CENTER ON EDUCATION POLICY CEP

Choices, Changes, and Challenges
Curriculum and Instruction in the NCLB Era

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A report in the series From the Capital to the Classroom: Year 5 of the No Child Left Behind Act

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Choices, Changes, and Challenges: Curriculum and Instruction in the NCLB Era

Summary of Key Findings

What has happened to curriculum and instructional time since enactment of the No Child Left Behind Act (NCLB)? Are districts and schools spending more time on reading and math—the two subjects tested for accountability under NCLB—and less time on subjects that are not the focus of federal accountability? Are districts changing the curriculum within subjects to emphasize materials covered on the tests? Has the school day lengthened to allow more time for tested or non-tested subjects?

For the past five years, the Center on Education Policy (CEP), an independent nonprofit organization, has been conducting a comprehensive study of the No Child Left Behind Act. This year, we studied the issue of changes in curriculum and instructional time in greater depth. We included specific questions about curriculum and instruction in our annual, nationally representative survey of 349 responding school districts. We also asked specific questions about this topic during district- and school-level interviews in 13 school districts. This report—one in a series of CEP reports on year 5 of NCLB implementation—describes our findings. Our key findings include the following:

- ***Increased time for tested subjects since 2002.*** About 62% of districts reported that they have increased time for English language arts[1] (ELA) and/or math in elementary schools since school year 2001-02 (the year NCLB was enacted), and more than 20% reported increasing time for these subjects in middle school since then. Among districts that reported increasing time for ELA and math, the average increase in minutes per week since 2001-02 was substantial, amounting to a 46% increase in ELA, a 37% increase in math, and a 42% increase across the two subjects combined.

- ***Reduced time for other subjects.*** To accommodate this increased time in ELA and math, 44% of districts reported cutting time from one or more other subjects or activities (social studies, science, art and music, physical education, lunch and/or recess) at the elementary level. Again, the decreases reported by these districts were relatively large, adding up to a total of 141 minutes per week across all of these subjects, on average, or nearly 30 minutes per day. These decreases represent an average reduction of 31% in the total instructional time devoted to these subjects since 2001-02.

[1] The CEP district survey questions used the term "reading/language arts" at the elementary school level and "English language arts" at the middle and high school levels, but for simplicity's sake, this report uses the term "English language arts" for all grade levels.

- ***Increases and decreases more prevalent in districts with schools identified for improvement.*** Greater proportions of districts with at least one school identified for NCLB improvement than of districts without schools in improvement reported that they have increased time for ELA and/or math at the elementary and middle school levels since school year 2001-02. Districts with at least one school in improvement also reported in greater proportions than districts without schools in improvement that they have decreased time in social studies, science, and art and music.

- ***Greater emphasis on tested content and skills.*** Since 2001-02, most districts have changed their ELA and math curricula to put greater emphasis on the content and skills covered on the state tests used for NCLB. In elementary level reading, 84% of districts reported that they have changed their curriculum "somewhat" or "to a great extent" to put greater emphasis on tested content; in middle school ELA, 79% reported making this change, and in high school ELA, 76%. Similarly, in math, 81% of districts reported that they have changed their curriculum at the elementary and middle school level to emphasize tested content and skills, and 78% reported having done so at the high school level.

Recommendations

The Center on Education Policy offers the following four recommendations to ensure that students receive a well-balanced curriculum and adequate instructional time in all core subjects. These recommendations grow out of what we have learned about curriculum and instruction not only from this year's study, but also from our previous four years of research on NCLB implementation.

- ***Stagger testing requirements to include tests in other academic subjects.*** Because our survey data indicate that what is tested is what is taught, students should be tested in math and English language arts in grades 3, 5, and 7 and once in high school, and in social studies and science in grades 4, 6, and 8 and once in high school. These tests should be used for accountability purposes. By staggering the subjects tested, the total amount of NCLB-mandated testing would stay the same, except in states that do not currently test social studies in high school.

- ***Encourage states to give adequate emphasis to art and music.*** States should review their curriculum guidelines to ensure that they encourage adequate attention to and time for art and music, and should consider including measures of knowledge and skills in art and music among the multiple measures used for NCLB accountability.

- ***Require states to arrange for an independent review, at least once every three years, of their standards and assessments to ensure that they are of high quality and rigor.*** Because districts in our survey report that they are changing their curriculum to put more emphasis on content and skills covered on the tests used for accountability, states should be sure these tests are "good" tests by commissioning reviews of their standards and assessments by independent organizations or agencies.

- ***Provide federal funds for research to determine the best ways to incorporate the teaching of reading and math skills into social studies and science.*** By integrating reading and math instruction into other core academic subjects, students will be more ensured of a rich, well-rounded curriculum. Funds should also be provided through Title I and Title II of NCLB to train teachers in using these techniques.

Previous Findings about Use of Instructional Time

The impact of NCLB on curriculum and instructional time has been a focus of previous studies by CEP and other researchers. In our 2006 report on NCLB (CEP, 2006), we reported that many districts had increased the instructional time spent on reading and math at the elementary level—sometimes at the expense of other subjects. A study commissioned by the U.S. Department of Education found that more than half (52%) of schools identified for improvement under NCLB reported restructuring the school day to teach core content areas in greater depth (Stullich et al., 2006).

Curriculum and instructional issues related to NCLB have also attracted media interest. A *New York Times* article reported that some schools have extended the school day to allow more time for test preparation and for subjects that otherwise might have been dropped from the curriculum, such as history, art, and drama (Schemo, 2007). In a *Phi Delta Kappan* article, Margit McGuire (2007) asked, "What happened to social studies?" and asserted that NCLB has exacerbated a trend of diminishing attention to social studies education by intensifying pressure on schools to raise test scores in literacy and mathematics (p. 621).

To explore in more depth the issues raised in our prior reports and other reports, CEP included additional questions about curriculum and instruction at the elementary, middle, and high school levels in our surveys and case studies on NCLB. The findings described in this report are part of a broader study of state and local implementation of NCLB that CEP has conducted since 2002. For this year's study (2006-07), we have reported our findings in a series of separate reports published under the common title, *From the Capital to the Classroom: Year 5 of the No Child Left Behind Act.*

Information Sources for This Report

The findings in this report are drawn from two main data sources: a survey of school districts and case study interviews. More detailed information about these sources and research methods can be found online at www.cep-dc.org, in the Methodology link accompanying this report.

- ***School district survey.*** From November 2006 through February 2007, we surveyed a nationally representative, random sample of 491 school districts, stratified by district type (urban, suburban, rural), district size, and the presence of any schools identified for improvement, corrective action, or restructuring under NCLB. This survey was a continuation of CEP's annual surveys of NCLB implementation at the district level. Urban districts and districts with schools in improvement were oversampled to allow separate analyses based on these categories. A total of 349 districts responded to the survey for a response rate of 71%. To ensure that each type of district sampled was adequately represented in our overall national calculations, the data were weighted during analysis.

- ***District case study interviews.*** Since 2003, CEP has conducted case studies of NCLB implementation in up to 43 school districts, chosen to represent a variety of urban, rural, and suburban districts and to include districts from all geographical regions of the country. From this year's universe of 43 case study districts, we selected a subset of 13 districts to be the subject of more in-depth case study work on curriculum and instructional issues. These 13 districts were selected because they had schools in improvement and therefore may have made some changes to their curricula or instructional time, or

because we had learned from our past case study research that they had undertaken curriculum and instructional changes (CEP, 2006). From fall 2006 through January 2007, CEP staff and a CEP consultant conducted interviews with district and school staff in the 13 districts. The data drawn from these interviews are used illustratively to further explain the survey data, so quotations and information from the case study districts are interspersed throughout this report. These interviews were recorded, transcribed, and later analyzed using a qualitative data analysis software program. **Table 1** gives a quick overview of the 13 districts.

Table 1. School Districts Included in Case Study Interviews

School District Name and State	District Type	Number of Schools in Improvement, 2006-07
Bayonne City School District, New Jersey	Urban, preK-12	4 of 12
Bloomfield School District, New Mexico	Rural, K-12	3 of 7
Boston Public Schools, Massachusetts	Urban, K-12	67 of 167
Calhoun County School District, Alabama	Rural & suburban, K-12	4 of 16
Chicago Public Schools, Illinois	Urban, K-12	343 of 581
Cleveland Municipal School District, Ohio	Urban, preK-12	66 of 102
Colorado Springs School District 11, Colorado	Urban, K-12	3 of 65 (includes charter schools)
Escondido Union School District, California	Suburban, K-8	7 of 11
Fayetteville Public Schools, Arkansas	Small city, K-12	1 of 14
Joint School District No. 2—Meridian, Idaho	Suburban, K-12	7 of 43
Oakland Unified School District, California	Urban, K-12	52 of 90 (not including charter schools)
Sheboygan Area Schools, Wisconsin	Suburban, K-12	0 of 18
Tigard-Tualatin School District, Oregon	Suburban, K-12	0 of 16

Instructional Time at the Elementary Level

Because curriculum, instructional time, and organization of the school day often differ dramatically at the elementary, middle, and high school levels, CEP collected data separately for each level.

MINUTES PER WEEK BY SUBJECT

As shown in **table 2**, districts responding to our survey reported that in school year 2006-07, elementary schools, on average, spent nearly three times as many minutes per week on English language arts (503 minutes)—the greatest share of time of any subject—as they did on social studies and science (178 minutes for each). Elementary schools spent nearly twice as many minutes per week on math (323)—the subject with the next greatest share of time—as on social studies or science.

Table 2. Average Number of Minutes Per Week Devoted to Various Subjects or Activities in Elementary Schools, School Year 2006-07

Subject Area	Number of Minutes Per Week: Total (All districts)	Districts with No Identified Schools*	Districts with At Least One Identified School*
English language arts	503	483	568
Math	323	320	332
Social studies	178	181	167
Science	178	181	169
Art and music	110	113	97
Physical education	105	106	103
Lunch	142	141	147
Recess	133	134	129

Table reads: In school year 2006-07, districts devoted an average of 503 minutes per week to English language arts in elementary schools. Districts with no schools identified for improvement, corrective action, or restructuring devoted an average of 483 minutes per week to ELA at the elementary level, while districts with at least one identified school devoted an average of 568 minutes to elementary ELA.

*Identified schools include those identified for improvement, corrective action, or restructuring under the No Child Left Behind Act. Apparent differences between districts with no identified schools and districts with at least one identified schools are not statistically significant, except in English language arts.

Source: Center on Education Policy, February 2007, District Survey, item 18 (tables IT-1A & IT-1B).

Our survey also indicated that districts with at least one school identified for improvement, corrective action, or restructuring under NCLB spent more time on English language arts than districts without any schools so identified (see table 2). As noted above, a U.S. Department of Education study found similar differences between districts with schools in improvement and those without (Stullich et al., 2006). A more in-depth discussion of other strategies used by districts to assist schools in improvement can be found in CEP's report, *Moving Beyond Identification: Assisting Schools in Improvement*, available at www.cep-dc.org.

Many of the school district officials we interviewed said that although their districts had no formal or mandated policy for school and classroom schedules, the districts did have guidelines or recommendations for the amount of time schools should spend on various subjects. For example, the director of curriculum and instruction in the Boston Public Schools said the district recommends 120 to 150 minutes of English language arts and 70 to 90 minutes of math per day at the elementary level. Other districts have encouraged schools to spend more time on reading and math, according to our interviewees. The director of curriculum and instruction in the Bloomfield, New Mexico, school district said the district recommends three hours of reading and one and a half hours of math per day at the elementary level, with adjustments based on the needs of the students. This district official said that Bloomfield teachers integrate instruction of other subjects, such as social studies and science, into the reading and math time blocks. "We are trying to make connections through integration, because time is our most precious resource," she explained.

Other districts leave it to schools to decide how much time to spend on various subjects. For example, the Title I facilitator in Colorado Springs School District 11 said that the district does not have an official policy for how much time to devote to specific subjects or content areas; rather, principals and other building leaders make these decisions. Still, this official said there is an "unwritten policy" that elementary schools in Colorado Springs should spend at least a 90-minute block on literacy every day.

CHANGES IN INSTRUCTIONAL TIME FOR ELEMENTARY SCHOOL SUBJECTS

To learn more about changes in instructional time, we asked districts to report whether the time allotted to various subjects has increased, decreased, or stayed the same since 2001-02, the school year when NCLB was enacted. When district respondents reported that time for a specific subject had increased or decreased, we asked them to indicate the amount of increase or decrease in terms of minutes.

As shown in **table 3**, 62% of districts reported that they had increased time in elementary schools in English language arts and/or mathematics since 2001-02. Differences between district types were also found; a higher proportion of urban districts (76%) than of rural districts (54%) reported increasing time in these subjects. Districts with at least one school in improvement reported increasing time in ELA and/or math in greater proportions (78%) than districts without schools in improvement (57%).

Among districts that reported increasing time for English language arts and mathematics in elementary schools, the average increase was 140 extra minutes per week (or almost 30 minutes per day on average) in ELA and 87 minutes per week (about 18 minutes per day) in math, as shown in **table 4**. These are large increases, representing an increase of 46% in total instructional time since 2001-02 in ELA, an increase of 37% in math, and an increase of 42% across the two subjects combined. The average time increase per week in ELA since 2001-02 was greater in districts with at least one school identified for improvement (183 minutes) than in districts with no identified schools (122 minutes).

Table 3. Perccentage of Districts That Have Increased Instructional Time in English Language Arts and/or Mathematics Since NCLB Was Enacted

Category of District	Percentage of Districts Increasing Time in ELA and/or Math
Total (all districts)	62%
District Type	
Urban	76%
Suburban	69%
Rural	54%
Identified Schools in District	
Districts with at least one identified school	78%
Districts with no identified schools	57%

Table reads: About 76% of urban districts reported that they had increased instructional time in English language arts and/or mathematics since NCLB was enacted in 2002.

Note: The difference between urban and rural districts is statistically significant, as is the difference between districts with no identified schools and districts with at least one identified school. Other differences are not statistically significant.

Source: Center on Education Policy, February 2007, District Survey, item 19 (table IT-15).

Table 4. Changes in Instructional Time in Elementary Schools Since NCLB Was Enacted

Subject Area	Total (all districts)			
	Percentage of Districts Increasing Time	Percentage of Districts Decreasing Time	Average Increase (minutes per week)	Average Decrease (minutes per week)
ELA	58%		140	
Math	45%		87	
Social studies		36%		76
Science		28%		75
Art and music		16%		57
Physical education		9%		40
Lunch		20%		‡
Recess		5%		45

Subject Area	Districts with No Identified Schools*			
	Percentage of Districts Increasing Time	Percentage of Districts Decreasing Time	Average Increase (minutes per week)	Average Decrease (minutes per week)
ELA	52%†		122†	
Math	41%		87	
Social studies		31%†		70
Science		23%†		67
Art and music		12%†		55
Physical education		7%		32
Lunch		19%		‡
Recess		6%		43

Subject Area	Districts with at Least One Identified Schools*			
	Percentage of Districts Increasing Time	Percentage of Districts Decreasing Time	Average Increase (minutes per week)	Average Decrease (minutes per week)
ELA	77%†		183†	
Math	56%		86	
Social Studies		51%†		90
Sciencs		43%†		94
Art and music		30%†		61
Physical education		14%		57
Lunch		22%		‡
Recess		4%		48

Table reads: Thirty-six percent of districts reported that they have decreased instructional time in social studies since school year 2001-02 (the year NCLB was enacted). Districts that have decreased time for social studies have done so by an average of 76 minutes per week. Thirty-one percent of districts with no schools identified for improvement, corrective action or restructuring reported that they have decreased instructional time in social studies, compared with 51% of districts with at least one identified school. Among districts that have decreased time in social studies, those with no identified schools have done so by an average of 70 minutes per week, and those with at least one identified school have done so by an average of 90 minutes per week.

*Identified schools include those identified for improvement, corrective action, or restructuring under the No Child Left Behind Act.

†The difference is statistically significant between districts with at least one school identified for improvement and those with no identified schools.

‡ Sample size is too small to allow reporting.

Source: Center on Education Policy, February 2007, District Survey, item 19 (tables IT-2A, IT-2D, IT-3A, IT-3B, IT-16, & IT-17).

One question immediately comes to mind: where is this additional time is coming from? In our study of NCLB implementation last year, we reported that 71% of districts had reduced instructional time in elementary schools in at least one subject to make more time for English language arts or math (CEP, 2006). In an effort to more precisely explain this reported decrease, we asked a more detailed question in the year 5 survey. This year, 44% of districts reported that since 2001-02, they have decreased the time in elementary schools devoted to subjects and activities other than ELA and math (social studies, science, art and music, physical education, lunch, and recess). The decreases reported by these districts this year were relatively large, totaling an average of 141 fewer minutes per week across all of these subjects, or nearly 30 minutes per day on average. The average decrease represented nearly a third (31%) of the total instructional time devoted to these subjects before NCLB took effect.

A greater proportion of districts with at least one school identified for NCLB improvement than of districts with no identified schools reported that they have decreased time in elementary school subjects other than ELA and math. For example, 51% of districts with at least one identified school reported decreasing time in social studies, and 43% reported that they have decreased time in science; these proportions compare with just 31% and 23%, respectively, of districts with no identified schools (see table 4).

Despite these reported decreases, there was still a discrepancy between the average increase in minutes per week in ELA and math and the average decrease in minutes across other subjects. This may be partly because some districts have integrated instruction of subjects like social studies and science into the reading and math time blocks. This was the case in some of our case study districts, as the aforementioned example from the Bloomfield School District interview illustrates. Additional research is needed to further explore this hypothesis.

Some district officials explained during interviews that they increased time in English language arts after NCLB was enacted—sometimes beyond the state recommended requirements. An official in the Oakland Unified school district said that California recommends two and a half hours of ELA instruction each day in grades 1-3, and the district recommends three hours each day for schools that participate in the federal Reading First program. The district also increased the recommended time in ELA for grades 4 and 5 from the state recommendation of two hours to two and a half hours of reading instruction each day in Reading First schools. Other district officials reported that time spent on specific subjects may differ between schools within the district. A Bayonne City school district official explained that the district recommends that schools devote 10 sessions of 40 minutes each to ELA per week and 8 sessions of 40 minutes each to math per week; however, some schools with a literacy grant (selected because of their lower test scores) spend longer blocks of time on reading. Subjects like gifted music and art are still offered in all schools in Bayonne at all grade levels, but they are scheduled after the regular school day.

Instructional time spent on subjects also changes within schools in accordance with students' individual needs. For example, an official from Meridian Elementary School in Joint School District No. 2, Idaho, said that his school spends 90 minutes per day on ELA but that some students who are struggling may spend an additional 20 minutes per day on this subject, working one-on-one with a teacher during their free time or library time.

Some case study district officials acknowledged that they had to cut time in other subjects to make more time for reading and math. For example, officials from one school in Chicago explained that the school sets aside a block of time for reading each day and tries to fit in at least 30 minutes for all other disciplines; however, as one Chicago school official pointed out, "our major focus is in reading and math." The GATE/Title I coordina-

tor in the Escondido Union school district called the problem of taking time from other subjects a "huge complaint" and added that the district's teachers teach math and reading but that there is "not time in the day" for science and social studies. This district official further explained:

> *[T]he logical thing to do is to try to integrate some of this together so that . . . you are teaching social studies standards at the same time you're teaching . . . some of the literacy. But that's very tricky; it takes a pretty highly skilled teacher to be able to do that. And the teachers say . . . it's just nose to the grindstone from the minute the kids enter the door until they leave.*

CHANGES IN LENGTH OF THE SCHOOL DAY SINCE NCLB

Districts reported on this year's survey that the length of the elementary school day—the number of hours and minutes students are required to be in school—has not changed much since the enactment of NCLB. As shown in **table 5**, a mere 9% of districts said the length of the school day has increased. Among these districts, the average extension was about 18 minutes. The survey did not ask district respondents to provide reasons for any reported change in the length of the school day, although experience suggests that changes are sometimes made for nonacademic purposes, such as bus schedules or makeup days for inclement weather.

Table 5. Changes in the Length of the Elementary School Day Since NCLB Was Enacted

Category of District	Day Increased	Day Decreased	Day Stayed the Same
Total (all districts)	9%	1%	91%
District Type			
Urban	5%	0%	95%
Suburban	7%	0%	93%
Rural	10%	1%	89%
Average change in length of school day among districts reporting increase or decrease	18 minutes	*	

Table reads: Ninety-one percent of districts reported that since 2001-02 or since the enactment of NCLB, the length of the school day—the number of hours and minutes students are required to be in school—has stayed about the same in elementary schools in the district.

*Sample size is too small to allow reporting.

Note: Table does not include "don't know" (2%) or "other" (1%) responses.

Note: Percentages do not always add up to 100% due to rounding.

Source: Center on Education Policy, February 2007, District Survey, item 25 (tables IT-12AA, IT-12BA, & IT-13).

Officials from some case study districts said that they rearranged the school day to provide students with additional learning time—an option that is likely not reflected in our survey findings but has been documented in other studies (Stullich et al., 2006). Our case studies corroborated this situation. For example, an administrator from Sobrante Park Elementary School in the Oakland Unified School District said that the school changed its official start time from 8:30 to 9:00 a.m. This change enables the school to offer intervention sessions from 8:00 to 8:50 a.m. for targeted groups of students who need extra instruction. Administrators from other case study schools told us that their schools have received grant funding to provide additional academic instruction before and after the regular school day. For example, at Pope Elementary school in Chicago, students who performed poorly on the state tests may participate in an academic after-school program. School officials said this program provides direct academic support for the overwhelming majority of their students—between 90% and 95% of students at this school participate in the extra hour and a half of daily instruction. Pope is a neighborhood school that students can walk to, so transportation is not an issue. Before and after-school academic sessions were common among many case study school districts.

Instructional Time at the Middle and High School Levels

At the middle school level, English language arts and math also commanded the greatest amounts of time, according to our district survey. As shown in **table 6**, middle schools spent an average of 331 minutes per week on English language arts in 2006-07—about 57 minutes more per week than they spent on math.

Table 6. Number of Minutes Per Week Devoted to Various Subjects and Activities in Middle Schools, 2006-07*

Subject Area	Average Number of Minutes Per Week
English language arts	331
Math	274
Science	250†
Social studies	248†
Foreign language‡	200
Physical education‡	178†
Art and music‡	167†
Lunch	159†

Table reads: School districts in which English language arts is applicable to most middle school students devote an average of about 331 minutes per week to this subject.

*Responses shown are from those districts that indicated that the subject was "applicable" to most students, meaning that most students enrolled in a course in that subject.

†The apparent difference between this subject and the subject listed immediately below it in the table is not statistically significant.

‡Fifty-three percent of districts selected "don't know/not applicable to all students" for the foreign language subject area, while 25% of districts selected this response for art and music, and 15% chose this response for physical education.

Source: Center on Education Policy, February 2007, District Survey, item 20 (table IT-4B).

About 24% of districts reported that their middle schools have increased instructional time in English language arts since 2001-02; the comparable figure for math was 20% of districts. Most districts reported that their middle schools devoted about the same amount of instructional time to subjects other than ELA and math as they did before NCLB took effect. Similar to the survey findings from the elementary level, a higher proportion of districts with at least one identified school (39% in ELA and 34% in math) than of districts with no identified schools (20% ELA and 16% in math) reported increasing instructional time in these subjects at the middle school level. Districts that have increased instructional time in middle schools reported adding an average of 118 minutes per week in ELA and 97 minutes per week in math.

At the high school level, the amount of coursework that students take in particular subjects is heavily influenced by their state's graduation requirements. We found that the average number of semesters that students must take in various subjects to graduate ranged from eight semesters in ELA to five in science; however, these results were from our district survey rather than a state survey. In addition, 26% of districts reported that they have increased the number of semesters of math coursework students must take to graduate, and 18% reported doing so in science. On average, these districts said high schools required an additional two semesters of coursework in both math and science. This finding is consistent with a study from the National Center for Education Statistics (2007), which concluded that high school graduates in 2005 had earned more course credits in social studies, math, and science than graduates in 2000.

Twenty-seven percent of districts reported that low-performing high school students—as defined by the state assessment used for NCLB—are required to take additional semesters of coursework in ELA and math (see **table 7**). A greater proportion of suburban school districts than of urban districts reported that they required additional semesters of coursework in math for struggling students. The districts that reported requiring additional coursework added an average of two extra semesters in ELA and in math.

Most districts had not increased the length of the school day at the middle or high school level—only 8% reported doing so in middle schools, and only 6% reported doing so in high school. These districts added an average of 20 minutes at the middle school level and 25 minutes at the high school level.

Table 7. Percentage of Districts Requiring Low-Performing High School Students to Take Additional Semesters of Coursework

Subject Area	Proportion of All Districts
English language arts	27%
Math	27%
Social studies	5%
Science	7%

Table reads: Twenty-seven percent of districts surveyed reported that they require low-performing high school students—as defined by the state assessment used for NCLB—to take additional semesters of coursework in English language arts.

Source: Center on Education Policy, February 2007, District Survey, item 24 (table IT-10).

Case study interviews offer some insight into these reported trends in instructional time at the middle and high school levels. The deputy superintendent of the Calhoun County School District in Alabama reported that the district is focusing on literacy skills during a one-hour intervention period in middle school. During this period, struggling students receive more concentrated instruction while other students participate in a literacy block in 7th and 8th grades. A district official from the Fayetteville, Arkansas, Public Schools reported that struggling junior high students (as determined by state tests used for NCLB) also have extra literacy instruction and math instruction. In some junior high and high schools in the Fayetteville district, struggling students participate in a math lab, which takes the place of one elective.

Extra instruction in academic subjects sometimes takes the place of electives. At Fowler Middle School in the Tigard-Tualatin school district in Oregon, the schedule includes a "matrix" period that meets three days per week, according to the school principal. During this period, some students receive additional instruction in academic literacy, while others may take an additional elective, such as a foreign language or jazz band. The remaining two days of the week, students either take a second exploratory elective or participate in Soar to Success, a reading program for students struggling with comprehension skills. Students are selected for this program based on assessment results and teacher recommendations. High schools in the Tigard-Tualatin district use a similar schedule for their struggling readers.

Curriculum Changes

To better understand changes in the curriculum since NCLB took effect, we asked districts about their efforts since 2001-02 to align curriculum with the state assessment used for NCLB and other changes in curriculum intended to put greater emphasis on the content and skills covered on the state test used for NCLB. Additional research is needed at the classroom level to point to even more specific changes in instruction and classroom practices.

CURRICULUM ALIGNMENT

Nearly all districts—approximately 99%—reported that they have a required English language arts and mathematics curriculum for the elementary, middle, and high school levels. Of these districts with required curricula, between 73% and 77% report that as of school year 2006-07, their ELA and math curricula at the elementary, middle, and high school levels are "very well aligned" with the state assessment used for NCLB. Between 21% and 22% of districts said these curricula were "fairly well aligned," and less than 1% said their curricula were "poorly" or "not at all aligned" for various reasons. There were no significant differences in reporting based on district type, size, or school identification status.

Case study interviewees explained their ongoing processes to align curriculum. The superintendent of the Meridian, Idaho, school district said that the district received a grant before NCLB to revise the entire curriculum (preK-12), which was an extensive and comprehensive process. District officials and teachers began with curriculum mapping and realized there were some redundancies and holes in the curriculum across the district. So they realigned the curriculum in each subject and at each grade level according to the national standards adopted by the appropriate subject area association (such as the National Council of Teachers of Mathematics and the National Council of Teachers of English). Around 2001, the Idaho state department of education developed its own standards, which were also based on common standards adopted by the individual disciplines. In the last few years, the dis-

trict has tweaked its adopted standards, the superintendent said, and has developed a curriculum scope and sequence "with a lot of supporting documents, so that teachers knew exactly what the expectations were for each grade level and each subject."

Officials in the Sheboygan, Wisconsin, school district said the district's teachers were closely involved in whittling down the state standards to what they believe are the most essential ones. In the last two years, teachers and district officials developed common assessments of these standards that they feel mirror the state's standards.

Both district and school officials from the Bayonne City school district said that all of the materials purchased in the district are aligned to the New Jersey state standards. In addition the principal of Bayonne's Lincoln Community School reported that teachers are required to write the standard they are teaching to in their plan books. The assistant superintendent of schools for curriculum and instruction in Bayonne acknowledged that "we're very much aware of the standards, and this was not the case prior to No Child Left Behind." A few officials from other case study districts explained that they do not currently have a solidly aligned districtwide curriculum for each subject by grade level but that they are working on developing one.

RELATIVE EMPHASIS ON TESTED SUBJECTS

Since 2001-02, about 50% of districts reported that they have changed the elementary school English language arts curriculum "to a great extent" to place more emphasis on the content and skills covered on the state tests used for NCLB. As shown in **table 8**, 41% of districts reported doing the same in math. At the middle school level, about 43% of districts reported that they have changed the English language arts curriculum to a great extent, and 42% said they have changed the math curriculum to a great extent to put greater emphasis on tested content and skills. (Science and social studies were included in our survey questions because they are core academic subjects.) The responses were very similar in these subjects at the high school level.

It is important to note that district survey respondents were not asked to specifically explain these curricular changes. Therefore, additional research is needed to examine these questions more extensively. Further, increased emphasis on the content and skills included on the state tests may be interpreted as either positive or negative. Studies by other groups provide a more in-depth analysis of the effects of state assessments on classroom practices and instruction, as well as the possible positive and negative effects of alignment and high-stakes tests (Hamilton et al., 2007; Koretz, 2005).

TEST PREPARATION AND OTHER CASE STUDY FINDINGS

Our survey asked districts if they required classroom instruction in test-taking skills to raise student achievement in Title I schools identified for improvement under NCLB. About 29% of districts reported taking this step to improve achievement, making it one of the least used strategies among such strategies as increasing the use of student achievement data to inform instruction and other decisions, or increasing the quality and/or quantity of teacher and principal professional development. (For more information on strategies used by districts to assist schools in improvement see the aforementioned CEP report, *Moving Beyond Identification: Assisting Schools in Improvement*.) Since the survey respondents were district-level administrators, the survey did not capture the views of teachers, who may have different perspectives on the extent to which test preparation strategies are integrated into the curriculum.

Table 8. Extent to Which Districts Changed Their Curriculum to Put More Emphasis on Content and Skills Covered on State Tests Used for NCLB

Subject Area	To a Great Extent	Somewhat	A Little	Not at All
Elementary School Level				
English language arts	50%	34%	8%	8%
Math	41%	40%	10%	9%
Science	22%	32%	27%	20%
Social studies	15%	29%	27%	29%
Middle School Level				
English language arts	43%	36%	11%	10%
Math	42%	39%	9%	10%
Science	22%	34%	21%	22%
Social studies	18%	32%	23%	27%
High School Level				
English language arts	41%	35%	12%	12%
Math	43%	35%	12%	10%
Science	31%	32%	18%	19%
Social studies	23%	33%	21%	24%

Table reads: Fifty percent of districts reported that they have changed their elementary school curriculum in English language arts "to a great extent" to put greater emphasis on the content and skills covered on the state tests used for NCLB.

Note: Percentages do not always add up to 100% due to rounding.

Source: Center on Education Policy, February 2007, District Survey, items 27, 28, & 29 (tables ISP-3A, ISP-4A, & ISP-5A).

Our case study districts provided some additional insight on these efforts. Many case study interviewees reported that, although test preparation activities are not considered part of the formal district curriculum, schools are paying more attention to the kinds of questions included on the state-mandated tests. For example, district and school officials from the Bayonne City district said they are paying far more attention to open-ended questions and are using scoring rubrics to evaluate children's writing. The assistant superintendent of schools for curriculum and instruction in Bayonne remarked that "these are things that really were never even part of our vocabulary prior to NCLB, and they are a major part of our instructional program now."

The chief academic officer of the Cleveland Municipal school district noted that test preparation is integrated into daily instruction. When district staff analyzed state test data, they found a glaring deficiency in students' ability to write short-answer and extended responses to open-ended test questions, to the point that a large percentage of students did not even attempt to answer these questions. In school year 2006-07, this official reported that the district focused on improving students' ability to answer these types of questions successfully. The chief academic officer commented:

> *So is that a test preparation skill? Yes, it is, because they're going to be faced with that task on a test, but it's also an instructional and a learning tool as well because not only can they take the model that we're rolling out for short and extended response but they can also use that same model when they have to do a full-blown writing sample . . . So it's not that we're going to have a two-week time frame where we do just test prep; it happens every day.*

Other case study districts mentioned similar approaches to integrating test preparation into the curriculum.

Officials from every case study district talked about changes in curriculum since the enactment of NCLB, although these changes were not always made in response to the federal legislation. For example, officials from the Chicago Public Schools emphasized that it is difficult to isolate the extent to which changes in curriculum were made in direct response to NCLB rather than to the district's own goals. Still, most of the changes mentioned by officials in case study districts focus on tested subjects. Some interviewees said their districts adopted new reading and/or math programs. Others pointed to the use of curriculum mapping and alignment efforts in the core content areas, along with pacing guides, literacy and math coaches, and teacher professional development. Officials from the Chicago, Fayetteville, and Sheboygan school districts—to name just a few—explained various benchmark, formative, or common assessment programs that teachers are using to diagnose which skills students have mastered and which skills teachers must focus on to better prepare students for state tests.

Studies by other groups, such as the aforementioned RAND study, provide a more in-depth analysis of the effects of state assessments on classroom practices and instruction (Hamilton et al., 2007).

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