges that were unique to that specific state.

One state official concerned about the lack of a HOUSSE equivalent—through which the experience of existing paraprofessionals could be acknowledged—explained, "We have veteran paraprofessionals who have literally thousands of workshop hours directly pertaining to the job that they do, that are not counted because they are not college credit."

Paraprofessionals also reported on the challenges related to meeting the requirements of *NCLB* (see Exhibit 55). Close to one-third (30 percent) of paraprofessionals who were not qualified identified costs as a major challenge. Other paraprofessionals noted insufficient time or encouragement from one's district or school as challenges. Few paraprofessionals (8 percent) cited lack of information as a major challenge.

Exhibit 55
Percentage of Paraprofessionals Reporting Various Issues as "Major" Challenges to Becoming a Qualified Paraprofessional, as Reported by Title I Instructional Paraprofessionals Who Identified Themselves as Not Qualified, 2004–05

Issues	Percentage of Paraprofessionals Reporting That Issue Is a "Major Challenge"
Not enough money or funding	30%
Not enough time to get qualified	21%
Not enough encouragement from school and district	17%
Level of difficulty of the required test	13%
Not enough information	8%

Exhibit Reads: Thirty percent of paraprofessionals who were not qualified reported that a major challenge to becoming qualified was not enough money or funding.

Note: Because paraprofessionals could give more than one reason, the sum of column percentages may not add up to 100 percent (n = 74).

Source: NLS-*NCLB*, Paraprofessional Survey.

STATE AND DISTRICT ACTIVITIES TO SUPPORT QUALIFIED PARAPROFESSIONALS

Thirty-seven states and Puerto Rico reported that they provided assistance with regard to paraprofessionals' qualifications in their state. Seven states and the District of Columbia reported that they engaged in few or no activities supportive of the paraprofessional requirements of *NCLB*, instead delegating these tasks to the district level (six states did not respond to this particular question). Likewise, districts varied in their activities to support qualified paraprofessionals in attaining and demonstrating qualified status.

Just over half of districts and slightly more than a quarter of states facilitated paraprofessional assessments and preparation for assessments.

As mentioned earlier, states can either approve assessments for district use or leave the choice entirely to districts. Fifteen states and 29 percent of districts facilitated paraprofessional assessments and preparation for assessments. Almost all states have an approved assessment through which paraprofessionals can become qualified, and 15 states reported helping paraprofessionals take and pass tests by offering test preparation courses (11 states), funding for such courses (6 states), or funding to pay fees for assessments (6 states). Among the 38 states that reported providing some type of assistance for paraprofessionals, 15 states reported that they offered one or more of the above as their top strategies.

In addition, 59 percent of districts provided test preparation resources for those seeking paraprofessional certification or those paraprofessionals who had not yet met qualifications specified under *NCLB*.

Test preparation courses were taken by 42 percent of paraprofessionals who reported being not qualified. Very few unqualified paraprofessionals (5 percent) reported having received money to pay testing fees, although available data do not reveal whether paraprofessionals had to pay any such fees (see Appendix Exhibit B.52).

Title I districts and schools have decreased their reliance on Title I paraprofessionals in recent years, both in terms of absolute numbers and as a proportion of the Title I workforce.

The share of Title I–funded district and school staff who were paraprofessionals declined from 47 percent in 1997–98 to 32 percent in 2004–05, while teachers rose from 45 percent in 55 percent of Title I staff during the same period. The total number of Title I aides declined from about 68,700 in 1997–98 to 62,000 in 2004–05, while the number of Title I teachers rose from 66,000 to 98,200 and the total number of Title I staff rose from 145,600 to 179,500. The percentage increase in the number of teachers (49 percent) is similar to the inflation-adjusted increase in Title I appropriations during this period (46 percent); the increase in the total number of Title I staff was 23 percent (see Exhibit 56).

Exhibit 56
Change in Number of Staff Funded By Title I, 1997–98 to 2004–05

Type of staff	1997–98	2004–05	Change
Teachers	66,002	98,206	+49%
Paraprofessionals	68,724	61,952	–10%
Administrative staff (certified)	2,675	3,965	+48%
Support staff (certified)	4,005	7,145	+78%
Other non-certified	4,199	8,280	+97%
Total	145,605	179,547	+23%

Exhibit Reads: In 1997–98, 66,002 teachers were funded by Title I.

Source: NLS-*NCLB*, Targeting and Resource Allocation Component.

However, only a small percentage of schools and districts responded to the NCLB paraprofessional requirements through staffing adjustments—such as reassigning paraprofessionals who were not qualified to non-instructional assignments (10 percent) or dismissing paraprofessionals who were not qualified (5 percent). Districts also sometimes responded by transferring paraprofessionals to non-Title I schools, if a review of their qualifications indicated they did not meet *NCLB* requirements for qualified paraprofessionals. Six percent of principals reported having transferred paraprofessionals to non-Title I schools.

Most schools (92 percent) that received technical assistance regarding the *NCLB* paraprofessional requirements found it sufficient.

Seventy percent of districts reported having provided technical assistance to one or more schools on the *NCLB* paraprofessional requirements, and most schools that said they needed such technical assistance received it. Among the 40 percent of principals who said that they had needed such technical assistance, 86 percent received it. Among those who needed and received technical assistance, 90 percent said that it was sufficient to meet the school's needs.

Schools, in turn, sometimes assisted paraprofessionals in becoming qualified. Most principals (70 percent) had at least monitored the progress of unqualified paraprofessionals toward becoming qualified. Thirty-nine percent of principals reported having assigned a school-level liaison to work with paraprofessionals on their qualifications.

Training and professional development activities reached most paraprofessionals, regardless of qualification status.

Helping paraprofessionals acquire training was among states' top strategies for addressing the *NCLB* requirements relative to paraprofessionals. Twenty-one states listed working with local colleges and universities to design needed courses—or to offer evening and weekend courses—among their top strategies, and offering funding for tuition and materials was among the top choices for 10 states.

Districts and schools also provided support for paraprofessional training. About three-quarters (74 percent) of principals reported that the school or district provided professional development to paraprofessionals identified as not qualified. Thirty-seven percent of elementary principals and 44 percent of secondary principals reported that the school or district provided incentives to unqualified paraprofessionals to increase their qualifications. Additionally, 45 percent of districts reported providing incentives for paraprofessionals to increase their qualifications.

Qualified paraprofessionals and those who were not qualified were about equally likely to have participated in professional development and training and equally likely to have taken college courses (see Exhibit 57). Moreover, they were about equally likely to have received money or release time to support training and course work.

Exhibit 57
Percentage of Paraprofessionals Receiving Various Types of Training and Support for Training, by Qualified Status, 2004–05

Exhibit Reads: Seventy-seven percent of paraprofessionals received professional development and training.

Note: n = 769.

Source: NLS-*NCLB*, Paraprofessional Survey.

Approximately one-quarter (25 percent) of all paraprofessionals reported taking college courses in 2003–04. The percentage of paraprofessionals who took college courses was higher in urban, high-poverty, and high minority districts (see Exhibit 58). Qualified paraprofessionals and those who were not qualified were equally likely to enroll in college courses. When asked about their plans for the next two years, 23 percent of all paraprofessionals reported having plans to become certified teachers.

Exhibit 58
Percentage of Paraprofessionals Receiving Various Types of Training and Support for Training, by District Characteristics, 2004–05

Exhibit Reads: Seventy-seven percent of paraprofessionals received professional development and training.

Note: n = 762 to 769.

Source: NLS-*NCLB*, Paraprofessional Survey.

A significant source of professional development for paraprofessionals was informal, job-embedded professional development.

The percentage of paraprofessionals who participated in various forms of professional development at least once or twice per month is shown in Exhibit 59 (see Chapter V for a discussion of different types of professional development activities). Learning opportunities associated with working with a teacher were most common. Paraprofessionals also participated in school-based professional development through observing colleagues and receiving in-class coaching from teachers or other paraprofessionals.

Exhibit 59
Percentage of Paraprofessionals Engaging in Specific Forms of School-Based Professional Development at Least Once or Twice a Month, 2004–05

Forms of Professional Development	Percentage
Worked closely with a supervising teacher	91%
Received prepared lessons or detailed instructions from a supervisor	81%
Met informally with other aides or teachers to discuss classroom activities and instruction	60%
Received in-class coaching or mentoring from teachers, other aides, or other staff	45%
Watched other aides in other classrooms to learn ideas or offer feedback	27%
Was evaluated by a school principal, supervising teacher or other staff	24%
Attended professional development workshops	19%

Exhibit Reads: Ninety-one percent of paraprofessionals reported that they worked closely with a supervising teacher.

Note: n = 739 to 756.

Source: NLS-*NCLB*, Paraprofessional Survey.

Paraprofessionals' participation in formal workshops was relatively infrequent compared to participation in job-embedded forms of professional development. Districts reported supporting an average of 3.8 days of professional development for paraprofessionals in 2003–04 and summer 2004. The topics covered in paraprofessional training varied, with how to help teach reading being the most common topic (see Exhibit 60).

Exhibit 60
Percentage of Paraprofessionals Receiving Training in Various Topics, 2004–05

Topic of Professional Development	Percentage
How to help teach reading	67%
Classroom management	61%
Use of educational technology	57%
How to help teach students with disabilities	55%
How to help teach mathematics	52%
Other	45%
Working with parents	36%
How to help teach LEP students	26%

Exhibit Reads: Sixty-seven percent of paraprofessionals received training on how to help teach reading.

Note: n = 551 to 733.

Source: NLS-*NCLB*, Paraprofessional Survey.

DISCUSSION

Since the enactment of *NCLB*, most states have selected a paraprofessional assessment and more than half have determined what constitutes "two years of study." Both principals and paraprofessionals reported that 63 percent of paraprofessionals were qualified, but awareness of the qualification status of paraprofessionals is still not universal. Twenty-eight percent of paraprofessionals either said they did not

know their status or did not respond to this survey item; similarly, principals did not know or did not report on the qualifications status for 26 percent of paraprofessionals. At the same time, paraprofessionals' reports of test taking, course work, and degrees held suggest that 87 percent have met the requirements for being qualified.

States and districts are taking limited actions to support paraprofessionals who were not qualified to become qualified. Paraprofessionals who were qualified and paraprofessionals who were not qualified were equally likely to enroll in college courses. Fifteen states have provided assistance for paraprofessionals to take qualifying exams, and just over a quarter of districts have done so.

Finally, Title I paraprofessionals reported sometimes providing instruction without a teacher present. Even though the majority of paraprofessionals reported working closely with their supervising teacher on a daily or near daily basis, nearly 10 percent of paraprofessionals reported rarely working closely with their supervising teacher and 19 percent reported not receiving prepared lessons or detailed instructions. Additionally, 7 percent of paraprofessionals reported that none of their time working with students is with a teacher present. These findings are notable given that a problem highlighted by previous reports on Title I and the antecedent Chapter I was that disadvantaged students had often been taught by teachers' aides in pull-out settings, as opposed to by a teacher.[58] *NCLB*'s increased specifications for the qualifications of paraprofessionals who provide instructional support as well as what duties those paraprofessionals were allowed to perform were intended to deter districts and schools from assigning paraprofessionals to instructional tasks.

[58] See, for example, Millsap, Moss, and Gamse (1993); U.S. Department of Education (1993); Abt Associates (1995); and U.S. Department of Education (1999) for concerns relating to the use of paraprofessionals to carry out unsupervised instruction.

CONCLUSION

Providing a highly qualified teacher in every classroom is a central goal of *NCLB*. This report describes the implementation of *NCLB*'s provisions to ensure that the nation's children have highly qualified teachers and qualified paraprofessionals. Overall, states and districts have implemented many of the law's basic provisions. However, several aspects of implementation continue to merit attention. Results of the report's five evaluation questions are summarized below, followed by a brief discussion of issues for consideration.

1. How do states designate teachers as highly qualified? What is the capacity of states to collect and accurately report on teacher and paraprofessional qualifications?

Nearly all states had adopted tests of teacher knowledge as a measure of subject-matter competence, but the minimum passing scores on the same tests differed greatly across states. For example, passing scores on the Praxis II *Elementary Education: Curriculum, Instruction, and Assessment* test ranged from 135 to 168 (out of a maximum score of 200). Similarly, the HOUSSE policies states set for teachers not new to the profession reflected the flexibility afforded in the law. Most states opted to develop HOUSSE policies based on a point system; in 21 of these states, teachers could accumulate from 40 to 50 percent of their points for having prior classroom experience, while in other states teachers could accumulate no more than 24 percent of their points for prior experience. Eight states had developed a HOUSSE system based on performance evaluations, whereas another eight have determined that existing certification policies met the federal requirements for HOUSSE.

The teacher qualification requirements of *NCLB* have also pushed states to update their data systems for tracking variables related to teacher qualifications and classroom assignments. However, although 46 states had data systems that include unique teacher identifier codes, few states could track the newer data elements required under *NCLB*, such as teachers with a major in the subject taught. Moreover, 41 states reported challenges associated with collecting and maintaining teacher quality data.

Finally, state officials described challenges in setting appropriate policies for specific groups of teachers, including middle school teachers, teachers in rural settings, teachers of students with disabilities, and teachers of students with limited English proficiency.

2. How many teachers meet *NCLB* requirements to be highly qualified (as determined by their states)? How does this vary across states, districts, schools, and types of teachers?

About three-quarters of general education teachers (74 percent) reported that they were considered highly qualified, nearly one-quarter did not know if they were highly qualified, and 4 percent were not highly qualified. Middle school teachers were more likely to report that they were not highly qualified (9 percent) than were elementary teachers (2 percent) or high school teachers (4 percent). Special education teachers were almost four times as likely as general education teachers to report that they were not highly qualified (15 percent compared with 4 percent).

However, there were gaps in notifying teachers and parents of teachers' highly qualified status. Almost half of teachers reported that they were not notified of whether they met state requirements for highly qualified teachers (48 percent). Many districts and schools reported that they did not notify parents about whether their child's teacher was highly qualified, as required under *NCLB*. High-poverty schools with teachers who did not meet the highly qualified requirement were much more likely to report having

notified parents of the highly qualified status of their child's teacher (76 percent) than were low-poverty schools (31 percent).

The percentage of teachers who were not highly qualified was highest in schools that were traditionally disadvantaged. For example, teachers who were not highly qualified were three times more likely to be teaching in high-minority schools than in low-minority schools (7 percent compared with 2 percent). Even among highly qualified teachers, those with less experience were found in the high-poverty, high-minority schools.

Teachers considered highly qualified under *NCLB* were more likely to be fully certified, to have completed more courses in their subject area, to have a degree in the subject they were teaching, and be more experienced than teachers who were not highly qualified. However, substantial numbers of highly qualified middle and high school teachers had neither an undergraduate major nor a master's degree in the subject that they taught. For example, 61 percent of highly qualified middle school English teachers and 79 percent of highly qualified middle school mathematics teachers did not have a degree in their subject.

3. What are states, districts and schools doing to increase the number of highly qualified teachers?

States, districts, and schools reported a variety of activities to increase the proportion of highly qualified teachers, including developing strategies to recruit and retain highly qualified teachers, and providing support for teachers to become highly qualified. Districts worked to recruit teachers who were considered highly qualified by establishing partnerships with higher education, streamlining the hiring process, offering financial incentives, and providing alternate certification routes. Forty states and the District of Columbia assisted with recruitment during the 2003–04 school year through such strategies as scholarships to pay for courses, signing bonuses, and loan forgiveness programs.

District strategies to retain highly qualified teachers, which were more common than recruitment strategies, included offering collegial learning activities, sustained mentoring or induction programs, financial incentives, and instructional coaching or master teacher programs. Recruitment and retention strategies were more likely to be reported by districts most in need of highly qualified teachers—districts with high proportions of high-poverty schools, high-minority schools, and schools identified for improvement. While 17 percent of districts overall said they needed technical assistance in recruiting and retaining teachers, 41 percent of large districts reported this need.

A minority of districts reported that they supported teachers who were not highly qualified by providing increased amounts of professional development (35 percent), requiring them to participate in mentoring programs (25 percent) or by assigning an instructional coach (17 percent). Schools reported that they supported teachers who were not highly qualified by providing increased amounts of professional development (52 percent) and, less frequently, by reassigning teachers from subjects which they were not qualified to teach (23 percent).

4. To what extent are teachers participating in high-quality professional development (e.g., professional development that is sustained, intensive, and content-focused)?

Nearly all teachers reported that they participated in content-focused professional development in reading and about three-quarters reported that they participated in content-focused professional development in mathematics. Likewise, nearly two-thirds of teachers reported that their professional development was often consistent with state standards and assessments. Teachers reported an average

of 66 hours of professional development during the 2003–04 school year, including both formal activities such as courses or workshops, and activities embedded in teachers' ongoing work, such as planning lessons, coaching or being coached, or exchanging feedback on instruction with other teachers.

On the other hand, relatively small proportions participated in professional development experiences that lasted more than 24 hours on a particular topic, such as in-depth study of topics in reading or mathematics (between 6 percent and 16 percent of teachers depending on subject and school level). Teachers in Title I elementary schools that were identified for improvement, and teachers in high-poverty and high-minority elementary schools, were more likely than teachers in other schools to report participating in such extended, content-focused professional development. Furthermore, less than a quarter of teachers reported that their training often involved active learning—the application of knowledge to real-world classroom tasks—or often built on their previous professional development experiences. Compared with general education teachers, special education teachers were less likely to report participating in professional development that was focused on instructional strategies for teaching reading or mathematics, involved active learning, or was designed to support state or district standards and assessments.

5. How many instructional paraprofessionals meet the *NCLB* qualification requirements? What are states, districts, and schools doing to help paraprofessionals meet these requirements?

Nearly two-thirds of Title I instructional paraprofessionals were identified as qualified under *NCLB*, according to both principal and paraprofessional reports. However, over one-quarter of paraprofessionals and principals either did not know or did not report on paraprofessionals' status. While paraprofessionals in high- and low-poverty schools were equally likely to be qualified under *NCLB*, those in high-poverty schools were less likely to have completed two years of college or an associate degree than those in low-poverty schools. A few districts responded to *NCLB* requirements through staffing adjustments such as dismissing paraprofessionals who were not qualified (5 percent) or reassigning them to non-instructional assignments (10 percent). Many paraprofessionals (42 percent) participated in test preparation courses to help them become qualified. Most paraprofessionals reported that they worked closely with a supervising teacher, however, only half of paraprofessionals indicated that when tutoring or working with students, a teacher was present "all or nearly all" of the time.

ISSUES FOR CONSIDERATION

Overall, these findings indicate that states and districts are actively working to determine whether teachers and paraprofessionals meet the qualifications requirements of *NCLB*. States, districts, and schools are also taking a variety of actions to improve the qualifications of teachers and paraprofessionals. Federal and state policymakers may want to pay particular attention to the following issues as they continue to consider ways to ensure that every child attends classes taught by highly qualified teachers, that all teachers participate in high-quality professional development, and that paraprofessionals are qualified and have appropriate roles in supporting teachers.

Across states, teachers are held to widely varying requirements to demonstrate their subject-matter knowledge, and to be considered highly qualified. States, principals, and teachers all report that high proportions of teachers are highly qualified, but differences in states' criteria may mask considerable differences in the actual content knowledge of teachers who have been designated as highly qualified. States differ in the passing scores for tests used to determine content knowledge of new teachers, and HOUSSE provisions in some states allow teachers not new to the profession to be designated highly qualified based on criteria that give up to half credit for experience teaching. While the current law

permits this practice, use of these procedures raises serious questions about whether these states are relying on sufficient direct indicators of subject-matter knowledge. Substantial proportions of highly qualified teachers, especially in middle schools, do not have degrees in the subjects they teach.

Attaining highly qualified status is more difficult for some types of teachers. States reported challenges for some types of teachers—notably middle school teachers and teachers of students with disabilities—to demonstrate subject matter knowledge in the classes they teach. Indeed, special education teachers and middle school teachers were more likely than other teachers to report they were not considered highly qualified. These patterns are not unexpected, given the fact that both special education teachers and middle school teachers often do not obtain their certification or preparation in academic subjects.

Students in schools that that are traditionally disadvantaged do not have equitable access to highly qualified and experienced teachers. In 2004–05, teachers in schools that failed to make adequate yearly progress (AYP), those identified for improvement, and schools with high concentrations of poor and minority students were more likely to be considered not highly qualified than were teachers in less challenged schools. Even among highly qualified teachers, high-poverty schools were more likely to have teachers who were new to the profession and, at the secondary level, were less likely to have a degree in the subject they teach.

Notification of teachers of their *NCLB* status does not appear to be systematic. Sharing information among key stakeholders is a critical aspect of *NCLB*. While there is evidence that teachers will act to improve their qualification status when informed that they are not highly qualified, teachers learn of their status in a variety of ways, and substantial proportions of teachers (e.g., 24 percent of general education teachers) were not aware of their status under *NCLB*. *NCLB* does appear to have stimulated states to update their data systems for teacher qualifications, but communication of this information to stakeholders appears to be inconsistent. Without information about their status, teachers may not know that they must take action to improve their qualifications.

Districts and schools that face the most challenges report doing more than other districts to recruit and retain highly qualified teachers. However, we know little about the intensity, quality, or effects of these activities. States, districts and schools report that they face challenges in improving the qualifications of their teachers, and those that face the greatest challenges are more likely than others to have taken a variety of actions to recruit and retain highly qualified teachers and to help those who are not qualified to meet the requirements. Large districts, districts with high concentrations of minority students, and high-poverty districts were the most likely to offer financial incentives and alternate certification routes in attempts to recruit highly qualified applicants. However, even in light of the fact that the most challenged districts are the ones most likely to offer these strategies, less than half offered them. In the area of technical assistance, large districts were more likely than others to report needing technical assistance for recruitment and retention purposes (41 percent compared with 14 percent) as were Title I schools that were identified for improvement (62 percent compared with 27 percent) and high minority schools (57 percent compared with 20 percent). However, little more than half of all schools reported receiving technical assistance. These districts and schools face complex issues, such as competition from other districts for teachers with the strongest qualifications. Determining the quality of current technical assistance, and providing intensive, high-quality support in the future is important for districts and schools to attract and keep highly qualified teachers, and to reduce inequities across schools.

Many teachers do not experience professional development that involves sustained, intensive training in content knowledge and instructional strategies in the content areas. Professional

development is a key *NCLB* strategy for improving teachers' subject matter knowledge, and *NCLB* set a goal that every teacher would receive "high-quality" professional development by the end of 2006. While teachers participated in many hours of formal and informal professional development, very few teachers spent more than 24 hours on content-focused professional development in reading or mathematics. Supporting the provision of high-quality professional development involves commitment on the part of states, districts and schools, including specifying the knowledge teachers should have and identifying professional development experiences that will enable teachers to learn.

FINAL NOTE

This report indicates some progress in implementing *NCLB*'s teacher qualification provisions, and identifies several areas where more progress is needed. The success of *NCLB* as a force for improving teacher qualifications depends on ensuring that its provisions are well implemented and on helping districts and schools to address the larger issues that shape the qualifications of teachers. District and school capacity to support in-depth professional development, differing perspectives regarding teacher preparation, and labor market forces that generate competition among districts and schools for teachers who are highly qualified set the context for implementation of *NCLB*'s provisions regarding teacher and paraprofessional qualifications. Addressing these challenges, and ensuring that all children have access to teachers who have deep content knowledge and effective skills for teaching that content, will be a long-term endeavor.

REFERENCES

Abt Associates (1995). *Final report: National evaluation of the Even Start Family Literacy Program.* Cambridge, Mass.: Author.

Allen, M. B. (2003). *Eight questions on teacher preparation: What does the research say?* Denver, Colo.: Education Commission of the States.

Brackstone, G.J., and Rao, J.N.K. (1979). An investigation of raking ratio estimation. *Sankhya* Series C, Part 2 (41), 97–114.

Chambers, J. G., Stullich, S., Lieberman, J., Parrish, T., Kaleba, D., and Van Campen, J. (2000). *Study of education resources and federal funding: Final report.* Washington, D.C.: U.S. Department of Education, Office of the Under Secretary, Planning and Evaluation Service.

Chaney, B. (1995). *Student outcomes and professional preparation of 8th grade teachers in science and mathematics.* NSF/NELS:88 Teacher Transcript Analysis. Rockville, Md.: Westat, Inc.

Cohen, D. K., and Hill, H. C. (1998). *Instructional policy and classroom performance: The mathematics reform in California.* Philadelphia, Pa: Consortium for Policy Research in Education, University of Pennsylvania (CPRE RR–39).

Corcoran, T. B. (1995). *Helping teachers teach well: Transforming professional development.* Consortium for Policy Research in Education RB-16. New Brunswick, N.J.: Rutgers, State University of New Jersey.

Desimone, L. M., Porter, A. C., Garet, M. S., Yoon, K. S., and Birman, B. F. (2002). Effects of professional development on teachers' instruction: Results from a three-year longitudinal study. *Educational Evaluation and Policy Analysis*, 24(2), 81–112.

Eide, E., Goldhaber, D., Brewer, D. (2004). The teacher labour market and teacher quality. *Oxford Review of Economic Policy*, 20(2), 230–244.

Elmore, R., and Burney, D. (1999). Investing in teacher learning. In L. Darling-Hammond and G. Sykes (eds.), *Teaching as the learning profession* (pp. 236–291). San Francisco: Jossey Bass.

Feistritzer, C. E. (2005, August). *Profile of teachers in the U.S. 2005.* Washington, D.C.: National Center for Education Information.

Garet, M. S.,, Birman, B. F., Porter, A. C., Desimone, L. M., Herman, R., and Yoon, K. S. (1999). *Designing effective professional development: Lessons from the Eisenhower professional development program.* Washington, D.C.: U.S. Department of Education, Office of the Under Secretary, Planning and Evaluation Service.

Garet, M. S., Porter, A. C., Desimone, L. M., Birman, B. F., and Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal,* 38(4), 915–945.

Goldhaber, D., and Brewer, D. (1997). Evaluating the effect of teacher degree level on educational performance. In W. J. Fowler (ed.), *Developments in School Finance, 1996* (pp. 197–210). Washington, D.C.: National Center for Education Statistics, U.S. Department of Education.

Goldhaber, D., and Brewer, D. (1998). When should we reward degrees for teachers? *Phi Delta Kappan*, 80(2), 134–138.

Goldhaber, D., and Brewer, D. (2000). Does teacher certification matter? High school certification status and student achievement. *Educational Evaluation and Policy Analysis*, 22(2), 129–145.

Greenwald, R., Hedges, L. V., and Laine, R. D. (1996). The effect of school resources on student achievement. *Review of Educational Research,* 66(3), 361–396.

Hawk, P. P., Coble, C. R., and Swanson, M. (1985). Certification: It does matter. *Journal of Teacher Education*, 36(3), 13–15.

Ingersoll, R. (2004). *Is there really a teacher shortage?* Seattle, Wash.: Center for the Study of Teaching and Policy.

Jepsen, C., and Rivkin, S. (2002). *Class size reduction, teacher quality, and academic achievement in California Public Elementary Schools.* San Francisco: Public Policy Institute of California.

Kennedy, M. (1998). *Form and substance in inservice teacher education* (Research Monograph 13). Madison, Wisc.: National Institute for Science Education.

Millsap, M. A., Moss, M., and Gamse, B. (1993). *The Chapter 1 implementation study: Final report: Chapter 1 in public schools.* Washington, D.C.: U.S. Department of Education, Office of Policy and Planning.

Monk, D. H. (1994). Subject-area preparation of secondary mathematics and science teachers and student achievement. *Economics of Education Review*, 13*,* 125–145.

Monk, D. H., and King, J. A. (1994). Multilevel teacher resource effects on pupil performance in secondary mathematics and science: The role of teacher subject-matter preparation. In R. G. Ehrenberg, *Contemporary policy issues: Choices and consequences in education* (pp. 29–58). Ithaca, N.Y.: ILR Press.

National Commission on Teaching and America's Future. (2003). *No dream denied: A pledge to America's children.* Washington, D.C.: Author.

National Education Association (NEA). (2003). *Meeting the challenges of recruitment and retention: A guidebook on promising strategies to recruit and retain qualified and diverse teachers.* Washington, D.C.: Author.

Porter, A. C., Garet, M. S., Desimone, L. M., and Birman, B. F. (2003). Providing effective professional development: Lessons form the Eisenhower program. *Science Educator*, 12(1), 23–40.

Prince, C. (2002). *The challenge of attracting good teachers and principals to struggling schools.* Arlington, Va.: American Association of School Administrators.

Ramirez, H. (2004). The shift from hands-off: The federal role in supporting and defining teacher quality. In F. M. Hess, A. J. Rotherham, and K. Walsh (eds.), *A qualified teacher in every classroom? Appraising old answers and new ideas* (pp. 49–79). Cambridge, Mass.: Harvard Education Press.

Rivkin, S. G., Hanushek, E. A., and Kain, J. F. (2001). *Teachers, schools, and academic achievement.* Amherst, Mass.: Amherst College.

Rothman, A. (1969). Teacher characteristics and student learning. *Journal of Research in Science Teaching*, 6(4), 340–348.

Rowan, B., Chiang, F. S., and Miller, R. J. (1997). Using research on employees' performance to study the effects of teachers on students' achievement. *Sociology of Education*, 70, 256–284.

Sanders, W., and Rivers, J. (1996). *Cumulative and residual effects of teachers on future student academic achievement.* Knoxville, Tenn.: University of Tennessee Value-Added Research and Assessment Center.

Scheerens, J., and Bosker, R. (1997). *The foundations of educational effectiveness.* New York: Pergamon.

Smith, T. M., and Ingersoll, R. M. (2004). What are the effects of induction and mentoring on beginning teacher turnover? *American Educational Research Journal,* 41(3), 681–714.

Spillane, J. (1996). Districts matter: Local educational authorities and state instructional policy. *Educational Policy*, 10, 63–87

Torgeson, J., Myers, D., Schirm, A., Stuart, E., Vartivarian, S., Mansfield, W., Stancavage, F., Durno. D., Javorsky , R., and Haan, C. (2006). *National assessment of Title I interim report to Congress: Volume II: Closing the reading gap, first year findings from a randomized trial of four reading interventions for Striving Readers.* Washington, D.C.: U.S. Department of Education, Institute of Education Sciences.

U.S. Census Bureau. (2002). 2002 Small Area Income and Poverty Estimates, Washington, D.C.: Author. Available on Census Bureau Web site: http://www.census.gov/hhes/www/saipe/download.html (accessed January 2005).

U.S. Department of Education. (1993). *Reinventing Chapter 1: The current Chapter 1 program and new directions: Final report of the National Assessment of the Chapter 1 Program.* Washington, D.C.: Author.

U.S. Department of Education. (1999). *Promising results, continuing challenges: The final report of the National Assessment of Title I.* Washington, D.C.: Author.

U.S. Department of Education, National Center for Education Statistics. (2001). *Common Core of Data*, Washington, D.C.: Author. Available on Department of Education Web site: http://nces.ed.gov/ccd/pubschuniv.asp (accessed January 2005).

U.S. Department of Education, Office of Postsecondary Education. (2003). *Meeting the highly qualified teachers challenge: The secretary's second annual report on teacher quality.* Washington, D.C.: Author.

U.S. Department of Education, Office of Postsecondary Education. (2004). *Meeting the highly qualified teachers challenge: The secretary's third annual report on teacher quality.* Washington, D.C.: Author.

U.S. Department of Education, Office of the Deputy Secretary. (2004). *No Child Left Behind: A toolkit for teachers, 2004*. Washington, D.C.: Author. Available on Department of Education Web site: http://www.ed.gov/teachers/NCLBguide/NCLB-teachers-toolkit.pdf. (accessed September 2005).

U.S. Department of Education, National Center for Education Statistics (2004). *The condition of education 2004*, Washington, D.C.: Author. Available on Department of Education Web site: http://www.nces.ed.gov/programs/coe/2004/section4/indicator24.asp. (accessed September 2005).

U.S. Department of Education, Office of Postsecondary Education. (2005). *Meeting the highly qualified teachers challenge: The secretary's fourth annual report on teacher quality*. Washington, D.C.: Author.

Walsh, K., and Tracy, C. O. (n.d.). *Increasing the odds: How good policies can yield better teachers*. National Council on Teacher Quality, Washington, D.C.

Watson, S. (2001). *Recruiting and retaining teachers: Keys to improving the Philadelphia public schools*. Philadelphia: Consortium for Policy Research in Education.

Wayne, A. J., and Youngs, P. (2003). Teacher characteristics and student achievement gains: A review. *Review of Educational Research*, 3(1), 89–122.

Wenglinsky, H. (2000). *How teaching matters: Bringing the classroom back into discussions of teacher quality*. Princeton, N.J.: Educational Testing Service.

Whitehurst, G. J. (2002). "Scientifically based research on teacher quality: Research on teacher preparation and professional development." Paper presented at the White House Conference on Preparing Tomorrow's Teachers, Washington, D.C. Available on the Department of Education Web site: http://www.ed.gov/offices/OPE/News/teacherprep/index.html. (accessed September 2005).

APPENDIX A
DESCRIPTION OF NLS-*NCLB* AND SSI-*NCLB* METHODOLOGIES

The purpose of the *National Longitudinal Study of No Child Left Behind* (NLS-*NCLB*) and the *Study of State Implementation of Accountability and Teacher Quality Provisions Under NCLB* (SSI-*NCLB*) is to provide an integrated longitudinal evaluation of the implementation of *No Child Left Behind* by states, districts, and schools, focusing primarily on *NCLB* provisions in the following four areas: accountability, teacher quality, parental choice, and supplemental educational services, and targeting and resource allocation.

Data collection for the NLS-*NCLB* and SSI-*NCLB* was coordinated to assure coverage of the same set of questions as well as questions pertinent to each state, district, and school levels. Taken together, the linked dataset on state policies, district policies, school strategies, teacher qualifications, parental choice activities, provision of supplemental services, resource allocation, and student achievement that were developed provide a unique resource for understanding the implementation of the key provisions of *No Child Left Behind*, including in Title I and non-Title I schools.

Sample and Response Rates

The nationally representative sample selected for the NLS-*NCLB* includes 300 districts. The sampling frame included all districts with at least one public and regular school in the 2001 NCES CCD school database (NCES, 2001). The sample was selected using a probability proportional to size (PPS) scheme, where the measure of size was district enrollment; 36 very large districts were selected with certainty. In order to ensure sufficient sample sizes of schools identified for improvement under Title I, the study over-sampled high-poverty districts, defined as those in the highest poverty quartile. District poverty quartiles were based on Census Bureau estimates of the number of school-age children and poor children living in each district (2002 Small Area Income and Poverty Estimates) (U.S. Census Bureau, 2002). The poverty quartiles were created by ranking all districts by the percentage of poor school-age children and then dividing these districts into quartiles that each contain 25 percent of the school-age children.

The school sample included 1,483 schools randomly sampled from strata within sampled districts. Title I schools, high-poverty schools and elementary schools with Comprehensive School Reform (CSR) programs were over-sampled. Title I status and the percentage of students eligible for free or reduced-price lunches in schools were taken from the Common Core of Data maintained by the National Center for Education Statistics. The eligibility threshold for the subsidized lunch program is lower than the official poverty definition. Elementary CSR schools were identified through the Southwest Educational Development Laboratory database on CSR schools. The sample of schools was designed so that on average two non-CSR schools, one CSR, one middle school, and one high school were selected from each district.

The teacher sample included approximately seven teachers per school (six classroom teachers and one special education teacher). School staff rosters were collected and divided into teacher strata by grade level taught; a stratum of Title I paraprofessionals was also created. After school rosters were stratified, independent random sampling took place within each stratum. At the elementary level, one teacher was selected per grade. At the secondary level, about three mathematics teachers and three English teachers were selected per school. One Title I paraprofessional was selected from each Title I school. The resulting sample included a total of 8,791 classroom teachers (including 4,772 elementary teachers, 2,081 secondary English teachers, and 1,938 secondary mathematics teachers), 1,408 special education teachers, and 950 paraprofessionals.

Of the 300 districts in the sample, all but three agreed to participate in the study. These three districts were replaced, and 289 responded by returning completed surveys yielding a response rate of 96 percent. Of the 1,483 schools in the sample, 36 refused to participate and were replaced. The response rate for principal surveys in sampled schools was 89 percent. Among teachers, response rates were highest for elementary teachers at 86 percent, while English and mathematics teachers responded at a rate of 82 percent.

Exhibit A.1
Sample Sizes and Response Rates for NLS-*NCLB* Surveys

	Sample Size	Responses	Response Rate
Districts	300	289	96%
Schools	1,483	1,315	89%
Elementary Teachers	4,772	4,089	86%
English Teachers	2,081	1,707	82%
Mathematics Teachers	1,938	1,598	82%
Special Education Teachers	1,408	1,191	85%
Paraprofessionals	950	828	87%

The following table presents characteristics of the district and school samples compared with the universe of districts and schools based on CCD data. As intended, the sample contains higher proportions of high-poverty districts and schools compared to the universe.

Item non-response was generally very low. That is, respondents tended to answer all questions in the surveys. Survey items with item non-response rates greater than 10 percent are generally not included in the report. When items with high non-response are reported, the non-response rate is reported and discussed in the text.

Item-level imputations for missing data were only made in one instance. Missing data were imputed for principal survey data on the total number of elementary classroom teachers and secondary classes, which were used as denominators for calculating the percentage of elementary teachers who were considered highly qualified under *NCLB* and the percentage of secondary classes that were taught by highly qualified teachers (presented in the teacher quality report). There were 18 out of 930 elementary school principals that did not answer the survey item asking about the total number of classroom teachers at their schools, and 36 out of 385 secondary school principals that did not answer the survey item about the total number of class sections. Data for elementary classroom teachers were imputed by taking the student-to-teacher ratios for the principals who answered the item and then fitting a regression model on this ratio by the total number of students enrolled and the school poverty level as the predictors. Using the regression coefficients, the predicted student teacher ratio was computed for each of the 18 schools and then converted to the estimated number of classroom teachers in the school. Data on the total number of secondary class sections were imputed in a similar manner. There were two elementary school principals and five secondary school principals whose values could not be imputed due to missing values in the predictor variables.

Exhibit A.2
Characteristics of NLS-*NCLB* District and School Sample Compared With the Universe of Districts and Schools

	Sample		Universe	
	Number	Percentage	Number	Percentage
Districts, by Poverty Quartile (Census poverty)	300		14,972	
Highest poverty quartile	163	54%	3,743	25%
Second highest poverty quartile	41	14%	3,743	25%
Second lowest poverty quartile	50	17%	3,743	25%
Lowest poverty quartile	46	15%	3,743	25%
Schools, By Poverty Level	1,502		83,298	
75–100% eligible for free or reduced-price lunches	596	40%	11,282	13%
50–74% eligible for free or reduced-price lunches	363	24%	15,461	19%
35–49% eligible for free or reduced-price lunches	106	7%	12,844	15%
<35% eligible for free or reduced-price lunches	291	19%	33,884	41%
Missing	146	10%	9,827	12%
Schools, by Title I Status	1,502		83,298	
Title I	1,163	77%	46,048	55%
Non-Title I	259	17%	31,312	38%
Missing	80	5%	5,938	7%
Schools, by Grade Level	1,502		83,298	
Elementary	906	60%	50,597	61%
Middle	298	20%	15,700	19%
High	298	20%	17,001	20%

The interview sample for the SSI-*NCLB* was straightforward, including all 50 states plus the District of Columbia and Puerto Rico. The response rate for all four types of interviews (accountability, teacher quality, supplemental educational services, and Title III) was 100 percent. However, responses for some specific variables were occasionally less than 100 percent, if respondents did not respond to the interview question, or if data were absent from state documentation.

Data Collection

NLS-*NCLB* data used in this report were gathered using instruments that included mail surveys of district federal program coordinators, school principals, classroom teachers and Title I paraprofessionals; survey administration began in October 2004 and was completed in March 2005. A second wave of data collection will be conducted in the 2006–07 school year. Topics covered in the survey questionnaires included accountability systems, AYP and school and district identification for improvement, technical assistance, improvement strategies, use of assessment results, Title I school choice and supplemental educational services, teacher quality, and professional development.

In addition, the NLS-*NCLB* gathered pertinent documents (including school improvement plans, school report cards, and parental notifications required under *NCLB*). Also, student achievement data were collected and surveys of parents and supplemental service providers were conducted in a sub-sample of districts, although these data are not included in this report.

The SSI-*NCLB* relied on interviews with state education officials and extant data. Interviews were conducted between September 2004 and February 2005 with state officials who had primary responsibility for accountability, teacher quality, supplemental educational services, and Title III implementation. A second wave of interviews will be conducted in the 2006–07 school year. The interview protocols addressed topics including assessments, AYP definitions, state support for schools identified for improvement, sanctions for schools in corrective action and restructuring, state data systems, state definitions of highly qualified teachers, professional development, technical assistance for teacher quality, monitoring supplemental educational service providers, and state approaches to the implementation of *NCLB* provisions related to English language proficiency. Each interview included a short section of survey questions to which state officials responded in writing (these were referred to as "Introductory Materials") and a document request, if necessary.

States are required to submit much documentation to the U.S. Department of Education, and the SSI-*NCLB* collected documents such as the Consolidated State Applications under *NCLB* (primarily the state accountability workbooks) as well as the annual Consolidated State Performance Reports (CSPRs). In addition, state education agency Web sites were an important source of data on topics including HOUSSE policies, assessment systems, and technical assistance.

A national database of the 2003–04 AYP status of all schools and of schools identified for improvement in 2004–05 was created from data on state education agency Web sites and the CSPRs. In some cases, state education officials provided the necessary data files, requested during the interview process. The resulting database contains 88,160 schools (including both Title I and non-Title I schools) in 50 states and the District of Columbia. It does not include 2,529 schools for which states reported AYP as "not determined," and about 4,000 schools that were not included in state-provided data files or Web sites.

Sample Weights for NLS-*NCLB* Survey Data

Survey data were weighted to adjust for differences between the composition of the sample and the composition of the population of interest. These differences arose partly by design—for example, differential sampling rates for high- and low-poverty districts. However, differences between the composition of the sample and that of the population also arose because of differences in cooperation rates. Not every district, school, or teacher agreed to participate in the survey, and members of some groups cooperated at higher rates than members of other groups. Differences between the composition of the sample and that of the universe may also arise because of various forms of under-coverage. Weights were used to compensate for all of these differences between samples and populations.

Two sets of weights were created for districts and schools: A weights and B weights. The A weights were used to compute enrollment weighted estimates (i.e., the percentage of students enrolled in districts or schools that have specific features); and the B weights were used to compute estimates of the percentage of districts or schools. The calculation methods for the sets of weights for districts, schools and teachers are described below.

District Weights

1. Base weights were computed as the reciprocal of the inclusion probability, corresponding to the original sample of 300. The frame included all districts with at least one public and regular school in the 2001 NCES CCD school database. The sample was selected using a probability proportional to size (PPS) scheme, where the measure of size was district enrollment; however, 36 very large districts were selected with certainty.

2. After substitution for three non-cooperating districts, revised base weights corresponding to the expanded sample of 303 districts were computed.

3. Non-cooperation adjusted weights were computed. Because there were only three non-cooperating districts, response rates approached 100 percent. The non-cooperating cells were defined by crossing district certainty status (certainty, non-certainty) by region (NE, MW, S, W) and poverty status (high, low). As all certainty districts responded, no non-response adjustment was made to them.

4. A second adjustment was made for non-response, accounting for 11 cooperating districts that did not complete and return the district questionnaire. Similar to the non-cooperation adjustment in Step 3, response rates approached 100 percent. The non-responding cells were defined by crossing district certainty status (certainty, non-certainty) by region (NE, MW, S, W) and poverty status (high, low). As all certainty districts responded, no non-response adjustment was made to them.

5. A Winsorization adjustment was applied to four district outlier weights.

6. The weights were raked to district totals on three dimensions: district size (four categories), region by poverty strata (eight categories), and Metropolitan Status Code 2001 (three categories).[59] With a tolerance level set at 0.001, convergence was satisfied after six iterations. It should be noted that raking of district weights was applied only to the non-certainty districts. The certainty districts maintained their original final weights as described above.

7. Three districts had a raked weight under 1.00. The raked weight was reset to 1.00 for these three districts to produce the final raked B-weights for districts.

8. The final raked weights were then multiplied by district enrollment.

9. Finally, those weights were raked to enrollment totals on three dimensions: district size (four categories), region by poverty strata (eight categories), and Metropolitan Status Code 2001 (three categories). With a tolerance level set at 0.001, convergence was satisfied after eight iterations. These raked weights are the final raked district A-weights.

School Weights

1. School weights began with the Step 3 district weights.

2. The conditional school base weight was computed as the reciprocal of the school inclusion probability after allowing for replacement schools, mergers, splits, and any other status changes.

3. School base weights were computed by multiplying the district weights (Step 1) by the Step 2 school conditional weights.

[59] Raking is a method of statistical estimation that improves the accuracy of statistics derived from survey data (see, for example, Brackstone and Rao, 1979). It is related to methods of ratio estimation, regression estimation, calibration, and post-stratification. In its simplest form, the method of raking adjusts the survey weights so that the resulting estimates equal population totals that are known or thought to be known from an independent source, such as a census or a large reference survey. Raking often takes place in multiple dimensions, for example, iteratively adjusting weights so that estimates agree with population totals by age, race, and mother's education.

4. A Winsorization adjustment was applied to four outliers.

5. The conditional school base weight was computed as the reciprocal of the school inclusion probability after allowing for replacement schools, mergers, splits, and any other status changes.

6. The school base weight was computed by multiplying the Step 4 school weights by the Step 5 school conditional weights.

7. Schools that were closed were given a weight of zero.

8. A non-response adjustment was made to the weights for the remaining (open) schools, accounting for non-cooperating schools.

9. Using the non-cooperating-adjusted school weight from Step 8, a second non-response adjustment was made for open schools, accounting for 168 missing principal questionnaires.

10. A Winsorization adjustment was made for seven extreme school weights. The result is called the preliminary B-weights.

11. These weights were raked to school totals on four dimensions: school size (four categories), region by poverty strata (eight categories), Metropolitan Status Code 2001 (three categories), and school type (four categories). With a tolerance level set at 0.001, convergence was satisfied after seven iterations. The result is called the preliminary raked B-weight.

12. Within the smallest school size category (less than 400 students enrolled), two cases had weights Winsorized. The result is called outlier adjusted raked B-weight.

13. Finally, 10 schools had a raked weight under 1.00. They were reset to 1.00, while the rest of the school sample maintained its weights from Step 11. The result is the final raked school B-weights.

14. These raked B-weights were multiplied by school enrollment (obtained from the school-level CCD file).

15. A Winsorization adjustment was made for seven extreme weights. The result is called the preliminary A-weights.

16. Finally, these weights were raked to school enrollment on four dimensions: school size (four categories), region by poverty strata (eight categories), Metropolitan Status Code 2001 (three categories), and school type (four categories). With a tolerance level set at 0.001, convergence was satisfied after eight iterations. The resulting weights are the final raked school A-weights.

Teacher Weights

1. Teacher weights began with Step 8 school weights.

2. A Winsorization adjustment was applied to seven extreme school weights within size categories.

3. Those weights were then raked to school totals on 4 dimensions: school size (four categories), region by poverty strata (eight categories), Metropolitan Status Code 2001 (three categories), and

school type (four categories). With a tolerance level set at 0.001, convergence was satisfied after six iterations.

4. Within the smallest school size category (less than 400 students enrolled), two cases had weights Winsorized.

5. Finally, 15 schools had a raked weight under 1.00. These weights were reset to 1.00, while the rest of the school sample maintained the weight from Step 4.

6. The conditional teacher base weight was computed as the reciprocal of the teacher probability of selection.

7. The teacher base weight was calculated by multiplying the Step 5 weight by the Step 6 conditional weight.

8. Teachers determined to be ineligible or out of scope (assuming no permanent replacement teacher was available) were given a weight of zero.

9. A non-response adjustment was made for teachers who refused to complete the questionnaire and a proportion of the teachers with unknown eligibility. Non-response adjustment cells were defined by crossing region by poverty stratum (eight categories) by teacher stratum (14 categories), with the collapsing of a few small cells (those with fewer than 30 cases). Collapsing of small cells involved sixth-grade classroom, seventh-eighth grade mathematics, and seventh-eighth grade English language arts cells.

10. The non-response adjusted weights were then outlier adjusted. Outliers were defined to be any weights that were at or above the 99.5 percentile within non-response adjustment cell. Fifty-one outliers were flagged and Winsorized.

Standard Errors

Calculation of standard errors adjusted for the complex sampling design using SAS statistical software that makes use of the Taylor expansion method for calculating standard errors.

The standard errors provide an indicator of the reliability of each estimate. For example, if all possible samples of the same size were surveyed under identical conditions, an interval calculated by adding and subtracting 1.96 times the standard error from a particular estimate would include the population value in approximately 95 percent of the samples.

Statistical Tests and Modeling

NLS-*NCLB* survey data

Standard errors for means, ratios, and proportions were estimated using the Taylor expansion method to adjust for the complex sampling designs of the various datasets. All comparisons between groups discussed in the text, as well as comparisons over time, have been tested for statistical significance, using a significance level of 0.05. The significance level or alpha reflects the probability that a difference between groups as large as the one observed could arise simply due to sampling variation, if there were no true difference between groups in the population.

Differences between means or ratios were tested by calculating a t-statistic based on the following formula:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{SE_1^2 + SE_2^2}}$$

where $\bar{x}_1$ and $\bar{x}_2$ are the estimated means or ratios being compared and SE_1 and SE_1 are their corresponding standard errors. The t value was then compared with the critical value for an alpha level of 0.05, which was set at 2.0. Differences between proportions were tested using a design-adjusted chi-square statistic.

When more than two groups were compared (for example, high, medium, and low poverty districts), comparisons were conducted separately for each pair of groups (for example, high vs medium poverty districts, medium vs low poverty districts, and high vs low poverty districts).

Multivariate Analysis

A multivariate logistic model was used to measure the net effect of different variables on an outcome, such as designation of a school as being in need of improvement, that is, the effect of a particular factor on that outcome, while controlling for the effects of other variables. Empirically, the outcome is summarized by a dichotomous dependent variable.

The logistic regression model is an appropriate choice for the functional form because it restricts the value of the predicted probability to between 0 and 1. The model relates the occurrence of an event for the i th case, Y_i, to a vector of characteristics for that case, X_i.

$$P_i = E(Y_i = 1 | X_i) = 1/(1 + e^{-(\beta_0 + \Sigma \beta_j X_{ij})})$$

where

P_i = probability of occurrence of an outcome for case i,

X_{ij} = values of the explanatory variable j for case i,

β_j = estimated coefficients for the X_j, and

β_0 = estimated constant term.

National AYP and Identification Database

The Study of State Implementation of Accountability and Teacher Quality under *NCLB* National AYP and Identification Database contains 88,160 schools (Title I and non-Title I) with valid improvement status and 87,892 schools with valid AYP status located in approximately 15,000 districts across 50 states and the District of Columbia. The most recent available Common Core of Data (2002–03) at the time of the analyses indicated that there were approximately 96,000 public schools in the 50 states and the District of Columbia. Unless noted otherwise, Puerto Rico is not included in the analyses conducted using this database. When merged with the SSI-*NCLB* National AYP and Identification Database, there were 2,529 of these 96,000 schools for which states reported AYP as "not determined," or "not relevant," or for which there were "no data." Another 5,500 of these 96,000 schools were not reported

in state-provided AYP files, because some states were not explicit about schools for which AYP was not determined. These 5,500 schools do not have uniform characteristics, but many are coded as "Other/Alternative" type schools or reported zero students enrolled. Similarly, approximately 4,000 schools were not reported in identification files, that is, none of these schools appeared on state identified for improvement lists provided as a part of their respective state's Consolidated State Performance Report. The database currently lacks approximately 352 Title I identified schools because six states' school identification data did not include separately identified non-Title I schools. However, this number of 352 schools located in searches of state documents and Web sites have been added to relevant national and state totals.

Targeting and Resource Allocation Component

The NLS-*NCLB* included a component that focused on Targeting and Resource Allocation under *NCLB* through which a variety of financial and non-fiscal information were collected from 50 states (plus the District of Columbia) and 300 districts. Data were collected primarily for the 2004–05 school year.

The state-level data collection began in October 2004 and ended in August 2005. Data items obtained through this state-level data collection included state allocation data for the federal education programs, state and district use of the transferability authority, district applications for federal funding, state methods for allocating Title I, Part A, school improvement funds, and staffing and funding for state education agencies. All states responded to the request for data, and provided information on federal education program allocations as well as other pertinent data including district-level consolidated applications for federal program funding.

District-level data collection occurred in two stages. Phase I (January–August 2005) began with contacting the district federal program office and the financial office of each of the 300 sample districts to obtain their federal program budgets and district payroll records for the sampled schools. Phase II of the district data collection took place from late 2005 to early 2006. During this phase, each of the 300 districts was asked to send their detailed year-end revenue and expenditure reports for 2004–05. The district response rate for the data elements of the targeting and resource allocation component of the NLS-*NCLB* was between 72 and 96 percent.

Definition of Mathematics Teacher and English Teacher

Under *NCLB*, secondary school teachers are required to be highly qualified for each subject they teach; hence teacher who taught both English and mathematics classes in a given year were included in the estimation of the percentage of highly qualified teachers for secondary teachers of English and for secondary teachers of mathematics. Thus, the two analytic categories of "Middle School English Teachers" and "Middle School Mathematics Teachers" were not mutually exclusive. Similarly, "High School English Teachers" and "High School Mathematics Teachers" were not mutually exclusive.

Of 1,887 middle school teachers in our sample, 923 taught English or language arts, 784 taught mathematics, and 180 reportedly were teaching at least one class in both subject areas in 2004–05. One hundred and eighty of 1,103 middle school teachers who taught English or language arts also taught mathematics; 180 of 964 middle school teachers who taught mathematics also taught English or language arts. Multiple-subject assignment was less common in high schools. Of 1,366 high school teachers, 691 taught English or language arts, 665 taught mathematics, and only 10 taught classes in both subjects in the year 2004–05.

APPENDIX B
SUPPLEMENTAL NLS-*NCLB* EXHIBITS AND STANDARD ERROR REPORTS

Exhibit B.1
Percentage of Teachers Reporting That They Were Considered "Highly Qualified," Not Highly Qualified, or that They Did Not Know Their Status Under *NCLB* by Teacher Level and Type, 2004–05

	All General Education Teachers	Elementary General Education Teachers	Middle School General Education Teachers	High School General Education Teachers
n	7,340	4,087	1,887	1,366
Highly qualified	74%(1.53%)	75%(1.76%)	74%(2.10%)	69%(2.60%)
Not highly qualified	4%(0.39%)	2%(0.29%)	9%(1.50%)	4%(0.92%)
Don't know	23%(1.54%)	23%(1.75%)	17%(1.69%)	27%(2.75%)

	All Special Education Teachers	Elementary Special Education Teachers	Middle School Special Education Teachers	High School Special Education Teachers
n	1,153	673	266	214
Highly qualified	52%(2.40%)	61%(3.60%)	53%(4.75%)	39%(4.87%)
Not highly qualified	15%(2.20%)	8%(2.27%)	20%(4.11%)	19%(4.78%)
Don't know	29%(2.31%)	27%(3.43%)	20%(3.21%)	39%(4.79%)
Do not need to meet the requirements for being highly qualified	4%(0.75%)	4%(0.87%)	6%(2.12%)	3%(1.28%)

Exhibit Reads: There were 7,340 teachers who responded to the NLS general education teacher surveys. Seventy-four percent of general education teachers reported they were considered highly qualified, 4 percent said they were not highly qualified, and 23 percent said they did not know their status.

Note: Column totals may not sum to 100 percent due to rounding.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.2
Comparisons Between Principal and Teacher Survey Data Results

Percentage of Elementary Teachers Who Were Highly Qualified, as Reported by Their Principals (n = 930)			Percentage of Elementary Teachers Who Reported That They Were Considered Highly Qualified (n = 4,087)	
Highly qualified	82%(1.98%)		Highly qualified	75%(1.76%)
Not highly qualified	2%(0.22%)		Not highly qualified	2%(0.29%)
Unknown*	16%(1.98%)		Don't know	23%(1.75%)

* The "Unknown" category consists of three conditions: (1) Status "not yet determined," (2) principals "don't know" about their teachers' status, and (3) missing data.

Percentage of Secondary Class Sections Taught by Highly Qualified Teachers, as Reported by Their Principals (n = 385)			Percentage of Middle School Teachers Who Reported That They Were Considered Highly Qualified (n = 1,887)			Percentage of High School Teachers Who Reported That They Were Considered Highly Qualified (n = 1,366)	
Highly qualified	77%(4.16%)		Highly qualified	74%(2.10%)		Highly qualified	69%(2.60%)
Not highly qualified	3%(0.53%)		Not highly qualified	9%(1.50%)		Not highly qualified	4%(0.92%)
Unknown*	21%(6.57%)		Don't know	17%(1.69%)		Don't know	27%(2.75%)

* The "Unknown" category consists of three conditions: (1) Status "not yet determined," (2) principals "don't know" about their teachers' status, and (3) missing data.

Exhibit Reads: Principals reported that 82 percent of elementary teachers were highly qualified under NCLB.

Source: NLS-*NCLB*, Teacher Survey and Principal Survey.

Exhibit B.3
Percentage of General Education Teachers Who Reported Being Highly Qualified or Not Highly Qualified or Who Did Not Know Their Highly Qualified Status, by LEP Teaching Status, 2004–05

	Non-LEP General Education Teachers	LEP General Education Teachers
n	5,939	1,295
Highly Qualified	74%(1.60%)	74%(2.48%)
Not Highly Qualified	3%(0.41%)	6%(1.14%)
Don't Know	23%(1.57%)	21%(2.56%)

Exhibit Reads: Seventy-four percent of non-LEP general education teachers reported they were highly qualified under *NCLB*.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.4
Percentage of Teachers Reporting That They Were Not Notified of Their Status, for Teachers Who Said They Did Not Know Their Highly Qualified Status, 2004–05

	All General Education Teachers	Elementary General Education Teachers	Middle School General Education Teachers	High School General Education Teachers	All Special Education Teachers	Elementary Special Education Teachers	Middle School Special Education Teachers	High School Special Education Teachers
n	1538	894	337	307	293	163	64	66
Not notified	97%(0.62%)	97%(0.62%)	92%(2.64%)	97%(1.07%)	91%(2.78%)	94%(2.28%)	89%(5.56%)	88%(5.79%)
Notified	3%(0.62%)	3%(0.62%)	8%(2.64%)	3%(1.07%)	9%(2.78%)	6%(2.28%)	11%(5.56%)	12%(5.79%)

Exhibit Reads: Ninety-seven percent of all general education teachers who did not know their highly qualified status reported that they were not notified of their status.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.5
Predicted Percentage of Teachers Determined To Be Highly Qualified, for Teachers Who Did Not Know Their HQ Status, by Teacher Type and Grade Level, 2004–05

	All General Education Teachers	Elementary General Education Teachers	Middle School General Education Teachers	High School General Education Teachers	All Special Education Teachers	Elementary Special Education Teachers	Middle School Special Education Teachers	High School Special Education Teachers
n	1,464	837	274	130	283	157	59	67
Predicted percentage of teachers	92%	98%	79%	100%	92%	100%	83%	56%

Exhibit Reads: Ninety-two percent of all general education teachers who did not know their status were predicted to be highly qualified.

Note: We used the SAS survey logistic procedure to estimate the predicted percentage of teachers that were determined to be highly qualified among those who did not know their HQ status.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.6
Percentage of Teachers With Regular or Standard Certification, Fewer Than Three Years of Teaching Experience, and Alternate Route Program, by Teacher's Highly Qualified Status and Type, 2004–05

	Regular or standard certification		Master's Degree		Fewer than 3 years teaching experience		Alternate Route Program	
	General Education Teachers	Special Education Teachers	General Education Teachers	Special Education Teachers	General Education Teachers	Special Education Teachers	General Education Teachers	Special Education Teachers
All Teachers	86%(1.04%)	83%(2.48%)	48%(1.60%)	61%(2.91%)	10%(0.84%)	9%(1.64%)	9%(0.82%)	12%(1.73%)
By Teacher's HQ status								
Highly Qualified	87%(1.12%)	90%(1.83%)	51%(1.72%)	62%(3.56%)	8%(0.95%)	6%(1.46%)	8%(0.76%)	9%(1.92%)
Not Highly Qualified	69%(4.64%)	57%(9.31%)	33%(3.97%)	47%(7.85%)	23%(3.60%)	27%(8.45%)	25%(4.15%)	23%(7.22%)
Don't Know	84%(1.97%)	83%(3.99%)	43%(3.09%)	64%(5.24%)	14%(1.68%)	5%(1.91%)	10%(1.75%)	9%(2.88%)
Not Required	–	78%(8.55%)	–	61%(8.82%)	–	10%(6.84%)	–	20%(8.02%)

Exhibit Reads: Eighty-three percent of all general education teachers have regular or standard certification.

Note: Highly qualified n = 4,475 to 5,180; not highly qualified n = 336 to 391; don't know n = 1,375 to 1,513.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.7
Average Number of College Courses Completed by General Education Teachers in Reading and Mathematics, by Teacher's Highly Qualified Status and Grade Level Taught, 2004–05

Average Number of College Courses Completed in:	Reading or English			Mathematics		
By:	Elementary Teachers	Middle School English Teachers	High School English Teachers	Elementary Teachers	Middle School Mathematics Teachers	High School Mathematics Teachers
All Teachers	7.7(0.15)	10.9(0.28)	12.6(0.32)	4.7(0.12)	8.4(0.33)	12.5(0.31)
n	3,860	1,053	679	3,838	928	647
By Teacher's HQ status						
Highly Qualified	8.0(0.18)	11.5(0.30)	12.5(0.41)	4.9(0.15)	8.8(0.35)	13.1(0.36)
Not Highly Qualified	5.9(0.58)	7.4(0.81)	14.8(0.43)	4.2(0.68)	6.3(0.83)	6.8(1.90)
Don't Know	6.8(0.35)	10.2(0.66)	12.5(0.57)	4.1(0.25)	8.5(0.93)	12.3(0.45)

Exhibit Reads: Elementary general education teachers completed on average 7.7 college courses in English.

Note: Respondents were asked to answer the numbers of courses completed in the following categories: "None," "1 course," "2 courses," "3 courses," "4–6 courses," "7–11 courses," and "12 or more courses." In order to take averages, we assigned 5 courses to the "4–6 courses" category, 9 courses to the "7–11 courses" category, and 16 courses to the "12 or more courses" category.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.8
Average Number of College Courses Completed by Special Education Teachers in Reading, Mathematics, and "Teaching Students With Disabilities," by Teacher's Highly Qualified Status, 2004–05

Average Number of College Courses Completed in:	Reading	Mathematics	Teaching Students With Disabilities
All Teachers	5.8(0.25)	3.1(0.16)	9.5(0.34)
By Teacher's HQ status			
Highly Qualified	6.4(0.33)	3.4(0.19)	9.8(0.45)
Not Highly Qualified	5.5(0.71)	2.7(0.35)	7.8(0.96)
Don't Know	4.9(0.44)	2.9(0.29)	9.5(0.65)
Not Required	5.6(1.08)	3.7(1.13)	10.1(1.19)

Exhibit Reads: Special education teachers completed on average 5.8 college courses in English.

Note: Respondents were asked to answer the numbers of courses completed in the following categories: "None," "1 course," "2 courses," "3 courses," "4–6 courses," "7–11 courses," and "12 or more courses." In order to take averages, we assigned 5 courses to the "4–6 courses" category, 9 courses to the "7–11 courses" category, and 16 courses to the "12 or more courses" category. Special education teachers n = 1,094 to 1,106.

Source: NLS-*NCLB*, Teacher Survey and SSI-*NCLB* IFI-AYP database.

Exhibit B.9
Percentage of Secondary School General Education Teachers With a Degree in English or Mathematics, by Teacher's Highly Qualified Status and Grade Level and Subject Taught, 2004–05

	Middle School English Teachers	Middle School Mathematics Teachers	High School English Teachers	High School Mathematics Teachers
All Teachers	36%(2.49%)	21%(1.97%)	66%(3.3%)	53%(3.38%)
n	1,087	947	688	664
By Teacher's HQ status				
Highly Qualified	39%(2.75%)	21%(2.24%)	68%(4.59%)	59%(3.83%)
Not Highly Qualified	13%(5.14%)	15%(7.04%)	47%(17.06%)	15%(7.42%)
Don't Know	35%(5.87%)	27%(5.88%)	63%(5.84%)	47%(7.68%)

Exhibit Reads: Thirty-six percent of middle school English teachers had a degree in English.

Note: A degree may include any of the following: bachelor's; master's; educational specialist or professional diploma; certificate of advanced graduate studies; or doctorate or professional degree.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.10
Percentage of Teachers Who Are Considered Highly Qualified or Not Highly Qualified, and Who Do Not Know Their Status, by School Characteristics, 2004–05

	General Education Teachers			Special Education Teachers			
	Highly Qualified	Not Highly Qualified	Don't Know	Highly Qualified	Not Highly Qualified	Don't Know	Do Not Need to Meet Requirements
All Teachers	74%(1.53%)	4%(0.39%)	23%(1.54%)	52%(2.40%)	15%(2.20%)	29%(2.31%)	4%(0.75%)
By school improvement status in 2004–05							
Identified	71%(2.14%)	8%(1.12%)	21%(2.09%)	50%(4.58%)	9%(2.66%)	33%(4.52%)	7%(2.38%)
Not identified	74%(1.71%)	3%(0.38%)	23%(1.77%)	53%(2.73%)	16%(2.66%)	28%(2.56%)	3%(0.71%)
By school poverty							
High-poverty	73%(1.59%)	6%(0.76%)	21%(1.72%)	56%(5.05%)	11%(3.27%)	26%(3.83%)	7%(2.38%)
Medium poverty	74%(2.22%)	4%(0.71%)	22%(2.3%)	52%(4.53%)	18%(4.54%)	27%(4.14%)	3%(1.00%)
Low-poverty	73%(2.56%)	2%(0.60%)	24%(2.6%)	51%(3.70%)	12%(3.09%)	32%(3.7%)	4%(1.24%)
By school minority concentration							
High-minority	73%(1.54%)	7%(0.97%)	20%(1.75%)	51%(5.04%)	14%(4.55%)	29%(4.20%)	6%(1.66%)
Medium minority	72%(3.39%)	3%(0.75%)	25%(3.33%)	45%(4.71%)	18%(4.54%)	34%(4.66%)	3%(1.20%)
Low-minority	75%(2.12%)	2%(0.44%)	23%(2.18%)	57%(3.49%)	12%(2.90%)	26%(3.15%)	4%(1.22%)
By school locale							
Urban	70%(2.29%)	4%(0.67%)	26%(2.13%)	42%(4.21%)	15%(3.9%)	40%(4.3%)	3%(1.09%)
Suburban	76%(2.37%)	4%(0.58%)	21%(3.13%)	57%(3.52%)	15%(3.34%)	25%(3.2%)	4%(1.04%)
Rural	74%(3.13%)	3%(0.74%)	23%(2.13%)	55%(4.3%)	14%(3.85%)	24%(5.12%)	7%(2.37%)

Exhibit Reads: (The second row from the top) In schools that were identified for improvement in 2004–05, 71 percent of teachers reported they were highly qualified, 8 percent said they were not highly qualified, and 21 percent said they did not know their status.

Note: n = 7,276.

Source: NLS-*NCLB*, Teacher Survey and SSI-*NCLB* IFI-AYP database.

Exhibit B.11
Percentage of Teachers Reporting that They Are Considered Highly Qualified or Not Highly Qualified, and Who Do Not Know Their Status Under *NCLB*, 2004–05, by School Improvement Status and by School Level, 2004–05

	Highly Qualified	Not Highly Qualified	Don't Know
Elementary teachers (n = 4,049)			
School not identified for improvement	75%(1.99%)	2%(0.28%)	23%(1.96%)
School identified for improvement (Year 1 or Year 2)	71%(4.25%)	5%(1.33%)	24%(4.32%)
School identified for corrective action	77%(4.32%)	8%(3.03%)	15%(4.56%)
School identified for restructuring	77%(3.88%)	6%(2.38%)	17%(2.85%)
Middle school teachers (n = 1,853)			
School not identified for improvement	77%(2.52%)	7%(1.73%)	16%(2.11%)
School identified for improvement (Year 1 or Year 2)	67%(4.14%)	16%(3.64%)	17%(3.43%)
School identified for corrective action	73%(5.53%)	8%(2.80%)	18%(4.23%)
School identified for restructuring	59%(5.30%)	15%(4.14%)	26%(2.11%)
High school teachers (n = 1,357)			
School not identified for improvement	69%(3.05%)	3%(0.75%)	28%(3.19%)
School identified for improvement (Year 1 or Year 2)	70%(4.54%)	8%(3.08%)	21%(4.06%)
School identified for corrective action	62%(3.65%)	4%(2.81%)	33%(3.99%)
School identified for restructuring	75%(4.82%)	14%(1.85%)	11%(3.19%)

Exhibit Reads: In elementary schools that were not identified for improvement in 2004–05, 75 percent of teachers reported they were highly qualified, 2 percent said they were not highly qualified, and 23 percent said they did not know their status.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.12
Percentage of Teachers Reporting that They Were Considered Highly Qualified or Not Highly Qualified, and Who Did Not Know Their Status Under *NCLB*, 2004–05, by School Size Status Within Each School Level, 2004–05

	Highly Qualified	Not Highly Qualified	Don't Know
Elementary teachers (n = 4,049)			
Small (400 or fewer students)	79%(2.70%)	2%(0.52%)	20%(2.70%)
Medium (401 to 800 students)	74%(2.21%)	2%(0.38%)	24%(6.66%)
Large (801 or more students)	73%(6.36%)	3%(0.98%)	23%(2.70%)
Middle school teachers (n = 1,853)			
Small (400 or fewer students)	77%(4.22%)	11%(3.01%)	12%(2.77%)
Medium (401 to 800 students)	71%(3.38%)	12%(3.19%)	18%(2.8%)
Large (801 or more students)	77%(3.33%)	6%(1.53%)	17%(2.77%)
High school teachers (n = 1,357)			
Small (400 or fewer students)	63%(8.70%)	21%(6.54%)	16%(4.82%)
Medium (401 to 800 students)	78%(3.73%)	3%(1.31%)	19%(3.21%)
Large (801 or more students)	67%(3.06%)	2%(0.57%)	31%(4.82%)

Exhibit Reads: In small elementary schools, 79 percent of teachers reported they were highly qualified, 2 percent said they were not highly qualified, and 20 percent said they did not know their status.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.13
Percentage of Highly Qualified Secondary English and Mathematics Teachers With a Degree in the Field in Which They Teach, by School Characteristics, 2004–05

	All Highly Qualified Secondary Teachers (n = 2,218 to 2,261)	Highly Qualified Secondary English Teachers (n = 1,231 to 1,251)	Highly Qualified Secondary Mathematics Teachers (n = 1,086 to 1,106)
Overall	50%(2.13%)	54%(2.67%)	41%(2.68%)
By school poverty			
High-poverty	41%(4.38%)	43%(5.06%)	34%(4.76%)
Medium-poverty	51%(3.30%)	57%(3.46%)	41%(4.65%)
Low-poverty	52%(3.24%)	55%(4.35%)	44%(3.78%)
By school locale			
Urban	50%(3.14%)	56%(3.61%)	39%(4.14%)
Suburban	53%(2.96%)	57%(3.74%)	44%(4.02%)
Rural	40%(4.23%)	39%(5.53%)	36%(5.36%)

Exhibit Reads: Fifty percent of highly qualified secondary general education teachers had a degree in the field in which they teach (either English or mathematics).

Note: A degree may include any of the following: bachelor's; master's; educational specialist or professional diploma; certificate of advanced graduate studies; or doctorate or professional degree.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.14
Percentage of Highly Qualified General Education Teachers With Fewer Than Three Years of Teaching Experience and Participation in Alternate Route Programs, by School Characteristics, 2004–05

	Fewer than 3 years teaching experience	Alternate Route Program Participation
All Highly Qualified General Education Teachers	8% (0.96%)	8% (0.77%)
By school poverty		
High-poverty	12%(1.49%)	11%(1.53%)
Medium-poverty	9%(1.51%)	9%(1.44%)
Low-poverty	5%(1.22%)	5%(0.93%)
By school minority concentration		
High-minority	13%(1.87%)	16%(1.90%)
Medium-minority	9%(2.00%)	7%(1.44%)
Low-minority	5%(0.91%)	4%(0.85%)
By school AYP status in 2003–04		
Made AYP	7%(1.09%)	7%(0.95%)
Did not make AYP	11%(1.29%)	10%(1.19%)

Exhibit Reads: Eight percent of highly qualified general education teachers have fewer than three years of teaching experience.

Note: n = 5,014.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.15
Percentage of Teachers Who Were Aware of Their State's Requirements for Them to Be Considered a Highly Qualified Teacher Under *NCLB*, by Teacher Type and Level, 2004–05

	All General Education Teachers	Elementary Teachers	Middle School Teachers	High School Teachers	All Special Education Teachers
n	7,340	4,087	1,887	1,366	1,186
Yes, I am aware	83%(1.34%)	85%(1.48%)	86%(1.48%)	76%(2.64%)	83%(2.26%)
No, I am not aware	17%(1.34%)	15%(1.48%)	14%(1.48%)	24%(2.64%)	17%(2.26%)

Exhibit Reads: Eighty-three percent of all general education teachers responded that they were aware of their state's requirements for highly qualified teachers under *NCLB*.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.16
Percentage of Teachers Who Reported Sources Through Which They Learned About Requirements to Be Considered a Highly Qualified Teacher Under *NCLB*, by Teacher Type and Level, 2004–05

	All General Education Teachers	Elementary Teachers	Middle School Teachers	High School Teachers	All Special Education Teachers
From principal or administrator	73%(1.40%)	77%(1.50%)	71%(2.50%)	65%(3.66%)	67%(2.81%)
From another teacher	21%(0.96%)	21%(1.26%)	24%(1.90%)	19%(2.00%)	22%(2.33%)
From a professional development session	36%(1.24%)	36%(1.70%)	36%(1.96%)	35%(2.48%)	39%(2.59%)
From a college or university	17%(1.07%)	17%(1.35%)	20%(1.72%)	15%(1.61%)	22%(2.28%)
From media (television, Web site, newspaper, etc.)	28%(1.19%)	28%(1.48%)	28%(2.13%)	30%(2.89%)	26%(2.44%)
From another source	17%(0.99%)	16%(1.26%)	17%(1.82%)	19%(1.97%)	21%(2.45%)

Exhibit Reads: Seventy-three percent of all general education teachers reported they learned about the highly qualified teacher requirements from a principal or another administrator.

Note: Teachers could select more than one response, so percentages do not sum to 100. General education teachers n = 6,195; special education teachers n = 998.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.17
Percentage of Teachers Who Were Notified of Their Own Highly Qualified Status Under *NCLB* Provisions, 2004–05, by Teacher Type and Level

	All General Education Teachers	Elementary Teachers	Middle School Teachers	High School Teachers	Special Education Teachers
Yes, I have been notified	52%(2.05%)	54%(2.30%)	53%(2.63%)	43%(3.40%)	43%(2.92%)
No, I have not been notified	48%(2.05%)	46%(2.30%)	47%(2.63%)	57%(3.40%)	57%(2.92%)

Exhibit Reads: Fifty-two percent of all general education teachers responded that they had been notified of their own highly qualified teacher status under *NCLB*.

Note: General education teachers n = 6,195; special education teachers n = 998.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.18
Percentage of Teachers Who Are Aware of Their State's Requirements for Them to be Considered a "Highly Qualified Teacher" Under *NCLB* by Notification of Status, 2004–05

	All Teachers	
	Not Notified	**Notified**
Yes, I am aware	66%(1.89%)	99%(0.32%)
No, I am not aware	34%(1.89%)	1%(0.32%)

Exhibit Reads: Sixty-seven percent of teachers who said they were not notified of their own highly qualified status under *NCLB* reported that they were aware of state requirements for being highly qualified, while almost all teachers who were notified of their status were aware of these same requirements.

Note: n = 6,195.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.19
Percentage of Schools That Notified Parents of Their Child's Teacher's "Highly Qualified" Status, by School Poverty, 2004–05

	Percent (s.e.) (n = 333)
All schools	52% (4.69%)
School Poverty	
High-poverty	76% (6.20%)
Medium-poverty	46% (8.18%)
Low-poverty	31% (8.17%)

Exhibit Reads: Fifty-two percent of schools notified parents of their child's teacher's highly qualified status under *NCLB*.

Note: The percents shown in the exhibit are based on schools that have at least one teacher who is not highly qualified.

Source: NLS-*NCLB*, District and Principal Surveys.

Exhibit B.20
Reasons Why Teachers Were Designated as Not "Highly Qualified," by Teacher Type and Level, 2004–05

	Elementary Teachers	Middle School English Teachers	High School English Teachers	Middle School Mathematics Teachers	High School Mathematics Teachers	Special Education Teachers
n	135	115	36	127	36	125
No bachelor's degree	0% (0.00%)	0.4% (0.38%)	0% (0.00%)	2% (1.04%)	4% (4.44%)	0% (0.00%)
Lack full certification or licensure	35% (6.41%)	18% (5.20%)	11% (4.85%)	14% (4.68%)	31% (8.04%)	31% (7.75%)
Have not demonstrated subject knowledge and teaching skills in the basic elementary curriculum	14% (5.32%)					1% (0.80%)
Have not demonstrated subject matter competency in English		25% (6.08%)	3% (0.81%)			26% (6.99%)
Have not demonstrated subject matter competency in math				61% (7.32%)	55% (9.56%)	31% (7.08%)
Have not demonstrated subject matter competency in another subject that they teach		30% (7.29%)	32% (16.95%)	16% (4.82%)	5% (4.47%)	22% (6.97%)
Other reason	42% (6.87%)	11% (3.96%)	27% (16.20%)	14% (3.46%)	12% (7.44%)	24% (6.70%)
Don't know	16% (5.02%)	4% (1.78%)	6% (4.13%)	2% (0.97%)	3% (1.61%)	4% (2.29%)

Exhibit Reads: No elementary teachers (0 percent) reported that a lack of bachelor's degree was the reason they were not highly qualified.

Note: 1. Respondents were asked to check all that apply. Thus, the sum of the percentages in each column may not add up to 100 percent. 2. Shaded cells are not applicable. 3. Because these questions were asked only for teachers who were not highly qualified, the number of respondents included in each column is relatively small.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.21
Percentage of Teachers Reporting Taking Actions or Making Plans in Response to Their Own Not "Highly Qualified" Status Under *NCLB*, by Teacher Level and Type

	All General Education Teachers	Elementary Teachers	Middle School Teachers	High School Teachers	Special Education Teachers
n	423	138	217	68	125
Become certified or licensed in one or more of the core academic subjects they teach	43%(4.36%)	43%(6.62%)	51%(5.83%)	24%(6.04%)	49%(6.90%)
Earn a bachelor's degree	10%(2.01%)	10%(2.75%)	11%(3.69%)	7%(2.74%)	8%(3.68%)
Earn a master's or doctoral degree	32%(3.71%)	44%(7.55%)	27%(4.48%)	21%(5.99%)	28%(6.53%)
Demonstrate content expertise in a subject you teach by taking a state or other test	40%(5.47%)	33%(6.88%)	48%(7.93%)	34%(11.83%)	25%(5.40%)
Demonstrate content expertise in a subject you teach by completing additional course work equivalent to a college major	16%(2.85%)	10%(2.60%)	20%(4.42%)	19%(10.60%)	13%(4.24%)
Seek a change in teaching assignments (e.g., change subject or grades)	12%(2.95%)	4%(1.95%)	13%(3.00%)	23%(13.30%)	27%(7.61%)
Seek a change to another school (e.g., non-Title I school, private school)	7%(3.11%)	12%(7.56%)	5%(3.76%)	4%(2.24%)	2%(1.07%)
Leave the teaching profession (e.g., retire or change careers)	6%(1.46%)	6%(2.83%)	7%(2.12%)	6%(2.64%)	4%(2.45%)

Exhibit Reads: Forty-three percent of all general education teachers reported that they have already become, or plan to become certified or licensed in one or more of the core academic subjects they teach.

Notes: 1. Because these questions were asked only for teachers who were not highly qualified, the number of respondents included in each column is relatively small. 2. Respondents were asked to check all that apply. Thus, the sum of the percentages in each column may not add up to 100 percent.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.22
District Challenges in Improving Teacher Qualifications, by District Characteristics, 2003–04

	Subject Area Challenges					Workforce Challenges	
	Science	Math	Special education	ESL	Reading	Competition with other districts	Inadequate teacher salaries
All districts	65% (5.72%)	60% (6.19%)	57% (6.62%)	36% (5.64%)	29% (6.87%)	36% (6.29%)	53% (6.49%)
By district poverty level							
High-poverty	54% (11.70%)	68% (11.47%)	50% (11.37%)	63% (10.36%)	43% (10.86%)	66% (10.01%)	71% (9.10%)
Medium poverty	65% (8.57%)	64% (8.75%)	71% (7.83%)	53% (9.15%)	33% (9.78%)	26% (6.89%)	36% (8.95%)
Low-poverty	64% (8.83%)	51% (10.43%)	60% (9.79%)	21% (6.81%)	29% (11.84%)	28% (8.95%)	55% (9.85%)
By district minority concentration							
High-minority	95% (3.46%)	93% (4.09%)	54% (8.20%)	49% (21.93%)	47% (21.23%)	77% (15.54%)	64% (18.43%)
Medium minority	55% (9.70%)	57% (9.87%)	52% (9.63%)	64% (9.22%)	20% (6.71%)	46% (9.78%)	43% (9.67%)
Low-minority	63% (7.64%)	54% (8.48%)	59% (23.15%)	24% (6.28%)	29% (9.69%)	25% (7.23%)	54% (8.32%)
By district urbanicity							
Urban	70% (10.90%)	83% (7.10%)	58% (15.50%)	80% (7.69%)	17% (6.73%)	76% (8.86%)	49% (14.52%)
Suburban	58% (8.11%)	49% (8.62%)	49% (8.78%)	37% (7.99%)	15% (5.63%)	36% (8.73%)	49% (8.70%)
Rural	71% (8.60%)	66% (9.80%)	65% (9.80%)	25% (7.69%)	47% (11.68%)	28% (9.87%)	58% (10.63%)
By district size							
Large	61% (8.98%)	71% (8.11%)	86% (7.56%)	70% (8.12%)	24% (6.32%)	51% (8.36%)	39% (8.51%)
Medium	57% (8.02%)	57% (8.15%)	72% (6.56%)	63% (6.99%)	25% (6.95%)	53% (8.08%)	36% (7.87%)
Small	67% (7.29%)	59% (8.11%)	50% (8.76%)	26% (6.58%)	31% (9.07%)	31% (8.24%)	59% (8.05%)

Exhibit Reads: Sixty-five percent of districts reported facing challenges in recruiting highly qualified teachers in science as a moderate or major challenge to improving teacher quality.

Note: n = 277 to 281.

Source: NLS-*NCLB*, District Administrator Survey.

Exhibit B.23
Percentage of Districts Providing Alternative Certification Routes, Financial Incentives, Streamlined Hiring Processes, Higher Education Partnerships, or Targeted Efforts to Recruit Highly Qualified Teachers, by District Characteristics, 2003–04

	Partnerships With Higher Education	Streamlined Hiring Processes*	Financial Incentives (e.g., increased salaries, signing bonuses)	Alternate Certification Routes	Targeted Efforts to Attract Teachers in Hard-to-Staff Subjects
All districts	40% (5.75%)	35% (5.89%)	23% (6.21%)	20% (3.81%)	36% (6.14%)
By district poverty level					
High-poverty	81% (8.12%)	50% (10.91%)	29% (8.84%)	51% (3.50%)	67% (3.01%)
Medium poverty	51% (9.36%)	45% (8.72%)	20% (7.55%)	35% (2.80%)	29% (2.32%)
Low-poverty	29% (7.78%)	32% (9.36%)	18% (8.93%)	7% (0.78%)	29% (2.82%)
By district minority concentration					
High-minority	33% (15.41%)	37% (18.57%)	75% (12.68%)	40% (19.45%)	66% (17.92%)
Medium minority	67% (10.04%)	50% (9.44%)	25% (7.82%)	32% (8.31%)	46% (9.77%)
Low-minority	32% (6.77%)	30% (7.51%)	12% (6.87%)	12% (3.79%)	27% (7.09%)
By district urbanicity					
Urban	61% (15.51%)	54% (14.92%)	16% (5.71%)	32% (11.57%)	63% (15.79%)
Suburban	39% (7.59%)	28% (6.35%)	23% (9.25%)	13% (3.79%)	39% (8.59%)
Rural	37% (9.51%)	39% (10.92%)	24% (10.05%)	25% (7.59%)	27% (9.87%)
By district size					
Large	80% (6.76%)	69% (8.10%)	32% (9.12%)	48% (8.86%)	77% (7.02%)
Medium	70% (6.66%)	66% (6.89%)	19% (7.10%)	32% (7.78%)	54% (8.15%)
Small	27% (6.29%)	24% (7.18%)	23% (8.24%)	14% (4.25%)	27% (8.02%)

Exhibit Reads: Forty percent of districts used partnership with higher education, to recruit highly qualified teachers in 2003–04.

Note 1: n = 278 to 284.

Note 2: For streamlined hiring processes, 33% (9.21%) of large districts, 25.5% (7.60%) of medium districts and 3% (2.56%) of small districts initiated these activities within the past three years.

Source: NLS-*NCLB*, District Survey.

Exhibit B.24
Percentage of Districts Reporting Using Various Incentives to Retain Highly Qualified Teachers, 2003–04, by District Characteristics

Characteristics	Collegial Learning Activities (e.g., common planning time)	Sustained Mentoring or Induction Programs	Financial Incentives (e.g., merit pay, stipends for course-work)	Special Career Enhancement Opportunities (e.g., career ladders)	Instructional Coaching or Master Teacher Program
All districts	82% (6.04%)	69% (7.06%)	60% (6.47%)	50% (6.60%)	50% (6.64%)
By district poverty level					
High-poverty	95% (3.66%)	82% (9.52%)	61% (10.85%)	50% (10.96%)	69% (11.04%)
Medium poverty	80% (8.98%)	76% (9.37%)	55% (9.59%)	53% (9.49%)	57% (10.11%)
Low-poverty	77% (10.28%)	55% (10.83%)	73% (8.00%)	48% (10.36%)	32% (7.73%)
By district minority concentration					
High-minority	83% (14.92%)	79% (15.38%)	49% (21.82%)	72% (16.54%)	77% (15.56%)
Medium minority	97% (1.97%)	92% (1.86%)	58% (10.06%)	46% (9.69%)	91% (5.36%)
Low-minority	77% (8.38%)	57% (8.92%)	63% (7.73%)	48% (8.54%)	32% (6.52%)
By district urbanicity					
Urban	98% (1.83%)	99% (0.24%)	49% (14.15%)	41% (13.05%)	90% (5.46%)
Suburban	87% (5.64%)	77% (7.63%)	53% (8.90%)	58% (8.28%)	64% (8.42%)
Rural	73% (11.56%)	51% (11.47%)	70% (9.48%)	44% (11.35%)	23% (6.63%)
By district size					
Large	98% (1.23%)	98% (0.95%)	70% (8.35%)	51% (8.83%)	85% (6.49%)
Medium	98% (1.17%)	94% (2.21%)	73% (6.68%)	63% (6.96%)	75% (5.85%)
Small	76% (8.01%)	58% (8.86%)	56% (8.52%)	51% (8.74%)	38% (8.06%)

Exhibit Reads: Eighty-two percent of districts reported providing collegial learning activities to retain highly qualified teachers, in 2003–04.

Note: n = 286 to 289.

Source: NLS-*NCLB*, District Survey.

Exhibit B.25
Percentage of Districts Reassigning "Highly Qualified" Teachers to the Highest-Poverty or Highest-Minority Schools, by District Characteristics, 2003–04

All districts	8% (2.14%)
By district poverty level	
High-poverty	14% (5.88%)
Medium poverty	15% (5.61%)
Low-poverty	3% (1.87%)
By district minority concentration	
High-minority	10% (6.68%)
Medium minority	22% (7.49%)
Low-Minority	2% (0.93%)
By district urbanicity	
Urban	25% (10.18%)
Suburban	4% (1.80%)
Rural	8% (3.87%)
By district size	
Large	39% (8.82%)
Medium	19% (7.55%)
Small	1% (1.05%)

Exhibit Reads: Eight percent of districts placed a major emphasis targeting efforts to increase the proportion of "highly qualified" teachers in the district's lowest performing schools in 2003–04.

Note: n = 273 to 276.

Source: NLS-*NCLB*, District Survey.

Exhibit B.26
Percentage of Schools Providing Various Types of Support for Teachers Who Were Not Highly Qualified, by School Characteristics, 2003–04

Characteristics	School Provided Increased Amounts of Professional Development to Not Highly Qualified Teachers	School Reassigned Not Highly Qualified Teachers to Other Subjects
All schools	69% (4.91%)	40% (5.00%)
By school improvement status in 2004–05		
Identified	84% (3.82%)	41% (5.24%)
Not Identified	71% (5.72%)	30% (5.43%)
By school poverty level		
High-poverty	88% (4.20%)	45% (7.02%)
Medium poverty	76% (6.36%)	36% (7.74%)
Low-poverty	38% (10.00%)	40% (10.75%)
By school minority concentration		
High-minority	91% (2.06%)	44% (6.27%)
Medium minority	57% (10.00%)	38% (9.77%)
Low-Minority	56% (9.65%)	38% (9.37%)
By school level		
Elementary school	78% (5.65%)	29% (6.39%)
Middle school	66% (7.49%)	39% (7.72%)
High school	59% (10.81%)	56% (10.78%)

Exhibit Reads: Sixty-nine percent of schools provided not highly qualified teachers increased amounts of professional development in 2003–04.

Note: n = 328 to 334.

Source: NLS-*NCLB*, Principal Survey.

Exhibit B.27
Percentage of Districts Needing, Receiving, and Receiving Sufficient Technical Assistance (TA) to Develop Strategies to Recruit and Retain More Highly Qualified Teachers, by District Characteristics, 2003–04

Characteristics	Needed TA to Develop Strategies to Recruit and Retain More Highly Qualified Teachers	Received TA to Develop Strategies to Recruit and Retain More Highly Qualified Teachers	Received Sufficient TA to Develop Strategies to Recruit and Retain More Highly Qualified Teachers
All Districts	17% (4.74%)	20% (5.51%)	83% (7.08%)
By district poverty level			
High-poverty	30% (9.26%)	40% (12.33%)	80% (14.78%)
Medium poverty	17% (5.94%)	36% (11.75%)	89% (6.89%)
Low-poverty	17% (8.23%)	10% (4.98%)	76% (16.04%)
By district minority concentration			
High-minority	22% (11.22%)	50% (16.74%)	74% (15.59%)
Medium minority	17% (5.22%)	44% (10.53%)	78% (13.53%)
Low-minority	16% (6.71%)	11% (5.43%)	93% (5.78%)
By district urbanicity			
Urban	25% (10.21%)	31% (14.05%)	98% (1.31%)
Suburban	8% (2.59%)	16% (5.76%)	69% (16.36%)
Rural	25% (9.92%)	21% (8.69%)	84% (9.94%)
By district size			
Large	41% (8.82%)	43% (9.92%)	59% (17.08%)
Medium	23% (6.11%)	28% (8.23%)	90% (6.69%)
Small	14% (6.15%)	14% (6.79%)	90% (9.85%)

Exhibit Reads: Seventeen percent of districts reported that they needed technical assistance to develop strategies to recruit and retain more highly qualified teachers; 20 percent of those districts who reported needing TA received it; 83 percent of those districts that received TA found it sufficient.

Note: n = 58 to 262.

Source: NLS-*NCLB* District Survey.

Exhibit B.28
Percentage of Schools Needing, Receiving, and Receiving Sufficient Technical Assistance for Recruitment and Retention of Highly Qualified Teachers, by School Characteristics, 2003–04

Characteristics	Needed TA to Develop Strategies to Recruit and Retain More Highly Qualified Teachers	Received TA to Develop Strategies to Recruit and Retain More Highly Qualified Teachers	Received Sufficient TA to Develop Strategies to Recruit and Retain More Highly Qualified Teachers
All schools	33% (2.31%)	46% (3.03%)	85% (2.16%)
By school improvement status in 2004–05			
Identified	62% (5.52%)	65% (5.95%)	82% (4.33%)
Not Identified	27% (2.35%)	42% (3.45%)	86% (2.64%)
By school poverty level			
High-poverty	48% (4.32%)	63% (4.20%)	85% (3.04%)
Medium poverty	36% (4.60%)	46% (5.44%)	84% (4.30%)
Low-poverty	21% (3.58%)	36% (5.19%)	88% (4.73%)
By school minority concentration			
High-minority	57% (4.06%)	65% (4.05%)	76% (3.94%)
Medium minority	37% (4.97%)	49% (5.82%)	92% (3.03%)
Low-minority	20% (3.76%)	34% (4.89%)	87% (4.39%)
By school level			
Elementary school	26% (2.54%)	44% (3.71%)	89% (1.80%)
Middle school	43% (4.96%)	53% (6.02%)	86% (5.45%)
High school	43% (6.32%)	44% (6.27%)	83% (7.96%)

Exhibit Reads: Thirty-three percent of principals reported needing TA to develop strategies to recruit and retain highly qualified teachers in 2003–04; 46 percent of those principals who reported needing TA received it; 85 percent of those principals that received TA found it sufficient.

Note: n = 541 to 1124.

Source: NLS-*NCLB*, Principal Survey.

Exhibit B.29
Percentage of Districts Providing Various Types of Support for Not Highly Qualified Teachers, by District Characteristics, 2003–04

Characteristics	District Required Newly Hired, Not Highly Qualified Teachers to Participate in Mentoring Programs	District Assigned Not Highly Qualified Teachers an Instructional Coach or Mentor	District Provided Increased Amounts of Professional Development to Not Highly Qualified Teachers	District Transferred Not Highly Qualified Teachers to Other Schools Upon Review of Qualifications
All districts	25% (4.94%)	17% (3.93%)	35% (6.40%)	4% (1.81%)
By district poverty level				
High-poverty	39% (10.53%)	29% (8.92%)	37% (10.04%)	2% (0.74%)
Medium poverty	32% (8.67%)	19% (6.73%)	33% (8.44%)	12% (5.88%)
Low-poverty	22% (7.38%)	15% (6.09%)	41% (10.51%)	<1% (0.11%)
By district minority concentration				
High-minority	40% (19.22%)	19% (10.80%)	32% (17.29%)	1% (0.70%)
Medium minority	34% (8.49%)	29% (8.14%)	37% (8.81%)	10% (6.55%)
Low-minority	19% (6.09%)	12% (4.87%)	34% (8.64%)	2% (1.48%)
By district urbanicity				
Urban	40% (12.46%)	35% (12.64%)	36% (12.19%)	5% (2.65%)
Suburban	24% (7.14%)	16% (6.05%)	29% (7.55%)	2% (1.83%)
Rural	22% (7.67%)	13% (5.11%)	41% (11.50%)	6% (3.57%)
By district size				
Large	60% (9.30%)	43% (9.02%)	63% (9.59%)	2% (1.37%)
Medium	34% (7.91%)	30% (8.13%)	37% (7.62%)	7% (7.33%)
Small	19% (6.10%)	11% (4.49%)	32% (8.32%)	1% (1.37%)

Exhibit Reads: Twenty-five percent of districts required newly hired, not highly qualified teachers to participate in mentoring programs in 2003–04.

Note: n = 261 to 275.

Source: NLS-*NCLB*, District Survey.

Exhibit B.30
Percentage of Teachers That Participated in Professional Development With Features Commonly Associated with Quality, by State Reported Percentage Participation in High Quality Professional Development, 2003–04

	Common Measures of Quality					
	Content Percent of Teachers Receiving More than 24 Hours of Professional Development in Instructional Strategies for Teaching Reading and Mathematics	**Coherence** Percent of Teachers who Often Participated in Professional Development Designed to Support State or District Standards and/or Assessments	**Active Learning** Percent of Teachers whose Professional Development Often Involved Participants Practicing What They Had Learned and Receiving Feedback	**Amount Mean Hours**	**Sustained PD** Percent of Teachers who Participated in at Least One Professional Development Activity Lasting Two Days or Longer	**Collective Participation** Percent of Teachers who Often Participated in Professional Development Activities Together with Most or All of the Teachers in Their School
High Greater than 95% (n =1,314 teachers in 10 states)	16% (2.02%) (reading) 7% (1.29%) (mathematics)	69% (2.36%)	21% (3.30%)	61 hours (4.09)	83% (3.21%)	44% (4.26%)
Moderate 75 to 94.9% (n = 4,162 teachers in 16 states)	17% (1.27%) (reading) 8% (0.82%) (mathematics)	65% (1.61%)	22% (1.47%)	62 hours (2.25)	81% (1.44%)	40% (1.61%)
Low Less than 75% (n = 1,122 teachers in 10 states)	19% (2.21%) (reading) 11% (2.27%) (mathematics)	69% (3.00%)	22% (2.07%)	76 hours (6.23)	88% (2.90%)	38% (3.97%)

Exhibit Reads: In states that reported high percentages of participation in high quality professional development, 16 percent of teachers participated in more than 24 hours of professional development on instructional strategies for teaching reading (during the 2003–04 school year, including the summer of 2004).

Source: State Consolidated Applications 2003–04; NLS-*NCLB*, Teacher Survey.

Exhibit B.31
Percentage of Districts that Placed a Major Emphasis on Following Professional Development Topics, by District Characteristics, 2003–04

	District Placed Major Emphasis on Professional Development in…									
				Special Populations		Assessments and Standards			Other Topics	
	Reading	Mathematics	Other Subjects	Instructional Strategies for IEP Students	Instructional Strategies for LEP Students	Alignment of Curriculum with State Standards	Analyzing Student Achievement Data	Preparing Students to Take Annual Assessments	Classroom Management	Use of Technology
All districts	58% (7.08%)	54% (6.51%)	18% (5.50%)	22% (4.35%)	6% (1.67%)	61% (6.56%)	42% (6.10%)	34% (5.33%)	12% (3.14%)	22% (4.40%)
By district poverty level										
High-poverty	77% (8.31%)	66% (9.85%)	19% (9.58%)	54% (10.83%)	20% (8.16%)	84% (5.97%)	65% (10.42%)	67% (9.25%)	22% (7.50%)	36% (10.95%)
Medium poverty	71% (8.94%)	51% (8.97%)	17% (7.09%)	20% (6.80%)	11% (3.85%)	48% (9.78%)	55% (9.81%)	49% (9.71%)	15% (6.38%)	22% (5.97%)
Low-poverty	52% (10.50%)	46% (10.13%)	12% (5.27%)	19% (6.38%)	2% (0.81%)	66% (9.48%)	32% (8.29%)	19% (5.75%)	10% (4.50%)	23% (6.96%)
By district minority concentration										
High-minority	55% (24.13%)	80% (15.22%)	48% (22.42%)	16% (9.58%)	16% (10.25%)	37% (17.84%)	36% (17.71%)	30% (15.42%)	14% (8.15%)	16% (10.38%)
Medium minority	71% (9.13%)	65% (7.94%)	14% (5.19%)	20% (6.60%)	18% (5.43%)	74% (7.87%)	56% (9.25%)	51% (9.28%)	4% (1.58%)	20% (6.33%)
Low-minority	54% (9.04%)	46% (8.68%)	14% (5.37%)	23% (5.84%)	1% (0.50%)	62% (8.34%)	38% (7.76%)	29% (6.12%)	15% (4.65%)	24% (6.12%)
By district size										
Large	75% (9.94%)	49% (8.86%)	12% (4.07%)	28% (6.99%)	36% (9.17%)	56% (9.31%)	77% (6.21%)	48% (8.20%)	13% (4.64%)	18% (9.17%)
Medium	90% (4.71%)	60% (7.71%)	14% (4.59%)	27% (4.03%)	13% (4.27%)	68% (8.71%)	58% (7.99%)	45% (8.75%)	6% (1.85%)	34% (4.20%)
Small	48% (8.75%)	53% (8.74%)	20% (5.00%)	21% (5.33%)	2% (1.32%)	60% (8.41%)	35% (6.76%)	29% (5.84%)	14% (4.16%)	9% (5.31%)
By district urbanicity										
Urban	69% (17.14%)	72% (10.58%)	15% (8.88%)	11% (4.34%)	16% (7.45%)	84% (5.95%)	44% (13.87%)	64% (12.03%)	5% (2.00%)	44% (8.71%)
Suburban	74% (9.16%)	58% (8.11%)	23% (9.12%)	28% (7.02%)	10% (3.12%)	62% (9.03%)	54% (8.75%)	40% (7.67%)	20% (5.82%)	20% (7.52%)
Rural	39% (8.99%)	47% (9.50%)	14% (6.67%)	17% (4.58%)	1% (0.63%)	57% (10.26%)	29% (8.58%)	21% (5.52%)	2% (1.05%)	21% (2.53%)

Exhibit Reads: Fifty-eight percent of districts placed a major emphasis on professional development activities related to reading.

Note: n = 281 to 284 districts.

Source: NLS-*NCLB*, District Administrator Survey.

Exhibit B.32
Percentage of Districts That Placed a Major Emphasis on Professional Development in Instructional Strategies for Students With LEP

District	Percentage	SE
Districts with substantial number of LEP students*	37%	9.88%
Others	2%	0.91%

Exhibit Reads: Among districts with a substantial number of LEP students, 37 percent placed a major emphasis on professional development in instructional strategies for LEP students.

Note: *If percentage of LEP students is 7 percent or higher (n = 277).

Source: NLS-*NCLB*, District Survey.

Exhibit B.33
Percentage of Title II Funds Used for Professional Development by Content Areas

Focus of Professional Development	All	Highest Poverty Quartile	Second Highest Poverty Quartile	Second Lowest Poverty Quartile	Lowest Poverty Quartile
Mathematics	25% (4.00)	21% (2.23)	33% (2.82)	29% (2.68)	16% (0.56)
Science	11% (2.22)	11% (1.52)	13% (1.29)	10% (0.82)	14% (0.60)
Reading	29% (3.61)	27% (2.25)	29% (2.07)	30% (2.10)	37% (1.26)
History/Social Studies	6% (1.68)	8% (1.46)	5% (0.62)	4% (0.50)	7% (0.34)
Other Academic Subjects	13% (2.76)	13% (2.15)	8% (0.69)	14% (1.50)	19% (0.95)
Other Non-Academic Subjects	16% (3.46)	21% (3.13)	12% (1.287)	13% (1.28)	8% (0.42)

Exhibit Reads: The district attended by an average child in our respondent sample spent 25 percent of Title II funds on mathematics

Note: Data are adjusted for the concentration of the number of low income students in the sample (n = 281 to 284 districts).

Source: NLS-*NCLB*, District Administrator Survey.

Exhibit B.34
Percentage of Teachers Receiving More than 24 Hours of Professional Development in Instructional Strategies for Teaching Reading and Mathematics, by Teacher, School and District Characteristics, 2003–04

	Reading			Mathematics		
	Elementary Teachers	Middle School English Teachers	High School English Teachers	Elementary Teachers	Middle School Mathematics Teachers	High School Mathematics Teachers
n	4,005	1,057	659	3,942	923	652
All general education teachers	20% (1.30%)	24% (2.32%)	20% (2.46%)	9% (0.90%)	19% (2.23%)	14% (1.95%)
By teaching experience						
Fewer than 3 years	18%(3.46%)	25%(5.31%)	31%(9.12%)	12%(3.13%)	13%(4.10%)	16%(7.44%)
3 years or more	19%(1.39%)	24%(2.84%)	19%(3.04%)	8%(0.92%)	19%(2.57%)	12%(1.99%)
By school improvement status in 2003–04 (Title I schools only)						
Identified	39%(3.44%)	29%(2.96%)	23%(5.80%)	17%(2.49%)	24%(4.59%)	23%(6.33%)
Not Identified	19%(1.46%)	26%(2.95%)	19%(3.54%)	8%(0.86%)	17%(2.76%)	15%(2.77%)
By school poverty level						
High-poverty	27%(2.09%)	34%(2.51%)	28%(4.66%)	13%(1.37%)	24%(3.22%)	21%(4.88%)
Medium poverty	20%(2.48%)	26%(4.42%)	21%(5.33%)	8%(1.72%)	15%(3.29%)	16%(2.41%)
Low-poverty	13%(1.86%)	18%(3.65%)	20%(2.34%)	7%(1.20%)	22%(3.61%)	13%(3.40%)
By school minority concentration						
High-minority	29%(2.41%)	36%(3.73%)	29%(3.64%)	13%(1.29%)	23%(3.00%)	22%(3.60%)
Medium minority	16%(2.60%)	22%(4.32%)	23%(4.73%)	8%(1.77%)	14%(3.96%)	12%(2.81%)
Low-minority	17%(1.67%)	18%(3.40%)	13%(2.57%)	7%(1.35%)	19%(3.70%)	12%(3.11%)
By school urbanicity						
Urban	28%(2.70%)	28%(4.33%)	21%(3.62%)	12%(2.05%)	22%(2.94%)	22%(4.35%)
Suburban	17%(1.76%)	23%(3.29%)	21%(3.50%)	8%(1.03%)	17%(3.00%)	12%(2.75%)
Rural	16%(2.13%)	17%(4.20%)	15%(5.62%)	8%(2.55%)	18%(6.41%)	6%(2.51%)
By district size						
Large	23%(2.07%)	26%(3.47%)	24%(4.27%)	10%(1.13%)	23%(3.10%)	16%(2.74%)
Medium	17%(2.24%)	25%(4.29%)	17%(2.61%)	8%(1.82%)	9%(2.47%)	14%(3.99%)
Small	16%(2.61%)	12%(2.80%)	7%(3.04%)	8%(2.51%)	14%(5.04%)	5%(2.39%)

Exhibit Reads: Twenty percent of general education teachers participated in more than 24 hours of professional development on instructional strategies for teaching reading during school year 2003–04 (including the summer of 2004).

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.35
Percentage of Teachers Receiving More than 24 Hours of Professional Development on In-Depth Study of Topics in Reading and Mathematics, by Teacher, School and District Characteristics, 2003–04

	Reading			Mathematics		
	Elementary Teachers	Middle School English Teachers	High School English Teachers	Elementary Teachers	Middle School Mathematics Teachers	High School Mathematics Teachers
n	3,980	1,039	675	3,948	913	647
All general education teachers	13% (0.99%)	16% (2.12%)	15% (2.52%)	6% (0.80%)	11% (1.59%)	10% (1.71%)
By teaching experience						
Fewer than 3 years	10%(2.06%)	17%(4.31%)	20%(6.50%)	6%(1.77%)	11%(5.11%)	15%(7.28%)
3 years or more	12%(1.06%)	17%(2.60%)	16%(2.84%)	6%(0.72%)	11%(1.81%)	9%(1.76%)
By school improvement status in 2003–04 (Title I schools only)						
Identified	25%(2.31%)	23%(2.93%)	15%(7.90%)	10%(1.29%)	10%(2.00%)	6%(2.64%)
Not Identified	13%(1.21%)	18%(3.04%)	14%(3.03%)	6%(0.66%)	8%(1.46%)	13%(2.46%)
By school poverty level						
High-poverty	18%(1.68%)	25%(2.27%)	14%(3.73%)	8%(1.03%)	13%(1.98%)	16%(5.87%)
Medium poverty	13%(1.67%)	18%(4.49%)	15%(4.96%)	6%(1.07%)	9%(2.16%)	11%(2.48%)
Low-poverty	8%(1.61%)	12%(2.27%)	16%(3.53%)	5%(1.62%)	14%(2.66%)	9%(2.19%)
By school minority concentration						
High-minority	20%(1.85%)	30%(4.51%)	26%(4.82%)	8%(0.93%)	12%(2.19%)	15%(3.93%)
Medium minority	11%(1.75%)	12%(3.31%)	15%(4.45%)	5%(1.09%)	8%(2.28%)	10%(2.37%)
Low-minority	10%(1.49%)	12%(2.46%)	10%(2.05%)	6%(1.63%)	14%(3.10%)	7%(2.10%)
By school urbanicity						
Urban	19%(1.67%)	16%(2.31%)	20%(4.24%)	7%(0.98%)	13%(2.04%)	16%(4.12%)
Suburban	11%(1.41%)	19%(3.46%)	15%(3.54%)	5%(0.83%)	11%(2.24%)	8%(2.11%)
Rural	11%(1.83%)	10%(3.54%)	4%(1.61%)	7%(2.98%)	10%(4.69%)	6%(2.41%)
By district size						
Large	16%(1.63%)	21%(3.56%)	20%(4.14%)	6%(0.85%)	11%(1.99%)	13%(2.82%)
Medium	9%(1.25%)	14%(3.50%)	13%(3.92%)	5%(0.99%)	8%(2.32%)	8%(2.64%)
Small	12%(2.97%)	8%(2.45%)	4%(2.06%)	9%(3.45%)	12%(4.36%)	4%(1.95%)

Exhibit Reads: Thirteen percent of general education teachers participated in more than 24 hours of professional development on in-depth study of topics in reading during school year 2003–04 (including the summer of 2004).

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.36
Preservice Training of Teachers of LEP Students

Variable and Category	Percentage	SE
Participation in professional development in instructional strategies for LEP students (at least 1 hour)		
Non-LEP teacher	28%	1.72%
LEP teacher	62%	3.04%
College courses in instructional strategies for LEP students (at least 1 course)		
Non-LEP teacher	33%	1.55%
LEP teacher	69%	2.75%
Certification		
Non-LEP teacher	52%	4.77%
LEP teacher	94%	2.11%
ESL major (at any degree level)		
Non-LEP teacher	0%	0.06%
LEP teacher	3%	0.94%

Exhibit Reads: Twenty-eight percent of non-LEP teachers participated in at least one hour of professional development in instructional strategies for LEP students.

Note: Except for certification, n for non-LEP teachers ranges from 5,751 to 5,862, while n for LEP teachers ranges from 1,269 to 1,278. For the certification variable, ns are 584 and 508 for non-LEP teachers and LEP teachers, respectively.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.37
Percentage of Teachers Whose Professional Development Experiences Often Involved Active Learning, by Teacher, School, and District Characteristics, 2003–04

	Teachers whose professional development experiences often involved…				
	Participants reviewing student work or scoring assessments	Participants developing and practicing using student materials	Participants practicing what they had learned and receiving feedback	Participants leading group discussions	Participants conducting a demonstration of a lesson, unit, or skill
n	7,116	7,120	7,111	7,118	7,119
All general education teachers	23% (1.05%)	22% (1.03%)	22% (1.02%)	20% (0.86%)	16% (0.76%)
All special education teachers	14% (1.68%)	18% (1.86%)	19% (1.58%)	17% (1.62%)	13% (1.43%)
By grade level (Among all general education teachers hereafter)					
Elementary teachers	25% (1.31%)	23% (1.22%)	24% (1.40%)	20% (1.11%)	16% (0.89%)
Middle school teachers	17% (1.46%)	21% (1.65%)	19% (2.05%)	21% (1.43%)	17% (1.84%)
Secondary teachers	21% (2.52%)	19% (2.31%)	19% (1.89%)	19% (1.79%)	15% (1.54%)
By teaching experience					
Fewer than 3 years	17%(1.97%)	20%(3.06%)	25%(2.81%)	23%(2.75%)	17%(2.01%)
3 years or more	23%(1.22%)	22%(1.23%)	22%(1.50%)	20%(1.44%)	16%(1.12%)
By school improvement status in 2003–04 (Title I Schools Only)					
Identified	25%(2.26%)	27%(2.31%)	29%(2.16%)	24%(2.20%)	21%(2.06%)
Not identified	23%(1.38%)	22%(1.30%)	23%(1.31%)	20%(1.36%)	17%(1.19%)
By school poverty level					
High-poverty	24%(1.55%)	27%(1.64%)	29%(1.83%)	23%(1.44%)	20%(1.17%)
Medium poverty	25%(1.77%)	22%(1.53%)	23%(1.63%)	19%(1.39%)	16%(1.40%)
Low-poverty	19%(1.83%)	19%(1.64%)	17%(1.68%)	20%(1.26%)	13%(1.09%)
By school minority concentration					
High-minority	27%(1.29%)	27%(1.61%)	28%(1.54%)	23%(1.15%)	21%(1.61%)
Medium minority	23%(1.99%)	22%(1.83%)	22%(1.73%)	21%(1.80%)	15%(1.42%)
Low-minority	19%(1.65%)	19%(1.80%)	18%(1.64%)	17%(1.50%)	13%(1.01%)
By school urbanicity					
Urban	25%(1.65%)	23%(1.29%)	23%(1.41%)	21%(1.41%)	18%(1.17%)
Suburban	21%(1.30%)	22%(1.56%)	21%(1.39%)	20%(1.25%)	15%(1.11%)
Rural	24%(2.87%)	20%(2.47%)	22%(3.59%)	19%(2.20%)	15%(1.85%)
By district size					
Large	24%(1.34%)	25%(1.59%)	24%(1.33%)	21%(1.32%)	18%(1.12%)
Medium	24%(2.12%)	19%(1.57%)	19%(1.90%)	21%(1.53%)	14%(1.09%)
Small	19%(2.29%)	16%(1.96%)	19%(2.09%)	15%(1.61%)	11%(1.74%)

Exhibit Reads: Twenty-three percent of teachers reported that their professional development activities (during the 2003–04 school year, including the summer of 2004) often involved participants reviewing student work or scoring assessments.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.38
Average Number of Hours Teachers Reported Participating in Professional Development on the Following Topics, 2003–04

Topic	Average Number of Hours (SE)
Academic Subjects	
Instructional strategies for teaching reading	14.7 (0.46)
In-depth study of topics in reading	10.1 (0.37)
Instructional strategies for teaching mathematics	8.3 (0.34)
In-depth study of topics in mathematics	5.2 (0.29)
Other subjects	4.6 (0.31)
Special Populations	
Instructional strategies for students with individualized education programs (IEPs)	3.6 (0.22)
Instructional strategies for limited English proficient (LEP) students	3.4 (0.27)
Assessments	
Analyzing and interpreting student achievement data	8.1 (0.31)
Preparing students to take the annual state assessment	8.1 0.41)
Use of appropriate assessment accommodations	5.1 (0.18)
Other Topics	
Use of technology	8.2 (0.38)
Classroom and behavior management	4.9 (0.23)

Exhibit Reads: General education teachers averaged 14.7 hours of professional development on instructional strategies for teaching reading over the 12 months spanning the 2003–04 school year and the summer of 2004.

Note: Mean hours of professional development were calculated by recoding the original response categories (0, 1–5, 6–24, 25–40, 41–80, more than 80 hours) to their midpoints (0, 3, 15, 32.5, 60.5, 90 hours). We expect that there is a degree of overlap in teachers' reports of instructional strategies in a subject and their in-depth study of topics in that subject. Therefore, if the separate reported average estimates above are combined into a total across topics (e.g., instructional strategies combined with in-depth study) they would be somewhat inflated, but these separate estimates are not inflated and reveal the appropriate rank-ordering of the various professional development topics. Teachers' reports include the full range of potential professional development activities (e.g., workshops, institutes, courses, internships, and informal job-embedded learning experiences such as planning lessons and exchanging feedback on instruction with coaches and other teachers). n = 7,027 to 7,133 for general education teachers.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.39
Percentage of Teachers Whose Professional Development Experiences at Least Sometimes Involved Active Learning, by Teacher Characteristics, 2003–04

	Teachers whose professional development experiences at least sometimes involved…				
	Participants reviewing student work or scoring assessments	Participants developing and practicing using student materials	Participants practicing what they had learned and receiving feedback	Participants leading group discussions	Participants conducting a demonstration of a lesson, unit, or skill
n	7,116	7,120	7,111	7,118	7,119
All general education teachers	60% (1.34%)	64% (1.22%)	62% (1.33%)	61% (1.23%)	55% (1.22%)
All special education teachers	49% (2.99%)	57% (3.03%)	67% (2.39%)	57% (2.60%)	54% (2.38%)
By grade level					
Elementary teachers	64% (1.58%)	67% (1.37%)	66% (1.69%)	61% (1.49%)	57% (1.46%)
Secondary teachers	54% (1.79%)	58% (2.10%)	57% (2.22%)	61% (2.06%)	52% (2.38%)
By subject					
Secondary English teachers	60% (2.51%)	59% (2.29%)	61% (2.48%)	65% (2.60%)	55% (3.02%)
Secondary mathematics teachers	48% (2.70%)	58% (2.89%)	53% (3.14%)	56% (3.04%)	49% (3.35%)

Exhibit Reads: Sixty percent of teachers reported that their professional development activities (during the 2003–04 school year, including the summer of 2004) at least sometimes involved participants reviewing student work or scoring assessments.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.40
Percentage of Teachers Whose Professional Development Experiences Never Involved Active Learning, 2003–04

	Teachers whose professional development experiences never involved…				
	Participants reviewing student work or scoring assessments	Participants developing and practicing using student materials	Participants practicing what they had learned and receiving feedback	Participants leading group discussions	Participants conducting a demonstration of a lesson, unit, or skill
n	7,116	7,120	7,111	7,118	7,119
All general education teachers	16% (1.02%)	15% (0.97%)	15% (0.99%)	15% (0.96%)	19% (0.99%)

Exhibit Reads: Sixteen percent of teachers reported that their professional development activities (during the 2003–04 school year, including the summer of 2004) never involved participants reviewing student work or scoring assessments.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.41
Percentage of Teachers Whose Professional Development Experiences Were Often Coherent, by Teacher, School and District Characteristics, 2003–04

	Teachers whose professional development experiences were often…			
	Designed to support state or districts standards and/or assessments	Designed as part of a school improvement plan to meet state, district, or school goals	Consistent with own goals for professional development	Based explicitly on what teacher had learned in earlier professional development experiences
n	7,158	7,146	7,164	7,136
All general education teachers	66% (1.12%	62% (1.32%)	41% (1.23%)	18% (0.85%)
Special education teachers	52% (2.76%)	48% (2.56%)	38% (2.76%)	12% (1.35%)
By grade level (Among all general education teachers hereafter)				
Elementary teachers	70% (1.48%)	64% (1.69%)	44% (1.62%)	21% (1.25%)
Middle school teachers	62% (2.10%)	60% (2.15%)	39% (2.23%)	13% (1.25%)
Secondary teachers	59% (1.94%)	56% (2.15%)	30% (2.04%)	12% (1.39%)
By teaching experience				
Fewer than 3 years	56% (4.71%)	53% (3.83%)	31% (2.86%)	17% (2.72%)
3 years or more	68% (1.75%)	63% (1.42%)	42% (1.34%)	18% (0.93%)
By school improvement status in 2003–04 (Title I schools only)				
Identified	69% (1.94%)	68% (1.82%)	40% (4.10%)	22% (2.35%)
Not identified	68% (1.43%)	61% (1.61%)	43% (1.62%)	18% (1.18%)
By school poverty level				
High-poverty	70%(1.85%)	65%(1.57%)	42%(2.43%)	23%(1.64%)
Medium poverty	69%(1.67%)	63%(2.07%)	44%(1.98%)	18%(1.61%)
Low-poverty	62%(1.82%)	60%(2.20%)	37%(1.98%)	15%(1.27%)
By school minority concentration				
High-minority	69%(1.69%)	65%(1.57%)	40%(2.02%)	22%(1.28%)
Medium minority	67%(1.87%)	64%(2.53%)	41%(2.33%)	17%(1.57%)
Low-minority	65%(1.96%)	58%(2.14%)	40%(1.85%)	16%(1.43%)
By school urbanicity				
Urban	68%(2.05%)	66%(1.79%)	39%(1.67%)	21%(1.23%)
Suburban	67%(1.54%)	62%(2.06%)	42%(1.74%)	16%(1.19%)
Rural	62%(3.08%)	57%(3.17%)	39%(3.84%)	18%(2.28%)
By district size				
Large	68%(1.59%)	66%(1.84%)	42%(1.49%)	19%(1.03%)
Medium	68%(2.09%)	60%(2.42%)	39%(2.37%)	17%(1.76%)
Small	60%(2.64%)	53%(3.44%)	41%(3.36%)	15%(2.37%)

Exhibit Reads: Sixty-six percent of teachers reported that their professional development activities were often designed to support state or district standards and assessments during the 2003–04 school year, including the summer of 2004.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.42
Percentage of Teachers Whose Professional Development Experiences Were at Least Sometimes Coherent, by Teacher Characteristics, 2003–04

	Teachers whose professional development experiences were often…			
	Designed to support state or districts standards and/or assessments	Designed as part of a school improvement plan to meet state, district, or school goals	Consistent with own goals for professional development	Based explicitly on what teacher had learned in earlier professional development experiences
n	7,158	7,146	7,164	7,136
All general education teachers	94% (0.53%)	90% (0.77%)	85% (0.96%)	73% (1.07%)
Special education teachers	89% (1.83%)	86% (2.17%)	85% (1.87%)	69% (2.74%)
By grade level				
Elementary teachers	95% (0.68%)	91% (1.01%)	88% (1.31%)	77% (1.42%)
Secondary teachers	92% (1.31%)	88% (1.30%)	81% (1.55%)	67% (1.79%)
By subject				
Secondary English teachers	94% (1.23%)	92% (1.41%)	84% (2.13%)	70% (2.33%)
Secondary mathematics teachers	89% (2.32%)	85% (2.24%)	78% (1.84%)	65% (2.88%)

Exhibit Reads: Ninety-four percent of teachers reported that their professional development activities were at least sometimes designed to support state or district standards and assessments during the 2003–04 school year, including the summer of 2004.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.43
Average Number of Professional Development Hours Reported by Teachers, by Teacher, School and District Characteristics, 2003–04

	All General Education Teachers	Elementary Teachers	Middle School Teachers	High School Teachers	Special Education Teachers
n	6,883	3,821	1,760	1,302	1,098
All teachers	66 (1.81)	66 (2.07)	67 (2.47)	62 (4.69)	64 (4.37)
By teaching experience					
Fewer than 3 years	77 (6.07)	77 (8.65)	65 (6.34)	92 (8.89)	67 (11.83)
3 years or more	64 (1.78)	65 (2.17)	66 (2.81)	60 (5.29)	63 (5.14)
By school improvement status in 2003–04 (Title I schools only)					
Identified	87 (5.13)	91 (5.27)	76 (3.73)	86 (3.98)	76 (9.60)
Not identified	64 (1.72)	64 (2.10)	63 (2.92)	62 (5.54)	66 (5.39)
By school poverty level					
High-poverty	75 (1.95)	76 (2.94)	72 (4.74)	61 (7.64)	88 (14.41)
Medium poverty	64 (2.87)	65 (3.35)	67 (3.91)	54 (4.05)	60 (4.92)
Low-poverty	63 (2.53)	59 (4.32)	64 (2.90)	69 (12.69)	61 (6.46)
By school minority concentration					
High-minority	72 (2.94)	78 (3.67)	68 (3.16)	57 (4.29)	78 (8.83)
Medium minority	67 (2.72)	66 (3.18)	70 (5.43)	70 (3.24)	68 (10.62)
Low-minority	60 (3.13)	60 (3.72)	64 (3.02)	58 (12.15)	54 (4.08)
By school urbanicity					
Urban	76 (3.83)	79 (3.46)	83 (8.35)	63 (7.64)	72 (6.47)
Suburban	64 (2.32)	64 (3.14)	65 (3.71)	66 (7.62)	65 (6.33)
Rural	54 (2.37)	57 (3.46)	53 (3.60)	46 (4.12)	51 (6.91)
By district size					
Large	68 (2.45)	72 (3.39)	71 (5.58)	58 (3.93)	65 (6.44)
Medium	66 (3.79)	62 (3.52)	64 (4.70)	81 (12.33)	68 (7.10)
Small	58 (3.69)	60 (5.16)	62 (5.70)	46 (5.27)	45 (3.16)

Exhibit Reads: General education teachers participated in an average of 66 hours of professional development during the 2003–04 school year, including the summer of 2004.

Sources: NLS-*NCLB*, Teacher Survey.

Exhibit B.44
Percentage of Teachers Who Participated in at Least One Professional Development Activity Lasting Two Days or Longer, by Various Teacher, School and District Characteristics, 2003–04

	All General Education Teachers	Special Education Teachers
n	7,247	1,176
All teachers	82% (1.09%)	80% (2.17%)
By teaching experience		
Fewer than 3 years	82% (2.96%)	86% (6.16%)
3 years or more	81% (1.15%)	80% (2.35%)
By school improvement status in 2003–04 (Title I Schools Only)		
Identified	90% (2.05%)	81% (5.15%)
Not identified	83% (1.19%)	79% (2.76%)
By school poverty level		
High-poverty	88% (1.29%)	87% (2.92%)
Medium poverty	86% (1.37%)	84% (2.76%)
Low-poverty	74% (2.03%)	75% (3.87%)
By school minority concentration		
High-minority	87% (1.36%)	84% (4.29%)
Medium minority	84% (1.69%)	82% (2.95%)
Low-minority	77% (1.97%)	77% (3.76%)
By school urbanicity		
Urban	86% (1.30%)	82% (3.61%)
Suburban	81% (1.56%)	81% (3.01%)
Rural	77% (2.91%)	74% (5.64%)
By district size		
Large	84% (1.53%)	85% (2.70%)
Medium	81% (1.93%)	78% (3.77%)
Small	77% (2.78%)	68% (6.08%)

Exhibit Reads: Eighty-two percent of general education teachers participated in at least one professional development activity that lasted two days or longer.

Sources: NLS-*NCLB*, Teacher Survey, and SSI-*NCLB*, National Database of School AYP and Identification.

Exhibit B.45
Percentage of Teachers Participating in Various Sustained Forms of Professional Development at Least Once or Twice a Month, 2003–04

	General education teachers who participated at least once or twice a month	Special education teachers who participated at least once or twice a month
Consulted with other teachers about individual students	90% (0.77%)	94% (1.23%)
Exchanged feedback with other teacher based on student work	82% (0.94%)	88% (1.74%)
Planned lessons or courses with other teachers	73% (1.10%)	62% (2.49%)
Exchanged feedback with other teachers based on classroom observations	47% (1.30%)	55% (2.38%)
Participated in a learning community (e.g., teacher collaborative, network or study group)	39% (1.65%)	35% (2.80%)
Received formal or informal coaching or mentoring from other teachers or staff	35% (1.22%)	33% (2.76%)

Exhibit Reads: Ninety percent of general education teachers consulted with other teachers about individual students at least once or twice a month during the 2003–04 school year, including the summer of 2004.

Note: n = 7,155 to 7,199 for general education teachers, n = 1,152 to 1,170 for special education teachers.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.46
Percentage of Teachers Whose Professional Development Often Involved Collective Participation, by Teacher, School, and District Characteristics, 2003–04

	Teachers whose professional development often involved…	
	Participating in professional development activities together with most or all of the teachers in my department or grade level	Participating in professional development activities together with most or all of the teachers in my school
n	7,154	7,152
All general education teachers	49% (1.20%)	41% (1.27%)
Special education teachers	28% (2.13%)	31% (2.65%)
By grade level (Among all general education teachers hereafter)		
Elementary teachers	53% (1.54%)	46% (1.64%)
Middle school teachers	43% (2.27%)	34% (2.30%)
High school teachers	40% (2.51%)	30% (2.60%)
By teaching experience		
Fewer than 3 years	34% (3.17%)	28% (3.53%)
3 years or more	50% (1.23%)	42% (1.31%)
By school improvement status in 2003–04 (Title I schools only)		
Identified	55% (1.84%)	45% (3.10%)
Not identified	50% (1.57%)	41% (1.54%)
By school poverty level		
High-poverty	52% (2.47%)	47% (2.11%)
Medium poverty	50% (1.82%)	40% (2.30%)
Low-poverty	45% (2.23%)	38% (2.21%)
By school minority concentration		
High-minority	53% (1.77%)	43% (2.21%)
Medium minority	51% (2.10%)	40% (2.09%)
Low-minority	44% (2.00%)	39% (2.19%)
By school urbanicity		
Urban	52% (1.70%)	44% (2.23%)
Suburban	47% (1.68%)	39% (1.75%)
Rural	47% (3.38%)	42% (3.03%)
By district size		
Large	50% (1.63%)	43% (1.51%)
Medium	50% (2.12%)	38% (2.23%)
Small	42% (3.82%)	40% (3.84%)

Exhibit Reads: Forty-nine percent of teachers reported that they often participated in professional development activities together with most or all of the teachers in their department or grade level during the 2003–04 school year, including the summer of 2004.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.47
Percentage of Teachers Whose Professional Development at Least Sometimes Involved Collective Participation, by Teacher Characteristics, 2003–04

	Teachers whose professional development at least sometimes involved…	
	Participating in professional development activities together with most or all of the teachers in my department or grade level	Participating in professional development activities together with most or all of the teachers in my school
n	7,154	7,152
All general education teachers	83% (1.02%)	80% (1.19%)
Special education teachers	76% (2.29%)	78% (2.30%)
By grade level		
Elementary teachers	84% (1.37%)	83% (1.48%)
Secondary teachers	81% (1.75%)	74% (2.14%)
By subject		
Secondary English teachers	85% (2.11%)	78% (2.58%)
Secondary mathematics teachers	76% (2.75%)	69% (3.09%)

Exhibit Reads: Eighty-three percent of teachers reported that they at least sometimes participated in professional development activities together with most or all of the teachers in their department or grade level during the 2003–04 school year, including the summer of 2004.

Source: NLS-*NCLB*, Teacher Survey.

Exhibit B.48
Percentage of Special Education Teachers Receiving More than 24 Hours of Professional Development in Instructional Strategies for Teaching Reading, by School Improvement Status, 2003–04

	Elementary Special Education Teachers	Middle School Special Education Teachers	High School Special Education Teachers
n = 1,132	660	264	208
All special education teachers	14 % (2.05%)	11% (2.58%)	6% (1.77%)
By school improvement status in 2003–04 (Title I schools only)			
Identified	19% (5.01%)	31% (4.77%)	15% (12.46%)
Not identified	14% (2.52%)	11% (3.33%)	6% (2.99%)

Exhibit Reads: Fourteen percent of elementary special education teachers participated in more than 24 hours of professional development instructional strategies for teaching reading during school year 2003–04 (including the summer of 2004).

Sources: NLS-*NCLB*, Teacher Survey.

Exhibit B.49
Percentage Distribution of Paraprofessionals' Status, by School Level, 2004–05

Status	All Paraprofessionals	Elementary Paraprofessionals	Secondary Paraprofessionals
As reported by principals			
Qualified	63% (5.21%)	63% (6.00%)	63% (7.15%)
Not qualified	11% (1.68%)	12% (1.92%)	9% (2.55%)
Don't know	12% (5.45%)	13% (6.74%)	5% (2.00%)
Missing	14% (2.19%)	11% (2.45%)	23% (5.13%)
As reported by paraprofessionals			
Qualified	63% (3.82%)	61% (4.37%)	74% (5.39%)
Not qualified	5% (1.13%)	6% (1.37%)	4% (1.21%)
Do not need to meet this requirement	4% (1.42%)	4% (1.74%)	2% (1.11%)
Don't know	7% (1.82%)	7% (2.19%)	5% (2.38%)
Missing	21% (3.38%)	22% (3.88%)	15% (4.53%)

Exhibit Reads: According to principals' reports, sixty-three percent of paraprofessionals were qualified.

Note: Percents may not add to 100 due to rounding. Paraprofessionals n = 781 (all), 567 (elementary), 205 (secondary). Principals n = 760 (all), 556 (elementary), 200 (secondary).

Source: NLS-*NCLB*, Principal and Paraprofessional Surveys.

Exhibit B.50
Title I Instructional Paraprofessionals' Time Spent Tutoring or Working With Students in a Classroom With a Teacher Present, 2004–05

Time Spent	All Paraprofessionals
None	7% (1.53%)
Some	11% (1.95%)
About half	6% (1.70%)
Most	27% (3.66%)
All or nearly all	50% (3.73%)

Exhibit Reads: Seven percent of paraprofessionals reported that none of their time tutoring or working with students was in a classroom with a teacher present.

Note: Percents may not add to 100 due to rounding, n = 769.

Source: NLS-*NCLB*, Paraprofessional Survey.

Exhibit B.51
Percentage of Paraprofessionals With Various Qualifications, by School Poverty and Urbanicity and by District Characteristics, 2004–05

Characteristics	Percentage Who Have Either Two Years of College or an Associate Degree	Percentage Who Passed an Assessment
All paraprofessionals	56% (4.29%)	55% (4.38%)
By school poverty level		
High-poverty	53% (5.96%)	55% (6.12%)
Medium poverty	45% (6.10%)	59% (6.12%)
Low-poverty	80% (5.71%)	43% (11.96%)
By school urbanicity		
Urban	64% (5.44%)	48% (6.20%)
Suburban	58% (7.27%)	52% (7.36%)
Rural	39% (7.52%)	74% (6.77%)
By district poverty level		
High-poverty	61% (4.61%)	53% (5.49%)
Medium poverty	45% (7.85%)	64% (6.73%)
Low-poverty	70% (7.14%)	43% (10.32%)
By district minority concentration		
High-minority	60% (5.56%)	46% (7.16%)
Middle Minority	57% (7.55%)	63% (7.03%)
Low-minority	54% (8.15%)	51% (7.97%)
By district urbanicity		
Urban	65% (5.49%)	52% (6.21%)
Suburban	58% (7.45%)	49% (7.88%)
Rural	40% (7.75%)	73% (6.99%)
By district size		
Large	60% (5.12%)	51% (6.36%)
Medium	53% (9.71%)	66% (7.47%)
Small	57% (7.88%)	49% (9.16%)

Exhibit Reads: Fifty-six percent of paraprofessionals had either two years of college or an associate degree.

Source: NLS-*NCLB*, Paraprofessional Survey, n = 642 to 714.

Exhibit B.52
Percentage of Title I Paraprofessionals Not Qualified Under *NCLB* Receiving Various Types of Training and Support for Training, 2004–05

Training and Support for Training	Paraprofessionals Not Qualified under NCLB
Test preparation courses	42% (11.61%)
Money to pay test fees	5% (3.10%)

Exhibit Reads: Forty-two percent of paraprofessionals not qualified under *NCLB* received test preparation courses from their school or district.

Source: NLS-*NCLB*, Paraprofessional Survey, n = 76 to 77.

Exhibit B.53
Percentage of Principals Reporting Various School and District Actions With Title I Instructional Paraprofessionals Who Were Identified as Not Qualified Under *NCLB*, by School Level, 2004–05

School Level	Percent of Principals Reporting That Their School or District Has…		
	Transferred Paraprofessionals to a Non-Title I School Based on a Review of Their Qualifications	Reassigned Paraprofessionals to Non-Instructional Tasks Based on a Review of Their Qualifications	Dismissed Paraprofessionals Based on a Review of Their Qualifications
All schools	6% (1.53%)	10% (2.3%)	5% (1.28%)
Elementary schools	6% (1.67%)	9% (2.62%)	5% (1.36%)
Secondary schools	8% (3.20%)	16% (4.93%)	8% (3.59%)

Exhibit Reads: Five percent of principals reported that their school or district had transferred paraprofessionals to a non-Title I school based on a review of their qualifications.

Notes: The percentages shown in the table are based on schools that have one or more Title I instructional paraprofessionals who were identified as not highly qualified under *NCLB*. There are three response options to P60: "no," "yes," and "don't know." The percentages reported above include percentages of schools reporting that the school or district had taken the action (a "yes" response option).

Source: NLS-*NCLB*, Principal Survey, n = 459 to 461.

Exhibit B.54
Percentage of Paraprofessionals Receiving Various Types of Training and Support for Training, 2004–05, by Qualified Status and by District Characteristics

Characteristics	Received Professional Development and Training	Took College Courses	Release Time for Course work or Studying for a High School Diploma, GED or College Courses	Money for College Courses	Money to Cover Work-Related Expenses
All paraprofessionals	77% (3.29%)	25% (3.07%)	10% (1.68%)	10% (2.08%)	6% (1.89%)
By qualified status					
Qualified	79% (3.92%)	25% (3.39%)	10% (2.15%)	10% (2.34%)	6% (1.57%)
Not qualified	83% (5.38%)	28% (7.88%)	11% (4.27%)	12% (5.04%)	0% (0.26%)
By district poverty level					
High-poverty	78% (3.87%)	38% (4.82%)	18% (3.36%)	12% (3.07%)	5% (1.96%)
Middle poverty	71% (6.04%)	22% (4.83%)	8% (2.53%)	12% (3.98%)	5% (1.72%)
Low-poverty	85% (5.04%)	16% (6.44%)	6% (3.00%)	5% (2.80%)	10% (6.53%)
By district minority					
High-minority	75% (5.78%)	42% (5.78%)	25% (4.59%)	13% (3.45%)	5% (2.18%)
Middle minority	82% (4.90%)	28% (5.43%)	7% (2.00%)	14% (4.05%)	6% (3.67%)
Low-minority	71% (5.96%)	6% (2.41%)	3% (1.75%)	2% (1.52%)	9% (2.88%)
By district location					
Urban	79% (4.59%)	32% (4.29%)	16% (2.91%)	12% (2.98%)	5% (1.86%)
Suburban	76% (5.57%)	22% (5.31%)	6% (2.31%)	11% (3.78%)	6% (3.58%)
Rural	77% (6.52%)	16% (4.64%)	11% (4.24%)	5% (2.37%)	8% (3.55%)
By district size					
Large	81% (4.59%)	32% (4.47%)	14% (2.77%)	14% (3.46%)	4% (1.39%)
Medium	74% (6.13%)	17% (5.31%)	3% (1.48%)	6% (3.03%)	8% (4.91%)
Small	72% (7.73%)	20% (6.05%)	12% (4.59%)	8% (3.86%)	10% (4.22%)

Exhibit Reads: Seventy-seven percent of paraprofessionals received professional development and training.

Source: NLS-*NCLB*, Paraprofessional Survey, n = 735 to 769.

Exhibit B.55
Percentage of Title I Instructional Paraprofessionals by School Levels, 2004–05

School Level	Percent of Title I Instructional Paraprofessionals
Elementary school	80% (2.53%)
Middle school	15% (0.99%)
High school	4% (2.32%)
Other	1% (0.76%)

Exhibit Reads: Eighty percent of paraprofessionals were in elementary schools.

Source: NLS-NCLB, Paraprofessional Survey (n = 781) and Common Core of Data.

Exhibit B.56
Paraprofessional Qualified Status, by School Poverty Level, 2004–05

Characteristics	Qualified	Not Qualified	Do Not Need to Meet This Requirement	Don't Know	Missing
All paraprofessionals	63% (3.79%)	5% (1.12%)	4% (1.40%)	7% (1.79%)	21% (3.37%)
By school poverty level					
High-poverty	64% (2.65%)	8% (0.60%)	0% (0.04%)	10% (1.51%)	18% (1.61%)
Middle poverty	65% (3.82%)	6% (0.90%)	5% (1.11%)	7% (0.94%)	17% (2.06%)
Low-poverty	49% (2.01%)	2% (0.27%)	7% (0.86%)	2% (0.33%)	40% (2.55%)

Exhibit Reads: Sixty-three percent of paraprofessionals in all schools reported being qualified.

Source: NLS-NCLB, Paraprofessional Survey, n = 781.

APPENDIX C
SUPPLEMENTAL STATE EXHIBITS

Exhibit C.1
State-Determined Minimum Passing Scores for Selected Praxis II Assessments, 2004–05

State	State Uses PRAXIS II for Some or All Teachers	Cut Scores for Praxis II tests						State Requires Test(s) Other than Praxis	State Does Not Require Teachers to Pass a Content Knowledge Test
		Elementary Education: Content Knowledge	Middle School: Content Knowledge	Middle School Mathematics	Middle School Language Arts	English Language, Literature and Composition	Mathematics Content Knowledge		
Total	41							24	2
AK	X	143*	140*	–	154*	158*	146*		
AL	X	137*	–	139*	154*	151*	118*	X	
AR	X	–	139	–	–	159	116		
AZ	No	–	–	–	–	N/A	–	X	
CA	X	–	–	–	–	155	–	X	
CO	X	147	–	–	–	162	156	X	
CT	X	–	–	158	164	172	137	X	
DC	X	145	–	–	–	142	141		
DE	X	–	–	148	–	159	121		
FL	No	–	–	–	–	–	–	X	
GA	X	–	–	145	–	168	136		
HI	X	–	–	No minimum cut score	–	164	136		
IA	No	–	–	–	–	–	–		X

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Exhibit C.1
State-Determined Minimum Passing Scores for Selected Praxis II Assessments, 2004–05 (Continued)

State	State Uses PRAXIS II for Some or All Teachers	Cut Scores for Praxis II tests						State Requires Test(s) Other than Praxis	State Does Not Require Teachers to Pass a Content Knowledge Test
		Elementary Education: Content Knowledge	Middle School: Content Knowledge	Middle School Mathematics	Middle School Language Arts	English Language, Literature and Composition	Mathematics Content Knowledge		
ID	X	143	–	–	–	158	119		
IL	No	–	–	–	–	–	–	X	
IN	X	–	–	156	152	153	136	X	
KS	X	–	–	158	165	165	137		
KY	X	148	–	153	–	160	125		
LA	X	150	–	148	–	160	125	X	
MA	No	–	–	–	–	–	–	X	
MD	X	142	–	152	160	164	141		
ME	X	145	–	148	155	169	126		
MI	No	–	–	–	–	–	–	X	
MN	X	140	–	152	161	148	124		
MO	X	–	–	158	163	158	137		
MS	X	153	–	140	145	157	123		
MT	No	–	–	–	–	–	–		X

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Exhibit C.1
State-Determined Minimum Passing Scores for Selected Praxis II Assessments, 2004–05 (Continued)

State	State Uses PRAXIS II for Some or All Teachers	Cut Scores for Praxis II tests						State Requires Test(s) Other than Praxis	State Does Not Require Teachers to Pass a Content Knowledge Test
		Elementary Education: Content Knowledge	Middle School: Content Knowledge	Middle School Mathematics	Middle School Language Arts	English Language, Literature and Composition	Mathematics Content Knowledge		
NC	X	–	–	141	145	Cut score is provided as a composite cut score in conjunction with one or more tests in the same field	Cut score is provided as a composite cut score in conjunction with one or more tests in the same field		
ND	X	–	–	148	157	151	139		
NE	No	–	–	–	–	–	–		
NH	X	–	–	151	–	164	127	X	
NJ	X	141	–	152	156	162	137	X	
NM	X	–	–	–	–	–	–	X	
NV	X	–	–	Test under consideration	Test under consideration	150	144		
NY	No	–	–	–	–	–	–	X	
OH	X	143	–	143	156	167	139	X	
OK	X	–	–	–	–	–	–	X	
OR	X	–	–	156	159	159	138	X	
PA	X	–	–	151	163	160	136		
PR	No	–	–	–	–	–	–	X	

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Exhibit C.1
State-Determined Minimum Passing Scores for Selected Praxis II Assessments, 2004–05 (Continued)

State	State Uses PRAXIS II for Some or All Teachers	Cut Scores for Praxis II tests						State Requires Test(s) Other than Praxis	State Does Not Require Teachers to Pass a Content Knowledge Test
		Elementary Education: Content Knowledge	Middle School: Content Knowledge	Middle School Mathematics	Middle School Language Arts	English Language, Literature and Composition	Mathematics Content Knowledge		
RI	X	145	–	–	–	–	–	X	
SC	X	–	–	149	155	162	131	X	
SD	X	137	–	139	143	154	124		
TN	X	140	150	143	145	157	136	X	
TX	No	–	–	–	–	–	–	X	
UT	X	150	–	–	–	Test required, no minimum score set	Test required, no minimum score set		
VA	X	143	–	163	164	172	147		
VT	X	148	–	–	–	172	141		
WA	X	141	–	152	158	158	134		
WI	X	147	146	–	–	160	135		
WV	X	–	–	148	147	155	133		
WY	X	–	–	–	–	–	–	X	
National Median Score		163				178	143		
Range from 25th to 75th percentile		150–175				166–188	127–156		
Range from 10th to 90th percentile		139–185				156–196	111–171		

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Exhibit C.1
State-Determined Minimum Passing Scores for Selected Praxis II Assessments, 2004–05 (Continued)

State	State Uses PRAXIS II for Some or All Teachers	Cut Scores for Praxis II tests						State Requires Test(s) Other than Praxis	State Does Not Require Teachers to Pass a Content Knowledge Test
		Elementary Education: Content Knowledge	Middle School: Content Knowledge	Middle School Mathematics	Middle School Language Arts	English Language, Literature and Composition	Mathematics Content Knowledge		
National Median Score		163				178	143		
Range from 25th to 75th percentile		150–175				166–188	127–156		
Range from 10th to 90th percentile		139–185				156–196	111–171		

Exhibit Reads: In Washington the minimum passing score for the Elementary Education Content Knowledge assessment was 141.

Note: "—" denotes that a specific test is not required by the state and no cut score is available. * Indicates test is not required by state, but cut score is available.

Source: ETS Web site (http://www.ets.org) and http://www.title2.org. (accessed June 2005)

Exhibit C.2
State-Determined Minimum Passing Scores for the ParaPro Assessment

		ParaPro Assessment Qualifying Scores
Average Score		459
Low		450
High		467
AK		N/A
AL		N/A
AR		457
AZ		459
CA	Oakland Unified School District	460
	Ventura County	458*
CO		460
CT		457
DC		N/A
DE		459
FL	Consortium	464*
	Duval County Public School	457
GA		456
HI		459
IA		N/A
ID		460
IL		460
IN		460
KS		455
KY		N/A
LA		450
MA		464
MD		455
ME		459
MI		460
MN		460
MO		458
MS		N/A
MT		N/A
NC		N/A
ND		464

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Exhibit C.2
State-Determined Minimum Passing Scores for the ParaPro Assessment (Continued)

		ParaPro Assessment Qualifying Scores
NE		456
NH		N/A
NJ		456
NM		457
NV		460
NY		N/A
OH		456
OK		N/A
OR		455*
PA	Chester Upland School District	459
PR		N/A
RI		461
SC		456
SD		461
TN		456
TX	Region 19	467*
	Anthony Independent School District	467
	Fort Worth Independent School District	461
	North East Independent School District	465
	South San Independent School District	465
UT		460
VA		455
VT		458
WA		461
WI		N/A
WV		N/A
WY		462

Exhibit Reads: In New Jersey, the qualifying score on the ParaPro assessment is 456.

Note: *The qualifying score set by each school district may be different.

Source: SSI-*NCLB* Extant data collection.

Exhibit C.3
State Testing Requirements for Initial Licensure, 2003

State	State requires a basic skills test for an initial license	State requires subject-knowledge tests for an initial license
Alabama	Yes	No
Alaska	Yes	No
Arizona	No	Yes
Arkansas	Yes	Yes
California	Yes	Yes
Colorado	No	Yes
Connecticut	Yes	Yes
Delaware	Yes	No
District of Columbia	Yes	Yes
Florida	Yes	Yes
Georgia	Yes	Yes
Hawaii	Yes	Yes
Idaho	No	No
Illinois	Yes	Yes
Indiana	Yes	Yes
Iowa	No	No
Kansas	No	No
Kentucky	Yes	Yes
Louisiana	Yes	Yes
Maine	Yes	No
Maryland	Yes	Yes
Massachusetts	Yes	Yes
Michigan	Yes	Yes
Minnesota	Yes	Yes
Mississippi	Yes	Yes
Missouri	Yes	Yes
Montana	Yes	No
Nebraska	Yes	No
Nevada	Yes	Yes
New Hampshire	Yes	Yes
New Jersey	Yes	Yes
New Mexico	Yes	Yes
New York	Yes	No
North Carolina	Yes	Yes

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Exhibit C.3
State Testing Requirements for Initial Licensure, 2003 (Continued)

State	State requires a basic skills test for an initial license	State requires subject-knowledge tests for an initial license
North Dakota	Yes	No
Ohio	No	Yes
Oklahoma	Yes	Yes
Oregon	Yes	Yes
Pennsylvania	Yes	Yes
Rhode Island	No	No
South Carolina	Yes	Yes
South Dakota	No	No
Tennessee	Yes	Yes
Texas	No	Yes
Utah	No	No
Vermont	Yes	Yes
Virginia	Yes	Yes
Washington	Yes	No
West Virginia	Yes	Yes
Wisconsin	Yes	No
Wyoming	No	No
U.S.	40	34

Exhibit Reads: In Ohio, a basic skills test is not required for an initial testing license.

Source: *Education Counts Database Custom Table Builder,* EdWeek.org (http://www.edweek.org/rc/edcounts/) (accessed October 2006)

Exhibit C.4
Subject Area Major and Minor Requirements for Initial Licensure for High School Teachers, by State, 2006

State	State requires high school teachers to obtain a subject-area major for an initial license	State requires high school teachers to obtain at least a subject-area minor for an initial license
Alabama	Yes	Yes
Alaska	No	No
Arizona	No	No
Arkansas	No	No
California	Yes [1]	Yes [1]
Colorado	Yes [2]	Yes [23]
Connecticut	Yes	Yes
Delaware	No	No
District of Columbia	No	No
Florida	No	No
Georgia	Yes [3]	Yes [24]
Hawaii	No	No
Idaho	Yes [4]	Yes [4]
Illinois	Yes [5]	Yes [25]
Indiana	Yes [6]	Yes [6]
Iowa	Yes [7]	Yes [7]
Kansas	Yes [8]	Yes [26]
Kentucky	No	No
Louisiana	Yes [9]	Yes [9]
Maine	No	Yes
Maryland	Yes [10]	Yes [27]
Massachusetts	No	No
Michigan	Yes [11]	Yes [11]
Minnesota	No	No
Mississippi	Yes [12]	Yes [12]
Missouri	Yes	Yes
Montana	Yes [13]	Yes [13]
Nebraska	Yes	Yes
Nevada	Yes [14]	Yes [14]
New Hampshire	Yes	Yes
New Jersey	Yes	Yes
New Mexico	No	Yes
New York	Yes	Yes

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Exhibit C.4
Subject Area Major and Minor Requirements for Initial Licensure for High School Teachers, by State, 2006 (Continued)

State	State requires high school teachers to obtain a subject-area major for an initial license	State requires high school teachers to obtain at least a subject-area minor for an initial license
North Carolina	Yes [15]	Yes [15]
North Dakota	Yes [16]	Yes [16]
Ohio	Yes [17]	Yes [28]
Oklahoma	Yes	Yes
Oregon	No	No
Pennsylvania	Yes [18]	Yes [29]
Rhode Island	Yes	Yes
South Carolina	No	No
South Dakota	Yes [19]	Yes [19]
Tennessee	Yes [20]	Yes [30]
Texas	No	No
Utah	Yes [21]	Yes [21]
Vermont	Yes	Yes
Virginia	Yes	Yes
Washington	No	No
West Virginia	No	Yes
Wisconsin	Yes [22]	Yes [31]
Wyoming	No	No
U.S.	Yes[33]	Yes[36]

Exhibit Reads: In North Dakota, high school teachers are required to obtain a subject-area major for an initial teaching license.

Note:

1. California requires teacher-candidates to demonstrate subject-matter competency either by obtaining a major in the subject taught or by passing a content test.
2. Colorado does not stipulate the amount of course work that constitutes a major.
3. Georgia does not stipulate the amount of course work that constitutes a major.
4. Idaho requires a major in the subject taught, but teachers can receive additional content-area endorsements by obtaining a minimum of a minor.
5. Illinois does not stipulate the amount of course work that constitutes a major.
6. Indiana requires a major in the subject taught, but teachers can receive additional content-area endorsements by obtaining a minimum of a minor.
7. Iowa requires a major in the subject taught, but teachers can receive additional content-area endorsements by obtaining a minimum of a minor.

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Exhibit C.4
Subject Area Major and Minor Requirements for Initial Licensure for High School Teachers, by State, 2006 (Continued)

8. Kansas does not stipulate the amount of course work that constitutes a major.
9. Louisiana requires a major in the subject taught, but teachers can receive additional content-area endorsements by obtaining a minimum of a minor.
10. Maryland does not stipulate the amount of course work that constitutes a major.
11. Michigan requires a major in the subject taught, but teachers can receive additional content-area endorsements by obtaining a minimum of a minor.
12. Mississippi requires a major in the subject taught, but teachers can receive additional content-area endorsements by obtaining a minimum of a minor.
13. Montana requires a major in the subject taught, but teachers can receive additional content-area endorsements by obtaining a minimum of a minor.
14. Nevada requires a major in the subject taught, but teachers can receive additional content-area endorsements by obtaining a minimum of a minor.
15. North Carolina requires teacher-candidates to demonstrate subject-matter competency either by obtaining a major in the subject taught or by passing a content test.
16. North Dakota requires a major in the subject taught, but teachers can receive additional content-area endorsements by obtaining a minimum of a minor.
17. Ohio does not stipulate the amount of course work that constitutes a major.
18. Pennsylvania does not stipulate the amount of course work that constitutes a major.
19. South Dakota requires a major in the subject taught, but teachers can receive additional content-area endorsements by obtaining a minimum of a minor. The state also does not stipulate the amount of course work that constitutes a major.
20. Tennessee does not stipulate the amount of course work that constitutes a major.
21. Utah requires a major in the subject taught, but teachers can receive additional content-area endorsements by obtaining a minimum of a minor.
22. Wisconsin does not stipulate the amount of course work that constitutes a major.
23. Colorado requires a major but does not stipulate the amount of course work that constitutes a major.
24. Georgia requires a major but does not stipulate the amount of course work that constitutes a major.
25. Illinois requires a major but does not stipulate the amount of course work that constitutes a major.
26. Kansas requires a major but does not stipulate the amount of course work that constitutes a major.
27. Maryland requires a major but does not stipulate the amount of course work that constitutes a major.
28. Ohio requires a major but does not stipulate the amount of course work that constitutes a major.
29. Pennsylvania requires a major but does not stipulate the amount of course work that constitutes a major.
30. Tennessee requires a major but does not stipulate the amount of course work that constitutes a major.
31. Wisconsin requires a major but does not stipulate the amount of course work that constitutes a major.

Source: *Education Counts Database Custom Table Builder,* EdWeek.org (http://www.edweek.org/rc/edcounts/) (accessed September, 2006)

Exhibit C.5
Subject Area Major and Minor Requirements for Initial Licensure for Middle School Teachers, 2006

State	State requires middle school teachers to obtain a subject-area major for an initial license	State requires middle school teachers to obtain at least a subject-area minor for an initial license
Alabama	Yes	Yes
Alaska	No	No
Arizona	No	No
Arkansas	No	No
California	No	No
Colorado	No	No
Connecticut	No	Yes
Delaware	No	No
District of Columbia	No	No
Florida	No	No
Georgia	No	No
Hawaii	No	No
Idaho	No	No
Illinois	No	No
Indiana	No	No
Iowa	No	No
Kansas	Yes [1]	Yes [3]
Kentucky	No	No
Louisiana	No	Yes
Maine	No	No
Maryland	No	No
Massachusetts	No	No
Michigan	No	No
Minnesota	No	No
Mississippi	No	No
Missouri	No	Yes
Montana	No	No
Nebraska	No	No
Nevada	No	No
New Hampshire	No	No
New Jersey	No	Yes
New Mexico	No	Yes
New York	No	No

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Exhibit C.5
Subject Area Major and Minor Requirements for Initial Licensure for Middle School Teachers, 2006 (Continued)

State	State requires middle school teachers to obtain a subject-area major for an initial license	State requires middle school teachers to obtain at least a subject-area minor for an initial license
North Carolina	Yes [2]	Yes [2]
North Dakota	No	No
Ohio	No	No
Oklahoma	No	Yes
Oregon	No	No
Pennsylvania	No	No
Rhode Island	No	No
South Carolina	No	No
South Dakota	No	No
Tennessee	No	No
Texas	No	No
Utah	No	No
Vermont	No	Yes
Virginia	No	Yes
Washington	No	No
West Virginia	No	No
Wisconsin	No	Yes
Wyoming	No	No
U.S.	Yes: [3]	Yes: [12]

Exhibit Reads: In North Dakota, middle school teachers were not required to obtain a subject area major for initial licensure.

Note:

1. Kansas does not stipulate the amount of course work that constitutes a major.
2. North Carolina requires teacher-candidates to demonstrate subject-matter competency either by obtaining a major in the subject taught or by passing a content test.
3. Kansas requires a major but does not stipulate the amount of course work that constitutes a major.

Source: *Education Counts Database Custom Table Builder,* EdWeek.org (http://www.edweek.org/rc/edcounts/) (accessed September 2006)

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