Research Data Brief

Academic Productivity Series

Annual CPS Test Trend Review, 1999

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May 2000

In the past few years, the Chicago Public Schools (CPS) has made several policy changes that affect the uses of students' test scores for accountability purposes. These changes have affected the composition of the student population whose test scores are publicly reported annually. As a result, it has become more difficult to interpret current test scores in relation to earlier results. Because it is not immediately clear how many of the changes may be due to changing reporting procedures rather than genuine improvements in school achievement, we are introducing several adjustments to help understand the underlying trends.

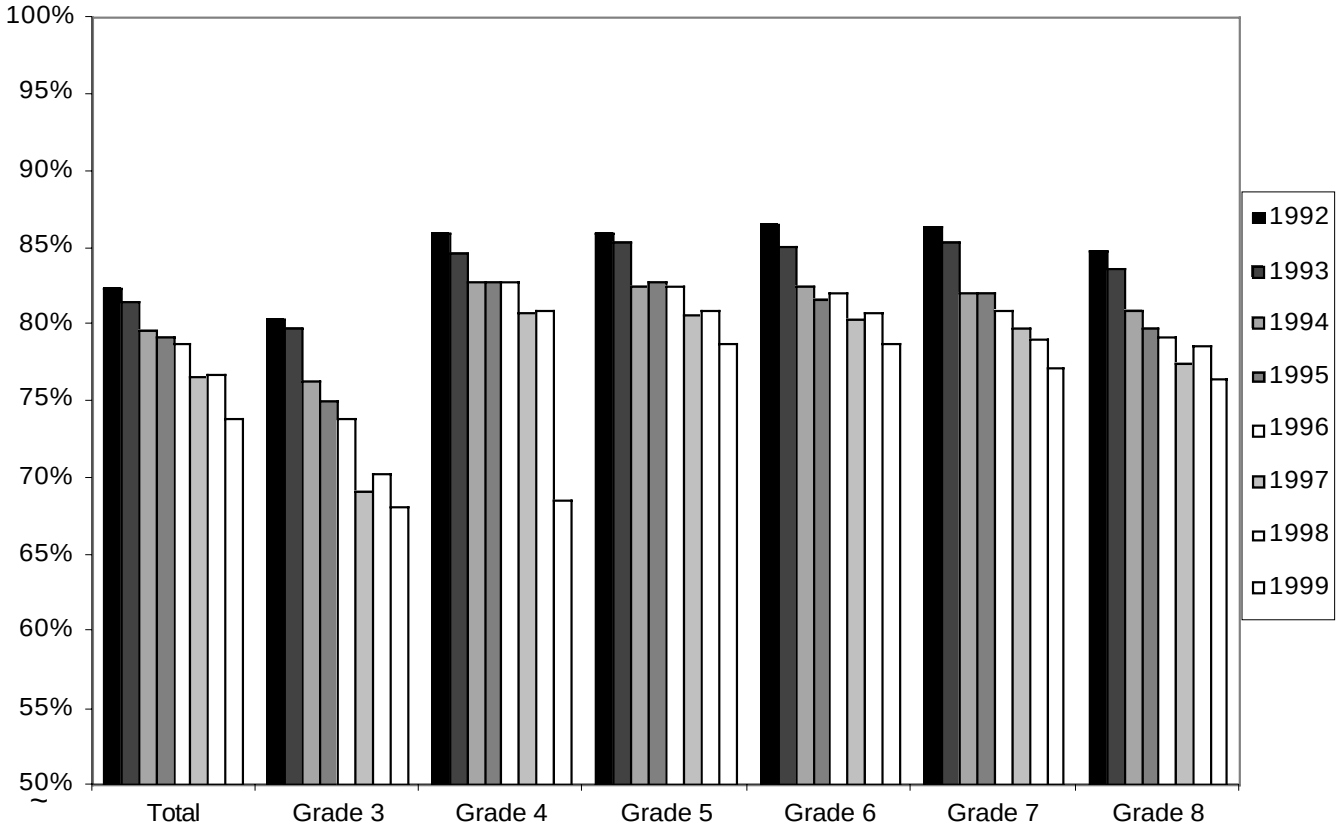
In a late 1998 publication, researchers at the Consortium on Chicago School Research adjusted the 1998 Iowa Tests of Basic Skills (ITBS) scores for grade-level compositional changes that resulted from implementing the new CPS promotion policy. We found that even after those adjustments, the overall systemwide scores were still up from 1997. This current data brief updates that effort to monitor ITBS achievement results in the Chicago Public Schools and introduces other relevant factors into the discussion as well. These two research data briefs mark the beginning of a series of annual reports from the Consortium, analyzing ITBS trends in the CPS.

Part 1. Who Is Tested and Who Is Included in the Accountability System?

Chicago Public Schools administers the Iowa Tests of Basic Skills late in the spring each year in all elementary schools. All but a small portion of students in grades three through eight take the tests.[1] However, not all students who take the test are included in CPS's accountability system. Some who take the test are not counted in reports that are used to judge progress of the

Figure 1

ITBS Inclusion Rates



Note: See Table A for more detail, including grade 20.

school system over time, nor are they included in statistics used to determine whether schools are put on or taken off probation. Similarly, most of the students whose scores are excluded from the accountability system are not subject to the test score requirements of the student promotion policy. The changing exclusion rates make it difficult to draw accurate judgments about school improvement and student progress in many schools, as well as across the system as a whole.

Although total enrollment in CPS elementary schools increased during the second half of the 1990s, the percent of students whose test scores are included in the annual report decreased. In 1992, 82.3 percent of students were included in the public reporting of Iowa Tests of Basic Skills scores. In 1999, the most recent citywide test administration, the percent of students included was down to 73.9. The lowest inclusion rate occurs in the third grade, where almost one-third of students are not counted in the accountability system.[2] Figure 1 displays the inclusion rates by grade for the years 1992 to 1999. (Table A, pages 12 amd 13, contains greater detail, including the total enrollment in CPS's target accountability population, the number of students tested and included, the number tested but excluded, and the number not tested for 1992 to 1999.) For the most part, the decline in inclusion rates is incremental each year, though there are relatively large declines in inclusion among third graders in 1997 and among fourth graders in 1999.

These drops in inclusion are driven by two trends: changing demographics and administrative change in the testing policy. Most important is the increasing number of students in bilingual education programs. This group of children represents a growing portion of CPS enrollment and is projected to continue increasing over the next several years.

CPS has changed its policy twice over the last three years on the exclusion of bilingual students from the accountability system. In 1997 and 1998, students were not counted in traditional test score reports until after they had completed three full years (beyond kindergarten) in a bilingual program. Therefore, most English language learners entered the accountability system for the first time in fourth grade. In 1999, fifth grade became the point where test scores for large numbers of bilingual education students were included (after four years). As a result, the inclusion rate for fourth grade dropped. Concurrent with this 1999 change, CPS required bilingual education students to be tested on the ITBS after their second year in the program, rather than their third year, thus increasing the number of students actually tested though not included.

A separate change in testing practice occurred in 1997. Prior to that date, any bilingual students who were tested were included in test reporting, whether or not they were required to be tested (that is, after three full years). In order to remove this disincentive, CPS allowed for students to be tested earlier and excluded from the public reporting system, so that they would not "count against" their school. The increased testing of bilingual students is responsible for a drop in inclusion among third graders in 1997.

Recent changes in special education policies have also contributed to increased numbers of students in grades three through eight, though few of the students responsible for the increase in enrollment are included in the test accountability system. In the past, a significant number of special education students were placed in "non-graded" classrooms and assigned a grade code of 20 in the student information system. As grade 20s, these students were almost never counted in the testing results, not only because of their disabilities, but also because administratively they were not enrolled in regular grades three though eight. Outside of these regular grades, the scores did not fit in the CPS reporting framework.

CPS has greatly reduced the number of students in "grade 20." In 1992, 6,180 students (in the appropriate age range for grades three through eight) were classified as grade 20. By 1999, only 773 were (see Table A). Although very few of these students are (or ever were) included in traditional test reporting,[3] they are now classified in regular grades and counted either as not tested or as tested but excluded.

Table B, page 14, provides further detail on the reasons why student scores were excluded from reporting for the past three years (the years for which data are most readily available). The multiple changes in inclusion patterns over the years reflect reasonable policy changes that conform to special education regulations and legal mandates. They are intended to expose students to the test earlier and to respond to the requirement for greater mainstreaming of special education students. Nonetheless, they still complicate interpretations of the test score trends, particularly in the early grades.

Part 2. Elementary School Test Score Trends in CPS

Test scores in CPS elementary schools have been rising for several years now. Several factors (in addition to the changing inclusion criteria described above) complicate interpretation of the rising test scores, however. Chief among these is the effect of the retention policy on the student composition of grades three through eight. Increasingly, the new promotion policy is changing what it means to be enrolled in a specific grade. Since fall 1997, for example, the third grade comprises first-time students as well as significant numbers of second-time third graders—students repeating the third grade because they did not reach a specified test score cutoff. In the 1999 school year, there were even some students enrolled in the third grade for a third time. Prior to 1997, relatively few students were held back, so that the third grade was composed primarily of students enrolled as first-time third graders. Now we have increased numbers of ten and eleven year olds in third grade. Because of this shift in the grade-level composition, simple comparisons of scores over time can be misleading.

The retention policy not only affects test scores in grades three, six, and eight (those grades targeted by the promotion policy), it also affects scores in adjacent higher grades because these grades now have lower enrollments. Moreover, because weaker students are now held back, the scores in fourth, seventh, and ninth grades are inflated by this factor. Again, we are concerned about trying to ascertain the extent to which the increases are due to changes in which students are counted in each grade versus real improvements in school performance.

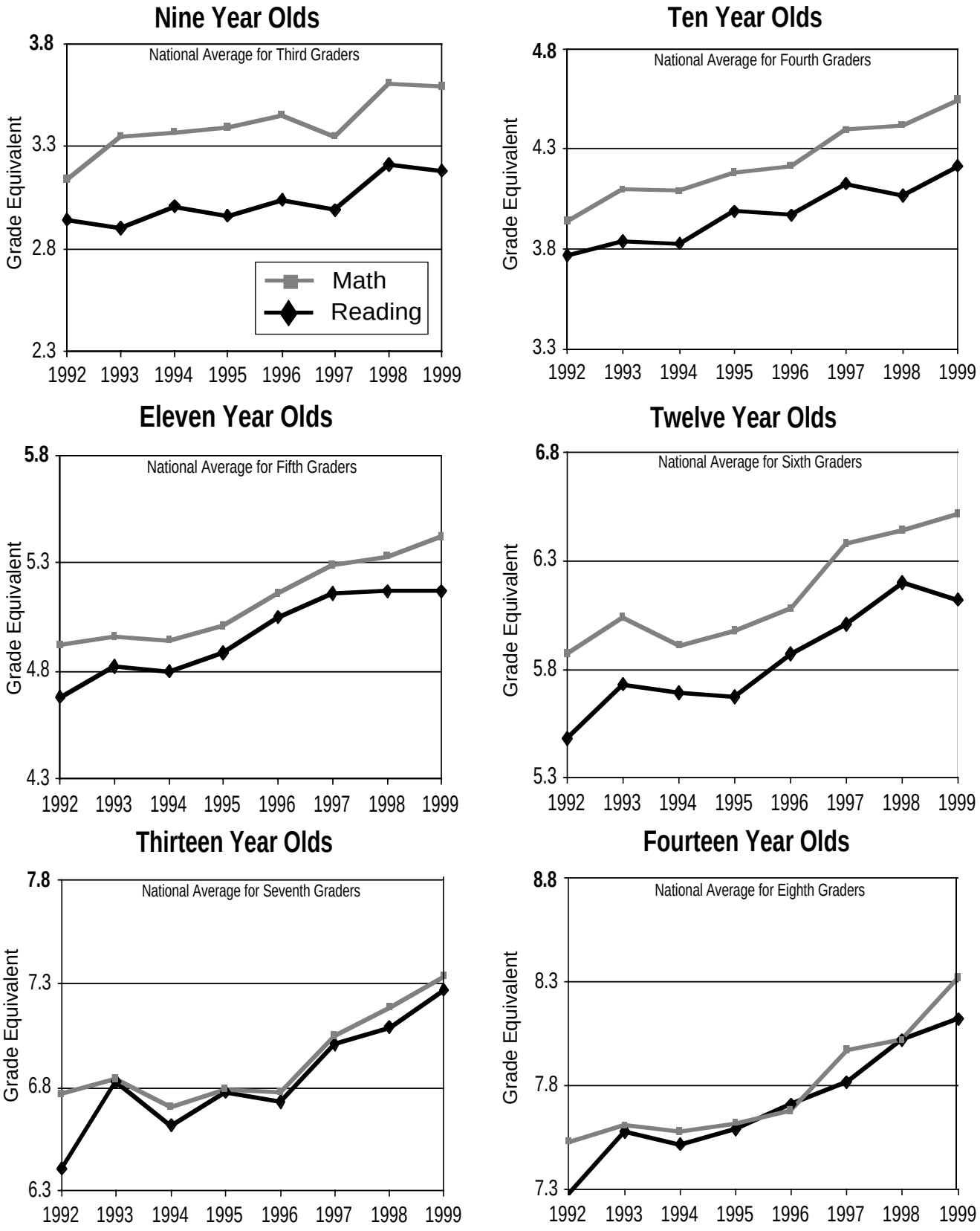
The first year after the new policy, it was relatively easy to adjust for these changes by removing the retained students from their retained grades and counting their scores with the grades they would have been in prior to the policy. But after two years, more grades and more students are affected by retentions. For example, in 1998 the fifth grade was not affected by changing retentions in the third and sixth grades. In 1999, however, the fifth grade is missing students who were retained in third grade in 1997. Instead of being in fifth grade in 1999, they were in the fourth grade. The simple techniques that we used to adjust scores in 1998 are no longer sufficient to deal with the greater complications of grade enrollments.

By reporting the test score trends by age groups rather than grade, we can keep the comparison group constant over time. In this study, we defined age in such a way as to complement CPS age requirements for entry into school. For example, the nine year old group (usually third graders) consists of all students whose ninth birthday fell between September 1 and August 31 of a given academic year.[4] For school year 1998-99, all students who celebrated their ninth birthday on any date between September 1, 1998 and August 31, 1999 are classified as nine year olds.

The test score trends by age are displayed in Figure 2. The outcome measure plotted on these graphs is the mean (average) grade equivalent, rather than any of the alternative statistics, such as percent at or above grade level, median percentile, or median grade equivalent. We argued in a 1998 Consortium report that the mean is the most sensible single statistic to report, given that it is sensitive to the performance of all included students, un-

Figure 2

ITBS Grade Equivalents by Age



Note: See Tables C and D, pages 15 and 16, line “All”, for more detail.

like other indicators that are mostly influenced by groups of students clustered in narrow score ranges.[5]

Because of changes in inclusion rules, we have made additional adjustments, reflected in Figure 2. To make test scores as comparable as possible over time, we added back in a group of students in 1999 who would have been included in 1997 and 1998. This adjustment had the greatest effect on ten year olds in 1999 when we added 3,800 students back in. On average, these students score lower than other ten year olds, so when they are added back into the total, they have the effect of bringing the average down. Because ten year olds (fourth graders) were most affected by this policy change, the adjustments make little difference among other age groups, though there is a notable difference for eleven year olds in reading and math.

We also subtracted a small group of students in 1995 and 1996. These are students who were included in those years, but would not have been had the 1997 and 1998 rules applied. Relatively few students are affected by this adjustment and the aggregate test scores change very little as a result.

Overall, CPS elementary school test scores continue to improve after the adjustments described above. Figure 2 indicates continuing, long-term improvement trends across all grades in math. Upward, positive trends in both reading and math are apparent among older students (13 and 14 year olds). In the last two years, reading improvement at ages 9, 11, and 12 appears to have slowed.

The achievement gap between minority and non-minority students has received a great deal of national attention and many strategies are being implemented to address this issue.[6] Thus, we continue that line of investigation in this study by disaggregating the trends shown in Figure 2 by student race/ethnicity (see Figure 3). Disaggregation allows us to examine the extent to which different racial/ethnic groups are participating in the upward trends in test scores. We found the following:

- In both reading and math, Asian and white students score consistently higher than Latino and African-American students. Asian and white students tend to be above the national average grade level; Latino and African-American students tend to be below grade level.

- The trends of African-American students and Latino students are relatively similar to each other over time in both reading and math, though Latino students score slightly higher in math than African-American students.

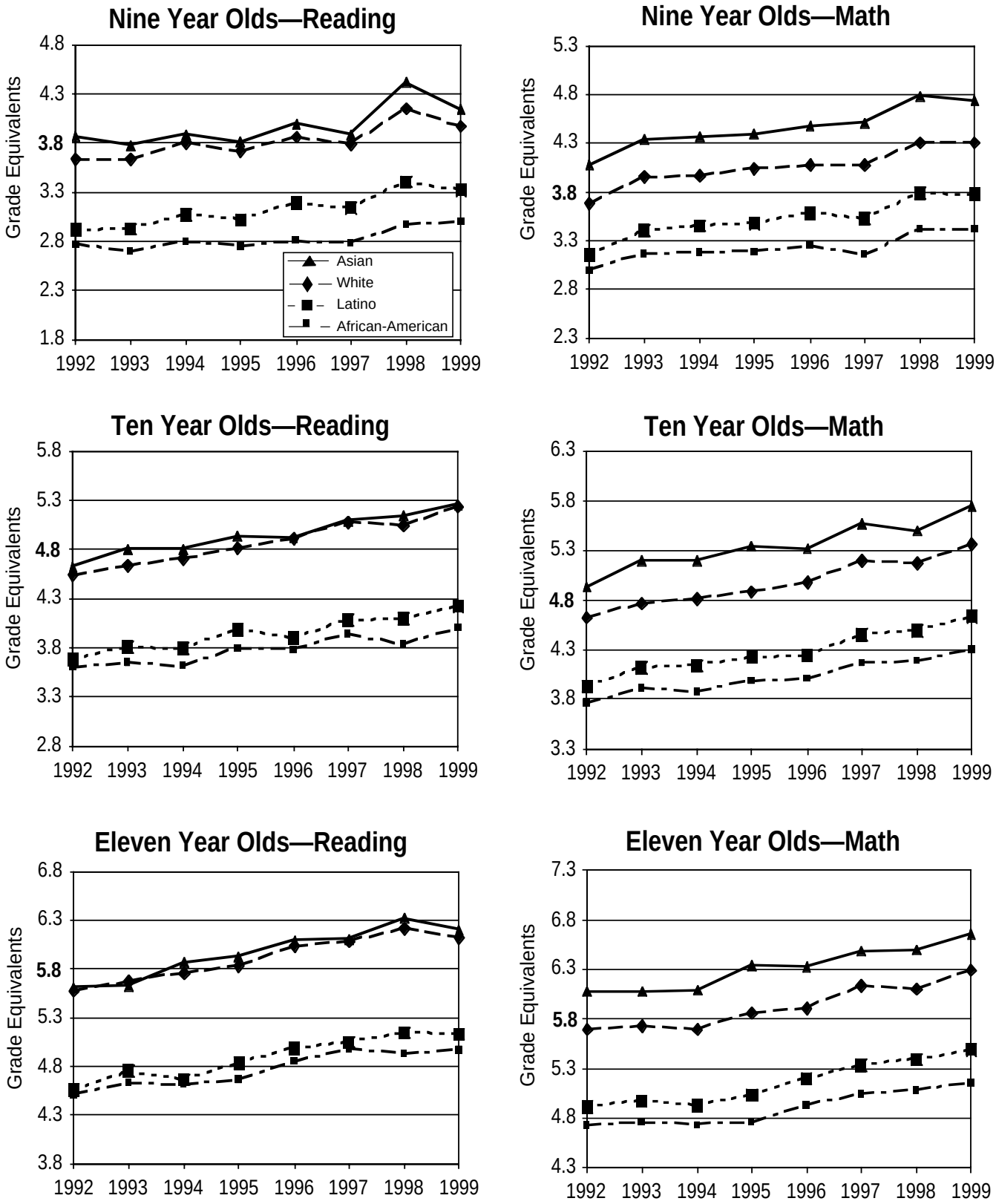
- The trends of white and Asian students are similar to each other in reading and math, but Asian students score significantly higher in math than white students.

- In general, African-American and Latino students' scores made slightly smaller improvements than white and Asian students in the period 1992 to 1999, though in more recent years, the improvements for these students have accelerated, especially for the twelve to fourteen year old students.

- We note that adjusting the 1999 test score average for the bilingual policy changes affects Latino, Asian, and white students' test scores, particularly ten year olds. In all cases, the adjustment lowers the average score.

Figure 3

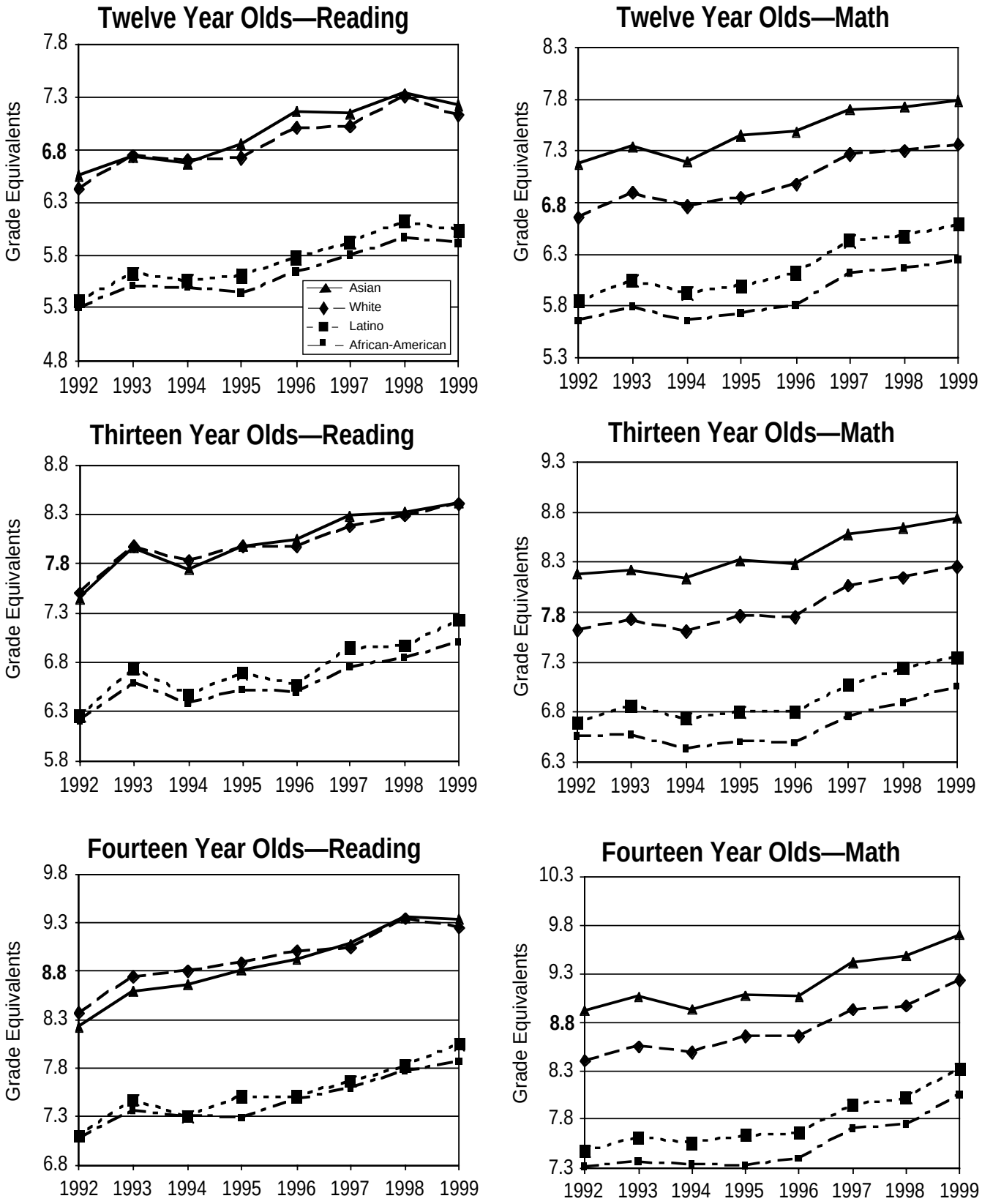
Average ITBS Results by Race/Ethnicity



Note: The bold-faced Grade Equivalent (GE) on the left axis indicates the national average GE for that grade level. See Tables C and D, pages 15 and 16, for more detail.

Figure 3
continued

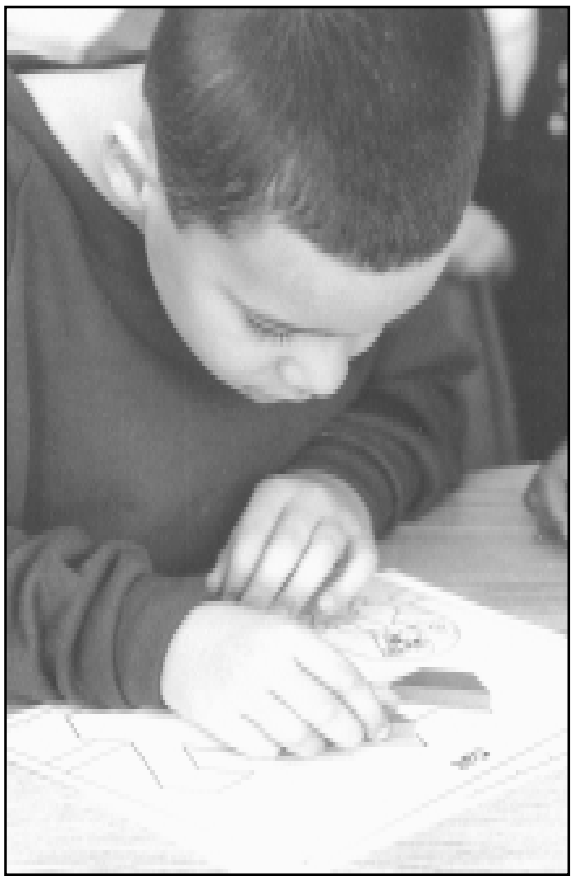
Average ITBS Results by Race/Ethnicity



Note: The bold-faced Grade Equivalent (GE) on the left axis indicates the national average GE for that grade level. See Tables C and D, pages 15 and 16, for more detail.

Part 3. Trends in Learning Gains Over Time

Although the test score trends described in the previous section suggest general improvements in the CPS, the average achievement level is not the best indicator of school improvement systemwide. For a more careful look at system changes, we turn to an investigation of gains in students' test scores over time. As we argued in our 1998 study,[7] because gains measure the amount of learning that has taken place from one time point to another. By comparing changes in gains over time, we have our best information about changes in the overall productivity of the CPS. Because gains are calculated by subtracting a previous year's score from the subsequent score, they also introduce a control for mobility into and out of the school system.

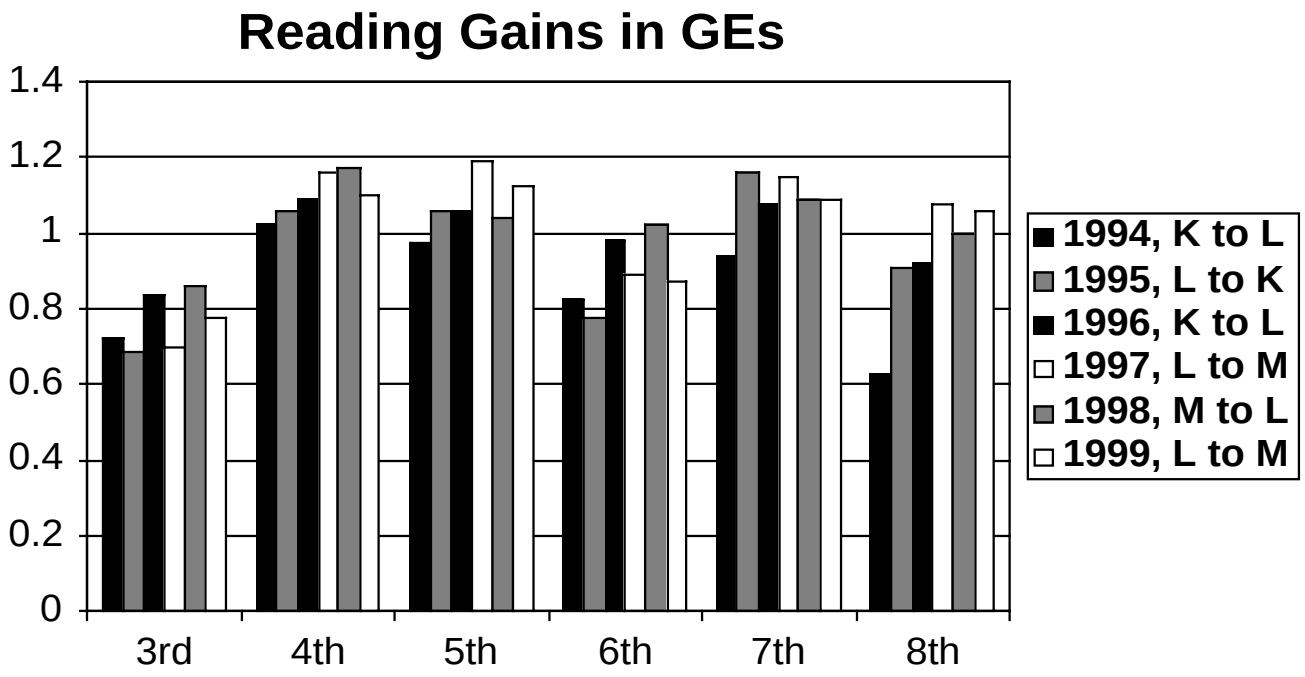


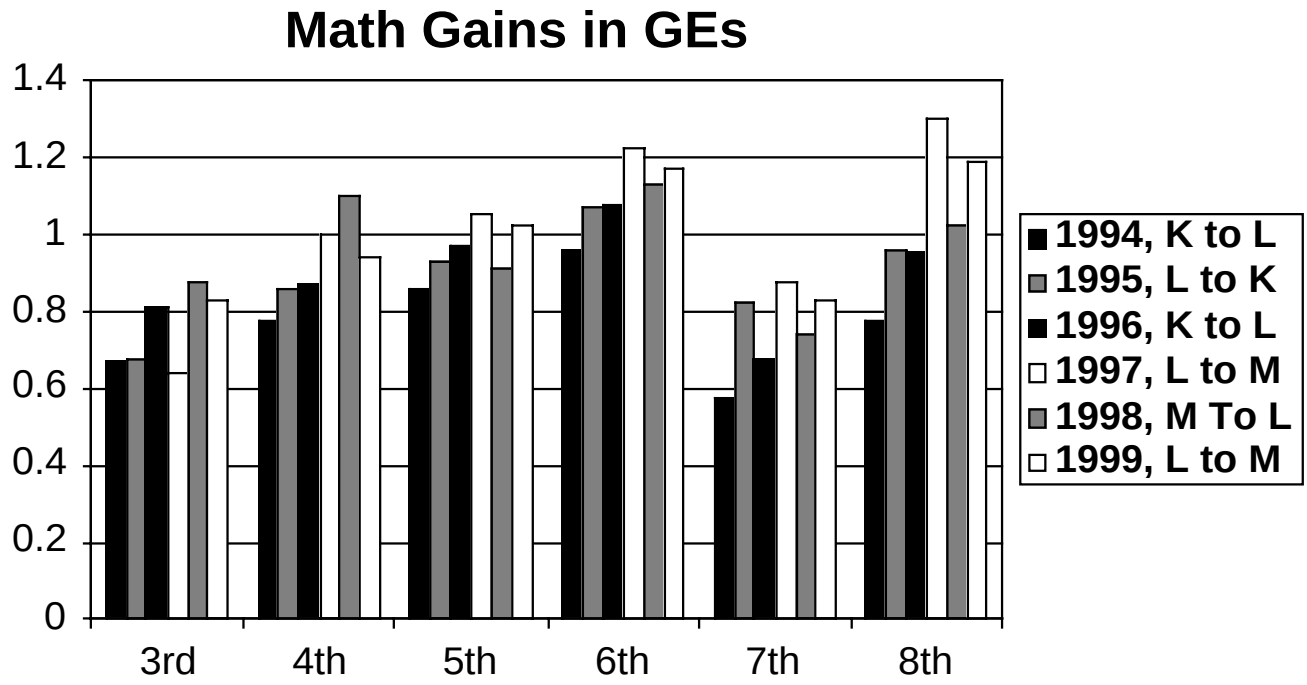
John Booz

Simple comparisons of gain scores are, however, complicated by changes in the specific form of the ITBS administered from year to year. CPS has used four separate ITBS forms since 1992: Form H in 1992, Form K in 1993 and 1995, Form L in 1994, 1996, and 1998, and Form M in 1997 and 1999. As we have shown previously, this adds considerable variability to the data, making analysis of trends more difficult. Fortunately, there are two comparisons that are straightforward. Both the 1994 and the 1996 gains are computed from a K to L form pattern, so they are directly comparable to each other. Similarly, the 1997 and the 1999 gains are computed from forms L and M and can be compared to each other.

Figure 4 documents consistently higher gains in all grades in 1996 than in 1994, indicating a broad-based improvement in academic productivity in CPS elementary schools in this period of time. Looking forward to more recent years, the 1999 gains declined slightly in comparison to the 1997 gains in all but third grade. This suggests the possibility that gains in productivity in CPS may have peaked, though they are higher now than they were earlier. For example, the average math gain for fifth graders in 1995 was 0.93 GEs. By 1999, this increased to 1.02 GEs. In short, the system is now operating at a higher level of productivity than five years earlier, although our evidence suggests that the gains may no longer be increasing. As a result, test scores should continue to increase over the next several years, though at a diminished rate, until whole groups of children have experienced the improved productivity across grades three through eight. Subsequently, we would expect aggregated trends to flatten out, until there is a renewed surge in productivity improvement.

Figure 4





See Table E, page 17, for more detail.

Tables

Table A

CPS Spring Enrollment Grades 3 to 8, Including Non-Graded Special Education Students, by Test Inclusion Category

Grades 3 to 8, Plus Non-Graded Special Education Students of Same Ages

	Total Enrollment	Tested and Included	Tested but Excluded	Not Tested	Percent of Total Included
1999	201,027	148,656	38,954	13,417	73.9%
1998	197,262	151,557	26,861	18,844	76.8%
1997	193,007	147,779	24,318	20,910	76.6%
1996	190,680	150,160	18,710	21,810	78.7%
1995	191,411	151,528	17,557	22,326	79.2%
1994	193,286	153,835	16,736	22,715	79.6%
1993	195,665	159,467	16,024	20,174	81.5%
1992	193,021	158,898	15,710	18,413	82.3%

Grade 3	Total Enrollment	Tested and Included	Tested but Excluded	Not Tested	Percent of Total Included
1999	41,083	27,994	10,435	2,654	68.1%
1998	39,467	27,739	5,318	6,410	70.3%
1997	34,823	24,113	3,965	6,745	69.2%
1996	33,075	24,419	2,135	6,521	73.8%
1995	32,673	24,533	1,906	6,234	75.1%
1994	32,982	25,179	1,838	5,965	76.3%
1993	33,067	26,342	1,696	5,029	79.7%
1992	30,808	24,729	1,539	4,540	80.3%

Grade 4	Total Enrollment	Tested and Included	Tested but Excluded	Not Tested	Percent of Total Included
1999	34,669	23,785	8,832	2,052	68.6%
1998	29,671	23,999	3,461	2,211	80.9%
1997	32,367	26,168	3,496	2,703	80.8%
1996	31,969	26,481	2,673	2,815	82.8%
1995	32,591	26,987	2,476	3,128	82.8%
1994	32,171	26,677	2,326	3,168	82.9%
1993	30,633	25,925	2,090	2,618	84.6%
1992	31,464	27,021	2,014	2,429	85.9%

Grade 5	Total Enrollment	Tested and Included	Tested but Excluded	Not Tested	Percent of Total Included
1999	30,116	23,736	4,545	1,835	78.8%
1998	31,723	25,657	4,055	2,011	80.9%
1997	31,361	25,286	3,786	2,289	80.6%
1996	31,940	26,366	3,019	2,555	82.5%
1995	31,539	26,112	2,751	2,676	82.8%
1994	30,023	24,932	2,551	2,740	83.0%
1993	31,175	26,632	2,338	2,205	85.4%
1992	31,690	27,226	2,320	2,144	85.9%

Grade 6	Total Enrollment	Tested and Included	Tested but Excluded	Not Tested	Percent of Total Included
1999	33,344	26,228	5,190	1,926	78.7%
1998	33,462	27,004	4,505	1,953	80.7%
1997	31,513	25,305	4,031	2,177	80.3%
1996	30,928	25,359	3,138	2,431	82.0%
1995	29,699	24,254	2,914	2,531	81.7%
1994	30,732	25,363	2,806	2,563	82.5%
1993	31,372	26,704	2,519	2,149	85.1%
1992	32,879	28,425	2,440	2,014	86.5%

Grade 7	Total Enrollment	Tested and Included	Tested but Excluded	Not Tested	Percent of Total Included
1999	30,702	23,715	5,009	1,978	77.2%
1998	28,494	22,551	4,074	1,869	79.1%
1997	30,210	24,098	3,876	2,236	79.8%
1996	29,040	23,526	3,087	2,427	81.0%
1995	29,874	24,488	2,933	2,453	82.0%
1994	30,515	25,053	2,770	2,692	82.1%
1993	32,212	27,514	2,430	2,268	85.4%
1992	30,841	26,612	2,246	1,983	86.3%

Grade 8	Total Enrollment	Tested and Included	Tested but Excluded	Not Tested	Percent of Total Included
1999	30,340	23,189	4,891	2,260	76.4%
1998	31,267	24,585	4,335	2,347	78.6%
1997	29,395	22,782	3,851	2,762	77.5%
1996	30,270	23,979	3,238	3,053	79.2%
1995	31,485	25,101	3,086	3,298	79.7%
1994	33,042	26,773	2,760	3,509	81.0%
1993	31,371	26,226	2,248	2,897	83.6%
1992	29,159	24,748	2,178	2,233	84.9%

“Non-graded” Special Education Students (Grade 20) in Grades 3 to 8 Age Range

	Total Enrollment	Tested and Included	Tested but Excluded	Not Tested	Percent of Total Included
1999	773	9	52	712	1.2%
1998	3,178	22	1,113	2,043	0.7%
1997	3,338	27	1,313	1,998	0.8%
1996	3,458	30	1,420	2,008	0.9%
1995	3,550	53	1,491	2,006	1.5%
1994	3,821	58	1,685	2,078	1.5%
1993	5,835	124	2,703	3,008	2.1%
1992	6,180	137	2,973	3,070	2.2%

Table B

Reasons for Exclusion from Reporting

Grades 3 to 8, Plus Non-Graded Special Education Students of Same Ages

	Total, Tested but Excluded	Special Education	Bilingual Education	Both SpecEd and BilingEd
1999	38,954	20,522	15,358	3,074
1998	26,861	19,790	4,451	2,620
1997	24,318	18,486	3,583	2,249

Grade 3	Total, Tested but Excluded	Special Education	Bilingual Education	Both SpecEd and BilingEd
1999	10,435	2,849	7,114	472
1998	5,318	2,529	2,485	304
1997	3,965	2,118	1,598	249

Grade 4	Total, Tested but Excluded	Special Education	Bilingual Education	Both SpecEd and BilingEd
1999	8,832	3,175	5,118	539
1998	3,461	2,485	559	417
1997	3,496	2,621	499	376

Grade 5	Total, Tested but Excluded	Special Education	Bilingual Education	Both SpecEd and BilingEd
1999	4,545	3,051	969	525
1998	4,055	3,162	416	477
1997	3,786	2,942	423	421

Grade 6	Total, Tested but Excluded	Special Education	Bilingual Education	Both SpecEd and BilingEd
1999	5,190	3,820	807	563
1998	4,505	3,619	371	515
1997	4,031	3,260	378	393

Grade 7	Total, Tested but Excluded	Special Education	Bilingual Education	Both SpecEd and BilingEd
1999	5,009	3,814	667	528
1998	4,074	3,323	339	412
1997	3,876	3,145	332	399

Grade 8	Total, Tested but Excluded	Special Education	Bilingual Education	Both SpecEd and BilingEd
1999	4,891	3,761	683	447
1998	4,335	3,603	281	451
1997	3,851	3,172	353	326

"Non-graded" Special Education Students (Grade 20) in Grade 3 to 8 Age Range

	Total, Tested but Excluded	Special Education	Bilingual Education	Both SpecEd and BilingEd
1999	52	52	0	0
1998	1,113	1,069	0	44
1997	1,313	1,228	0	85

Table C

Mean ITBS Reading Grade Equivalent Scores

	1992	1993	1994	1995	1996	1997	1998	1999
9 Year Olds								
White	3.64	3.64	3.80	3.72	3.86	3.79	4.15	3.97
African-American	2.77	2.70	2.80	2.75	2.82	2.79	2.98	3.00
Asian	3.87	3.78	3.89	3.82	3.99	3.89	4.42	4.14
Latino	2.92	2.93	3.07	3.03	3.19	3.15	3.41	3.32
All	2.94	2.90	3.01	2.96	3.04	2.99	3.21	3.18
10 Year Olds								
White	4.54	4.64	4.71	4.82	4.91	5.08	5.05	5.23
African-American	3.61	3.65	3.62	3.79	3.78	3.94	3.83	4.00
Asian	4.62	4.80	4.81	4.94	4.93	5.09	5.14	5.26
Latino	3.69	3.81	3.79	3.99	3.90	4.08	4.10	4.23
All	3.77	3.84	3.83	3.99	3.97	4.13	4.07	4.22
11 Year Olds								
White	5.58	5.67	5.76	5.83	6.03	6.08	6.21	6.12
African-American	4.51	4.63	4.62	4.67	4.84	4.98	4.93	4.96
Asian	5.61	5.63	5.86	5.93	6.09	6.10	6.32	6.20
Latino	4.56	4.75	4.67	4.83	4.99	5.05	5.14	5.13
All	4.68	4.82	4.80	4.88	5.05	5.16	5.17	5.17
12 Year Olds								
White	6.43	6.74	6.70	6.72	7.01	7.02	7.31	7.13
African-American	5.30	5.51	5.49	5.44	5.64	5.80	5.96	5.91
Asian	6.55	6.73	6.67	6.85	7.17	7.14	7.33	7.22
Latino	5.36	5.63	5.56	5.60	5.77	5.92	6.12	6.04
All	5.48	5.73	5.69	5.67	5.87	6.01	6.20	6.12
13 Year Olds								
White	7.51	7.97	7.83	7.97	7.97	8.18	8.28	8.41
African-American	6.21	6.59	6.39	6.52	6.50	6.75	6.85	7.00
Asian	7.45	7.96	7.75	7.97	8.04	8.28	8.32	8.42
Latino	6.25	6.73	6.47	6.69	6.57	6.94	6.97	7.23
All	6.41	6.83	6.62	6.77	6.73	7.01	7.09	7.27
14 Year Olds								
White	8.37	8.75	8.80	8.89	9.01	9.04	9.34	9.25
African-American	7.08	7.36	7.31	7.29	7.48	7.59	7.77	7.87
Asian	8.23	8.59	8.66	8.82	8.93	9.08	9.36	9.33
Latino	7.10	7.47	7.30	7.51	7.51	7.66	7.82	8.05
All	7.28	7.58	7.52	7.59	7.71	7.82	8.01	8.12

Note: Scores in 1995, 1996, and 1999 adjusted to 1997 and 1998 bilingual inclusion rules. In 1999, students in their fourth year of bilingual education have been added back in to the totals. In 1995 and 1996, students with fewer than three years in bilingual education have been removed.

Table D

Mean ITBS Math Grade Equivalent Scores

	1992	1993	1994	1995	1996	1997	1998	1999
9 Year Olds								
White	3.68	3.96	3.97	4.04	4.08	4.08	4.31	4.30
African-American	3.00	3.16	3.18	3.19	3.25	3.15	3.42	3.42
Asian	4.07	4.34	4.36	4.39	4.47	4.51	4.78	4.73
Latino	3.15	3.40	3.45	3.48	3.59	3.52	3.79	3.77
All	3.14	3.35	3.37	3.39	3.45	3.35	3.61	3.59
10 Year Olds								
White	4.62	4.76	4.81	4.88	4.98	5.20	5.17	5.36
African-American	3.76	3.91	3.87	3.98	4.01	4.16	4.19	4.30
Asian	4.93	5.20	5.20	5.34	5.32	5.57	5.49	5.75
Latino	3.94	4.11	4.14	4.22	4.24	4.45	4.49	4.63
All	3.94	4.10	4.09	4.18	4.22	4.40	4.42	4.55
11 Year Olds								
White	5.69	5.73	5.69	5.86	5.91	6.14	6.10	6.29
African-American	4.72	4.75	4.73	4.76	4.93	5.04	5.08	5.15
Asian	6.08	6.07	6.09	6.34	6.33	6.48	6.49	6.65
Latino	4.91	4.97	4.93	5.03	5.20	5.33	5.39	5.49
All	4.92	4.96	4.94	5.01	5.16	5.29	5.33	5.42
12 Year Olds								
White	6.66	6.90	6.77	6.85	6.98	7.27	7.31	7.37
African-American	5.66	5.79	5.66	5.73	5.80	6.11	6.16	6.25
Asian	7.17	7.34	7.20	7.45	7.48	7.70	7.72	7.78
Latino	5.85	6.05	5.92	5.99	6.11	6.43	6.48	6.58
All	5.87	6.04	5.91	5.98	6.08	6.38	6.44	6.52
13 Year Olds								
White	7.62	7.73	7.61	7.77	7.75	8.06	8.15	8.26
African-American	6.56	6.58	6.43	6.51	6.49	6.75	6.90	7.06
Asian	8.19	8.22	8.13	8.31	8.28	8.58	8.64	8.74
Latino	6.70	6.86	6.73	6.81	6.80	7.07	7.23	7.35
All	6.77	6.84	6.71	6.79	6.78	7.05	7.19	7.34
14 Year Olds								
White	8.40	8.55	8.49	8.66	8.66	8.93	8.97	9.23
African-American	7.31	7.36	7.33	7.32	7.40	7.71	7.74	8.05
Asian	8.92	9.06	8.93	9.08	9.06	9.41	9.48	9.70
Latino	7.47	7.61	7.55	7.64	7.66	7.95	8.02	8.32
All	7.53	7.61	7.58	7.62	7.68	7.97	8.02	8.32

Note: Scores in 1995, 1996, and 1999 adjusted to 1997 and 1998 bilingual inclusion rules. In 1999, students in their fourth year of bilingual education have been added back in to the totals. In 1995 and 1996, students with fewer than three years in bilingual education have been removed.

Table E

Reading Gain Scores

	1994	1995	1996	1997	1998	1999
Grade 3	0.72	0.69	0.84	0.70	0.86	0.78
Grade 4	1.02	1.06	1.09	1.16	1.17	1.11
Grade 5	0.97	1.06	1.06	1.19	1.04	1.12
Grade 6	0.82	0.78	0.98	0.89	1.02	0.87
Grade 7	0.94	1.16	1.08	1.15	1.09	1.09
Grade 8	0.66	0.91	0.92	1.08	1.00	1.06

Math Gain Scores

	1994	1995	1996	1997	1998	1999
Grade 3	0.68	0.68	0.81	0.64	0.88	0.83
Grade 4	0.78	0.86	0.87	1.00	1.10	0.95
Grade 5	0.86	0.93	0.97	1.05	0.91	1.02
Grade 6	0.96	1.07	1.08	1.22	1.13	1.17
Grade 7	0.58	0.82	0.68	0.88	0.74	0.83
Grade 8	0.78	0.96	0.95	1.30	1.02	1.19

John Booz

Endnotes

[1] Students with severe disabilities and students who are in the process of learning English do not take the ITBS.

[2] These rates vary greatly from one school to another, so in some schools accountability measures are based on a much smaller portion of the total enrollment.

[3] CPS reports scores for students with disabilities separately as a result of a legal settlement.

[4] The required minimum age for entering kindergarten changed between 1987 and 1990. At the beginning of this period, students needed to reach their fifth birthday by December 1. The entering age increased by one month each year until 1990, when students needed to be five years old by September 1. We accounted for these transitions in our analyses.

[5] Anthony S. Bryk, Yeow Meng Thum, John Q. Easton, Stuart Luppescu, *Academic Productivity of Chicago Public Schools* (Chicago: Consortium on Chicago School Research, 1998).

[6]Christopher Jencks and Meredith Phillips, eds., *The Black-White Test Score Gap* (Washington, D.C.: Brookings Institution Press, 1998).

[7] Anthony S. Bryk, Yeow Meng Thum, John Q. Easton, Stuart Luppescu, *Academic Productivity of Chicago Public Schools* (Chicago: Consortium on Chicago School Research, 1998).

This is the second in a series of research data briefs that present findings from the Consortium on Chicago School Research, departing from our regular, more comprehensive, in-depth studies. As the name suggests, this is a short report focusing on a single topic. The data brief is designed to provide new data on a particular issue, in a timely fashion. Because data briefs are not comprehensive studies, we limit our discussion of findings to summarizing the key results.

This data brief reflects the interpretations of the authors. Although the Consortium's Steering Committee provided technical advice and reviewed an earlier version of this brief, no formal endorsement by these individuals, their organizations, or the full Consortium should be assumed.