



Student Demographics and Academic Achievement

Evaluation of New City Charter School in 2014-2015

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Summary

This report describes New City Charter School student achievement in the 2014-2015 school year, the school's twelfth operating year. The number of students enrolled in the school was 173, an increase from the 144 students enrolled the previous year.

With respect to race/ethnicity, the largest group of students in 2014-2015 was White/Caucasian students comprised the largest racial/ethnic group (62%), followed by Black/African American (24%), Hispanic (7%), Asian (6%), and American Indian (3%). Almost half of the students (45%) were from low-income families, meaning they were eligible for free or reduced-price lunch. There were more boys than girls. Eleven percent of students received Special Education services.

Student academic achievement is measured using the Woodcock-Johnson III Tests of Achievement (WJ III) for grades 1 and 2, while grades 3 and above took the Iowa Tests of Basic Skills (ITBS). Key findings in overall reading, language, and math (Broad Reading and Broad Math for Woodcock-Johnson; Total Reading, Total Language, Total Math, and Science for ITBS) are presented below. Student assessments were conducted in November 2013 for the 2013-2014 school year and November/December 2014 for the 2014-2015 school year. Due to the small number of students in each group, caution should be used when interpreting results of individual demographic groups and grade levels.

Reading results

- Average reading scores for first- and second-grade students in 2014-2015 were well above average compared to same-grade peers nationally (above the mean of 100 in WJ III standard scores).
- Average reading scores overall for third- through eighth-grade students were above the national average (above the mean of 50 in ITBS Normal Curve Equivalent scores).
- Second-grade students' reading progress was assessed using the WJ III Broad Reading score. Progress is determined by changes over a one-year period from the 2013-2014 to 2014-2015 school year. Students' scores in 2014-2015 were compared to their own scores the previous year, as well as to other students in the normative sample. No change in standard scores from 2013-2014 to 2014-2015 indicates normative progress, positive change indicates accelerated progress, and negative change indicates slower than expected progress compared to same-grade peers. The results show that, on average, students made slower progress in reading, with a

decrease of 2.9 in standard scores compared to their peers nationally. However, as noted above, average scores in both 2013-2014 to 2014-2015 were well above average.

- For fourth- through eighth-grade students, reading progress was measured using the ITBS Total Reading score. Compared to students in the normative sample, all students except fourth and eighth graders made accelerated progress in Total Reading from 2013-2014 to 2014-2015. The fourth- and eighth-grade students made slower than expected progress.
- Reading results for 2014-2015 differed by student characteristics. Results show that, students from a low-income background, meaning eligible for free or reduced-price lunch, on average, scored significantly lower than students from higher income households. White/Caucasian students scored significantly higher than students of color, on average. Boys and girls performed similarly in reading; their scores were not statistically different.
- In terms of students' progress in reading, all demographic groups made normative or accelerated progress in Total Reading from 2013-2014 to 2014-2015. Students who were eligible for free or reduced-price lunch made higher average gain than students who were not eligible. Boys had a higher average gain than girls. Students of color made similar normative progress as White/Caucasian students. However, differences in average gain scores between race, gender and income (eligibility for free or reduced-price lunch) are not statistically significant. It should be noted that all student groups, regardless of demographic characteristics, scored at or above the national average in reading in both years. Woodcock-Johnson results by student characteristics are not reported due to the small number of students assessed in both years.

Language results

- Because language skills are not measured by the Woodcock-Johnson tests, language results are only available for third- through eighth-grade students who took the ITBS. Average scores for sixth- through eighth-grade students in 2014-2015 were average and above the national average (above the mean of 50 in ITBS Normal Curve Equivalent scores), while the third- through the fifth-grade students were below it.
- Compared to same-grade students in the normative sample, students in all grade levels made accelerated progress from 2013-2014 to 2014-2015 in Total Language, except for the sixth-grade students who made normative progress.
- Results in 2014-2015 show that students from higher income backgrounds (those who were not eligible for free or reduced-price lunch) scored significantly higher than students

from lower-income backgrounds (those who were eligible) and White/Caucasian students scored significantly higher than students of color. Girls scored slightly higher than boys; however, this difference was not statistically significant.

- Between 2013-2014 to 2014-2015, all demographic groups made progress on Total Language. Students of color made a higher average gain than White/Caucasian students, and students who were eligible for free or reduced-price lunch made a higher average gain than students who were not eligible. Boys had a higher average gain than girls. However, these differences in average gain were not statistically significant.

Math results

- In 2014-2015, average math scores for first- and second-grade students were well above the national average (above the mean of 100 in WJ III standard scores).
- Similarly, average math scores for third- through eighth-grade students combined in 2014-2015, as measured by ITBS, exceeded the national average (above the mean of 50 in ITBS Normal Curve Equivalent scores).
- Compared to students in the normative sample, second-grade students made slower progress on average in Broad Math from 2013-2014 to 2014-2015, with a decrease of 2.3 points in average standard scores. However, their average scores in both years were above the national average, as indicated above.
- With respect to student demographics, first- and second-grade White/Caucasian students performed better than students of color. On average, the students who were eligible for free or reduced-price lunch scored lower than students who were not eligible and girls scored lower than boys; but these differences between groups were not statistically significant. Third- through eighth-grade White/Caucasian students also performed significantly better than students of color. Students who were ineligible for free lunch or reduced-price lunch scored significantly higher than those who were eligible. Boys scored higher than girls on average.
- Compared to students in the normative sample, seventh-grade students made accelerated progress while students in the other grade levels made slower than expected progress from 2013-2014 to 2014-2015.
- Between the 2013-2014 to 2014-2015 school years, all demographic groups had normative or slower than expected progress in Total Math. On average, White/Caucasian students and students of color made normative progress. Students who were eligible for free or reduced-price lunch made slower than expected progress

while those who were ineligible made normative progress. Girls made slower progress than boys. However, none of the differences in the average gain (change) scores between the groups are statistically significant. Woodcock-Johnson results by student characteristics are not reported due to the small number of students assessed in both years.

Science results

- Because science skills are not measured by the WJ III, science results are only available for third- through eighth-grade students who took the ITBS. All grade levels scored above the national average (above the mean of 50 in ITBS Normal Curve Equivalent scores) in 2014-2015.
- In 2014-2015, third- to eighth-grade White/Caucasian students performed significantly better than students of color and students ineligible for free or reduced-price lunch scored higher than those who were eligible. Boys scored slightly higher than girls and the difference was not statistically significant. All groups scored above the national average.
- All grade levels made developmental gains in ITBS Science. In terms of NCE scores, all grade levels made progress with fifth-grade students making the greatest progress. Students' average scores in both years were well above the national average.
- In terms of demographics for the school years 2013-2014 to 2014-2015, students of color made larger average gain than White/Caucasian students, and students from higher income levels (ineligible for free or reduced-price lunch) made a higher average gain than students from lower income levels (eligible for free or reduced-price lunch). Boys scored higher than girls in both years and made slightly larger average gain than girls. However, none of the differences in average gains between groups are statistically significant. All student groups, regardless of their demographic characteristics, scored above the national average in 2014-2015.

Issues to consider

In conclusion, results indicate positive performance for students at the New City Charter School. The findings also suggest that there is still room for improvement. The following issues for consideration can be used to inform the school's future planning efforts.

- More attention should be given to some students who score below average on the tests (i.e., below 100 in Woodcock-Johnson standard score points or below 50 in ITBS Normal Curve Equivalent points). Also, more attention should be given to a few subject

areas where the students' average scores were below the national average, such as on capitalization and punctuation in Total Language and computation in Total Math.

- Results are promising for the underrepresented groups of students. Students of color made larger progress than White/Caucasian students in language and science and similar progress as White/Caucasian students in reading and math, on average. Students who were eligible for free or reduced-price lunch made higher average gain than students who were not eligible in reading and language. Despite these gains, on average, students of color and students from lower-income families scored lower than White/Caucasian students and students from higher-income families, respectively. The school should continue its efforts to close the achievement gap among their students of color and students from lower income levels.

Background

New City Charter School in Minneapolis, Minnesota, began operating in fall 2003 with 60 students enrolled in the school. The school is rooted in the Responsive Classroom philosophy, which emphasizes the integration of social and academic learning. The school's vision statement reflects this philosophy, as follows:

"New City School is a supportive community which actively engages students to build knowledge, ask meaningful questions, design creative solutions, open their minds, care for themselves and their community, and become skilled, responsive citizens in the world."

Aligned with this philosophy, the school teaches social skills, with specific focus on fostering student cooperation, assertion, responsibility, empathy, and self-control. The school promotes parent involvement in children's learning and positive interactions among staff and between staff and parents as a way to model positive behaviors to students. Students in the New City Charter School stay with the same teacher for two years. According to the school's principal, this practice allows students and teachers to build long-term relationships. Additionally, the school uses multiple academic approaches, including Differentiated Instruction, Arts Infusion, Integrated Thematic Learning, Balanced Literacy, and Inquiry-based Learning.

To assess student achievement progress, the school participates in a rigorous evaluation. The school contracted with Wilder Research to administer the individual assessments with first- and second-grade students, and with the University of Minnesota's Office of Measurement Services and the Minnesota Statewide Testing Program to administer the group assessments with third- through eighth-grade students. Wilder Research uses the Woodcock-Johnson III Tests of Achievement and the University of Minnesota uses the Iowa Tests of Basic Skills. Additionally, every year the school tracks student outcomes in social skills and parent involvement and provides the results in their annual report.

This report describes students' academic achievement in the 2014-2015 school year. One-year student academic progress, from the 2013-2014 to 2014-2015 school year, is also included for those who remained enrolled in the school and completed the same tests. Student assessments were conducted in November 2013 for the 2013-2014 school year and November/December 2014 for the 2014-2015 school year.

Student characteristics

Characteristics of students enrolled in New City Charter School in the 2014-2015 school year are presented in Figure 1. There were a total of 173 students, ranging from kindergarten to eighth grade, up from a total of 144 and 130 students in the previous two years, 2013-2014 and 2012-2013.

In 2014-2015, White/Caucasian students comprised the largest racial/ethnic group (62%), followed by Black/African American (24%), Hispanic (7%), Asian (6%), and American Indian (3%). There were more boys than girls. Almost half of the students (45%) were eligible for free or reduced-price lunch. Nineteen students (11%) received Special Education services.

1. Student profile: 2014-2015 (n=173)

Grade level	Number	Percent
1	36	21%
2	23	13%
3	29	17%
4	19	11%
5	26	15%
6	11	6%
7	16	9%
8	13	8%
Student race/ethnicity		
American Indian	5	3%
Asian	11	6%
Hispanic	9	7%
Black or African American	41	24%
White/Caucasian	107	62%
Gender		
Female	75	43%
Male	98	57%
Other student information		
Eligible for free or reduced-price lunch	77	45%
Receiving Special Education	19	11%

Student academic achievement

This section presents student academic achievement results in 2014-2015. Results are first presented for first- and second-grade students who took the Woodcock-Johnson III Tests of Achievement, followed by results for third- through eighth-grade students who took the Iowa Tests of Basic Skills. One-year progress in student academic achievement, from 2013-2014 to 2014-2015, is described in the next section of the report.

Results for first- and second-grade students

In November/December 2014, Wilder Research staff administered Woodcock-Johnson III Tests of Achievement (WJ III) to first- and second-grade New City School students. All 36 first-grade and 22 out of 23 second-grade students participated. The assessments were conducted one-on-one in a quiet room in the school building.

The students were assessed in Broad Reading and Broad Math.

Broad Reading consists of the following three tests:

Letter-word identification measures students' ability to identify uppercase and lowercase letters and words.

Reading fluency measures students' ability to read and comprehend sentences quickly.

Passage comprehension measures students' ability to read and comprehend a passage and to draw a conclusion.

Broad Math consists of the following tests:

Calculation measures students' ability to perform mathematical computations.

Math fluency measures students' ability to accurately solve simple math problems quickly.

Applied problems measures students' ability to analyze and solve math problems.

Woodcock-Johnson reading results

Woodcock-Johnson results are analyzed using standard scores. Standard scores have an average of 100 (and a standard deviation of 15) in the national normative sample. These scores are also grade-standardized. First- and second-grade results on reading tests are presented below. As shown in Figure 2, average scores of first- and second-grade students were well above the national average (i.e., above the mean of 100) on all reading tests. It should be noted that student scores varied greatly. In Broad Reading, for example, first-grade scores ranged from 83-139 and second-grade scores ranged from 87-137.

2. Average standard scores in WJ III Broad Reading, 2014-2015

Reading test	N	Mean of standard scores	Standard Deviation	Range of standard scores
First grade				
<i>Letter-word identification</i>	36	119.81	16.7	81-143
<i>Reading fluency</i> ^a	32	115.66	15.2	87-137
<i>Passage comprehension</i>	36	114.64	15.4	87-143
Broad Reading	36	116.86	17.1	83-139
Second grade				
<i>Letter-word identification</i>	22	112.68	12.6	90-138
<i>Reading fluency</i>	21	111.57	11.5	86-133
<i>Passage comprehension</i>	22	106.18	11.0	89-126
Broad Reading	22	111.32	12.8	87-137

^a Standard score is not available for students whose raw score is 0.

Figure 3 shows the percentage of students who scored average or above average (i.e., scoring 100 or above in standard scores) and below average in reading tests. Most first-grade (86%) and second-grade (77%) students scored average or above average on Broad Reading. Among the reading tests, a higher percentage of second-grade students scored average or above average on letter-word identification and reading fluency than on passage comprehension.

3. WJ III Broad Reading results, 2014-2015

Woodcock-Johnson test	Standard score	% First grade	% Second grade
<i>Letter-word identification</i>			
Average and above	100 or above	86.1%	86.4%
Below average	99 and below	13.9%	13.6%
<i>Reading fluency</i>			
Average and above	100 or above	81.2%	90.5%
Below average	99 and below	18.8%	19.0%
<i>Passage comprehension</i>			
Average and above	100 or above	86.1%	68.2%
Below average	99 and below	13.9%	31.8%
Broad Reading			
Average and above	100 or above	86.1%	77.3%
Below average	99 and below	13.9%	22.7%

Note: Percentages may not sum to 100% due to rounding.

Figure 4 shows Broad Reading average standard scores by student characteristics. Because of the small number of students, the results are reported for both grades combined. Also, due to the small numbers of Black/African American, Asian, American Indian, Hispanic, and biracial/multiracial youth, their data are reported as one group (i.e., other group). As shown in Figure 4, on average, the students who were eligible for free or reduced-price lunch scored significantly lower than students who were not eligible, and students of color scored lower than White/Caucasian students. Girls' average score was slightly higher than boys'; however, this difference between gender was not statistically significant.

4. WJ III Broad Reading results by student characteristics, 2014-2015

Broad reading	N	Average of standard scores
Student race/ethnicity*		
White/Caucasian	44	117.18
Other ^a	14	107.18
Gender		
Female	31	115.16
Male	27	114.30
Free or reduced-price lunch status *		
Eligible for free lunch or reduced-price lunch	20	104.25
Not eligible	38	120.29

^a Due to small numbers, Black/African American, Asian, American Indian, Hispanic, and biracial/multiracial students are combined. A few student's demographic data are not available.

* Significant difference between groups.

Woodcock-Johnson math results

The average standard scores for Broad Math are presented in Figure 5. On average, first- and second-grade students scored well above the national average (i.e., above the mean of 100) on all the math tests. Similar to reading results, student scores varied greatly. In Broad Math, for example, first grade scores ranged from 82-144 and second grade scores ranged from 100-136.

5. Average standard scores in WJ III Broad Math, 2014-2015

Math test	N	Mean	Standard Deviation	Range
First grade				
<i>Calculation</i>	36	120.14	13.68	93-157
<i>Math fluency</i>	36	107.17	10.65	83-139
<i>Applied problems</i>	36	116.83	14.99	78-149
Broad Math	36	117.11	12.02	82-144
Second grade				
<i>Calculation</i>	22	116.45	9.86	102-136
<i>Math fluency</i>	22	112.45	12.07	95-148
<i>Applied problems</i>	22	118.41	9.80	94-133
Broad Math	22	118.64	9.68	100-136

Figure 6 shows the percentage of students who scored average or above average (scoring 100 or above) and below average in math tests. The results indicate that almost all and all first- and second-grade students—94 percent and 100 percent respectively—scored average or higher on Broad Math. Among the math tests, higher percentages of students scored average or above average on calculation and applied problems than on math fluency.

6. WJ III Broad Math results, 2014-2015

Woodcock-Johnson classification	Standard score range	% First grade	% Second grade
<i>Calculation</i>			
Average or above average	100 or above	92%	100%
Below average	99 and below	8%	0%
<i>Math fluency</i>			
Average or above average	100 or above	86%	91%
Below average	99 and below	14%	9%
<i>Applied Problems</i>			
Average or above average	100 or above	89%	95%
Below average	99 and below	11%	5%
Broad Math			
Average or above average	100 or above	94%	100%
Below average	99 and below	5%	0%

Note: Percentages may not sum to 100% due to rounding.

Figure 7 shows Broad Math average standard scores by student characteristics. Because of the small numbers, the results are reported for first and second grades combined. The results showed that White/Caucasian students performed better than students of color. On average, the students who were eligible for free or reduced-price lunch scored lower than students who were not eligible and girls scored lower than boys; but these differences between groups were not statistically significant.

7. WJ III Broad Math results by student characteristics, 2014-2015

Broad Math	N	Average of standard scores
Student race/ethnicity*		
White/Caucasian	44	119.45
Other ^a	14	112.14
Gender		
Female	27	114.63
Male	31	120.35
Free or reduced-price lunch status		
Eligible for free lunch or reduced-price lunch	20	114.65
Not eligible	38	119.29

^a Due to small numbers, Black/African American, Asian, American Indian, Hispanic, and biracial/multiracial students are combined. A few student's demographic data are not available.

* Significant difference between groups.

Results for third- to eighth-grade students

Around the same time as the first- and second-grade students took the Woodcock-Johnson assessments, students in third through eighth grades took the Iowa Tests of Basic Skills (ITBS). The ITBS was administered by the University of Minnesota's Office of Measurement Services and the Minnesota Statewide Testing Program. In total, 109 third- to eighth-grade students participated—five students were not tested. The ITBS was administered in a group setting, using a paper and pencil format. On each question on the tests, the students were asked to select the correct answer out of multiple choices.

The students were assessed on Total Reading, Total Language, and Total Math. Together, these three scores comprise the Core Battery.

Total Reading consists of the following tests:

Vocabulary
Reading comprehension

Total Language consists of the following tests:

Spelling
Capitalization
Punctuation
Usage and expression

Total Math consists of the following tests:

Concepts and estimation
Problem solving and data interpretation
Computation

In addition, students took the ITBS Science test.

Iowa Tests of Basic Skills reading results

Results of the Iowa Tests of Basic Skills are analyzed using the Normal Curve Equivalent (NCE). NCE scores range from 1 to 99, with an average of 50 (and a standard deviation of 21) in the national normative sample. These scores are grade-standardized.

Figure 8 shows that students' average scores were above the national average (i.e., above the mean of 50 in NCE) on vocabulary, comprehension, and Total Reading overall. Students scored similarly on vocabulary and comprehension, with average NCE scores of 59.6 and 59.1, respectively. The results also show that students' scores vary widely. As shown in Figure 8, students' scores on Total Reading range from 1 to 99.

8. Average ITBS Total Reading NCE scores, 2014-2015

Subject	Grade	N	Average NCE	Standard Deviation	Range
<i>Vocabulary</i>	3	28	55.6	20.2	14-99
	4	17	52.6	25.9	17-96
	5	26	62.5	21.7	1-99
	6	11	68.5	25.1	29-99
	7	15	54.9	24.2	2-85
	8	12	70.3	22.7	25-98
	Overall	109	59.6	23.1	1-99
<i>Comprehension</i>	3	28	55.9	16.8	26-99
	4	17	53.2	26.4	11-99
	5	26	58.9	20.6	6-99
	6	11	66.1	26.2	23-99
	7	15	59.5	18.8	23-89
	8	12	68.9	16.6	43-85
	Overall	109	59.1	20.8	6-99
Total Reading	3	28	56.4	18.1	18-98
	4	17	53.4	27.6	8-99
	5	26	60.9	21.3	1-99
	6	11	68.1	25.5	34-99
	7	15	57.9	21.9	8-88
	8	12	71.0	20.1	37-95
	Overall	109	60.0	22.2	1-99

The proportions of students who scored average or above average (i.e., scoring 50 or above in NCE points) in reading skills by grade are shown in Figure 9. Among the students, eighth grade had the highest percentage of students who scored average or above average in Total Reading (83%). Fourth grade had the lowest percentage of students scoring at or above average in each subject category—53 percent in vocabulary and Total Reading and 59 percent in comprehension.

9. ITBS Total Reading results, 2014-2015: students scoring average or above average

Subject	Grade	N	Percent scoring average or above average^a
<i>Vocabulary</i>	3	28	67%
	4	17	53%
	5	26	81%
	6	11	55%
	7	15	73%
	8	12	75%
	Overall	109	69%
<i>Comprehension</i>	3	28	68%
	4	17	59%
	5	26	73%
	6	11	73%
	7	15	67%
	8	12	75%
	Overall	109	69%
Total Reading	3	28	61%
	4	17	53%
	5	26	73%
	6	11	73%
	7	15	67%
	8	12	83%
	Overall	109	67%

^a Scoring 50 or above in NCE scores.

Figure 10 presents the Total Reading results by students' characteristics. On average, students who were not eligible for free or reduced-price lunch scored significantly higher than those who were eligible and White/Caucasian students performed significantly better than students of other racial or ethnic backgrounds. Boys and girls performed similarly, on average. All groups, except non-White students, scored above the national average on Total Reading. Students of color scored almost at the national average (i.e., very close to 50 NCE points).

10. ITBS Total Reading results by student characteristics, 2014-2015

Total Reading	N	Average NCE
Student race/ethnicity*		
White/Caucasian	61	68.2
Other ^a	48	49.6
Gender		
Female	45	60.5
Male	64	59.7
Free or reduced-price lunch status*		
Eligible for free lunch or reduced-price lunch	54	53.5
Not eligible	55	66.5

^a Due to small numbers, Black/African American, Asian, American Indian, Hispanic, and biracial/multiracial students are combined. A few student 's demographic data are not available.

* Significant difference between groups.

Iowa Tests of Basic Skills language results

Students' performance in language skills is presented by grade in Figure 11. Students in the sixth- through eighth-grade scored average to slightly above the national average (i.e., above the mean of 50 in NCE) in Total Language, while third- through fifth-grade students scored below average. Overall, students scored below the national average on Total Language (46.1 NCE points). With respect to the individual subject tests, students scored higher than average on usage and expression (55.2 NCE points) and on spelling (51.8 NCE points), but lower than average on punctuation (43.7 NCE points), and capitalization (35.8 NCE points). The results also show that students' scores vary. As shown in Figure 11, students' scores on Total Language overall range from 1 to 99.

11. Average ITBS Total Language NCE scores, 2014-2015

Subject	Grade	N	Average NCE	Standard Deviation	Range
<i>Spelling</i>	3	28	48.7	18.8	23-92
	4	17	43.1	24.1	1-87
	5	26	54.7	16.8	13-84
	6	11	54.8	26.5	8-95
	7	15	54.7	16.9	35-90
	8	12	58.6	20.1	27-99
	Overall	109	51.8	20.1	1-99
<i>Capitalization</i>	3	28	22.9	14.7	1-56
	4	17	26.2	17.1	1-57
	5	26	38.7	15.1	11-62
	6	11	37.7	29.4	5-99
	7	15	47.6	13.1	29-70
	8	12	56.9	17.3	33-99
	Overall	109	35.8	20.3	1-99
<i>Punctuation</i>	3	28	39.3	18.2	4-76
	4	17	36.7	22.4	1-74
	5	26	41.3	20.9	1-92
	6	11	45.7	28.9	10-99
	7	15	53.0	14.4	31-80
	8	12	55.7	24.2	7-98
	Overall	109	43.7	21.5	1-99
<i>Usage and Expression</i>	3	27	53.6	21.9	7-99
	4	17	47.7	22.5	7-92
	5	26	52.1	20.8	1-86
	6	11	60.5	24.9	24-99
	7	15	60.3	21.2	24-99
	8	12	63.4	14.3	39-79
	Overall	108	55.2	21.4	1-99
Total Language	3	26	39.4	16.2	14-84
	4	17	36.7	20.8	1-75
	5	26	45.8	16.7	1-71
	6	11	50.4	26.9	11-99
	7	15	54.7	15.9	29-88
	8	12	59.8	18.3	30-99
	Overall	107	46.1	19.7	1-99

Figure 12 shows the proportion of students who scored average or above average (i.e., scoring 50 or above in NCE) by grade. The results reveal that more than half of students scored average or above average in spelling (54%) and usage and expression (63%). At least two thirds (67%) of eighth graders scored average or above average on all subject areas with the highest percentage in usage and expression (83%). A quarter of students (26%) and 37 percent of students scored average or above average on capitalization and punctuation, respectively, with percentages varying greatly by grade. Because the number of students in each grade level is small, the results should be interpreted with caution.

12. ITBS Total Language results, 2014-2015: students scoring average or above average

Subject	Grade	N	Percent scoring average or above average^a
<i>Spelling</i>	3	28	50%
	4	17	41%
	5	26	62%
	6	11	45%
	7	15	60%
	8	12	67%
	Overall	109	54%
<i>Capitalization</i>	3	28	4%
	4	17	12%
	5	26	31%
	6	11	27%
	7	15	40%
	8	12	67%
	Overall	109	26%

^a Scoring 50 or above in NCE scores.

12. ITBS Total Language results, 2014-2015: students scoring average or above average (continued)

Subject	Grade	N	Percent scoring average or above average ^a
<i>Punctuation</i>	3	28	21%
	4	17	35%
	5	26	31%
	6	11	45%
	7	15	47%
	8	12	67%
	Overall	109	37%
<i>Usage and Expression</i>	3	27	67%
	4	17	53%
	5	26	54%
	6	11	64%
	7	15	67%
	8	12	83%
	Overall	108	63%
Total Language	3	26	23%
	4	17	35%
	5	26	46%
	6	11	36%
	7	15	53%
	8	12	67%
	Overall	107	41%

^a Scoring 50 or above in NCE scores.

Results of Total Language average NCE scores by students' characteristics are presented below. The results are reported for third- through eighth-grade students combined. Figure 13 shows that, on average, students who were not eligible for free or reduced-price lunch scored significantly higher than those who were eligible, and White/Caucasian students scored significantly higher than students of color. Girls scored slightly higher than boys; however, this difference was not statistically significant.

13. ITBS Total Language results by student characteristics, 2014-2015

Characteristics	N	Average of NCE
Student race/ethnicity*		
White/Caucasian	61	54.4
Other ^a	48	48.5
Gender		
Female	45	55.2
Male	64	49.3
Free or reduced-price lunch status*		
Eligible for free lunch or reduced-price lunch	54	49.1
Not eligible	55	54.4

^a Due to small numbers, Black/African American, Asian, American Indian, Hispanic, and biracial/multiracial students are combined. A few student's demographic data are not available.

* Significant difference between groups.

Iowa Tests of Basic Skills math results

Average NCE scores for math are presented in Figure 14. Overall, students' average scores exceeded the national average (i.e., above the mean of 50 in NCE) in concepts and estimation, problem solving and data interpretation, and Total Math. Average score on computation was below the average, with 42.3 NCE points across the grade levels. Similar to reading and language test results, students' math scores vary widely—ranging from 1 to 99 on concepts and estimation, problem solving and data interpretation and Total Math; and from 1 to 89 on computation.

14. Average ITBS Total Math NCE scores, 2014-2015

Subject	Grade	Number of students	Average NCE	Standard Deviation	Range
<i>Concepts and Estimation</i>	3	25	56.0	20.0	18-86
	4	17	49.0	27.2	1-94
	5	26	52.0	18.1	1-82
	6	11	63.0	23.6	30-99
	7	15	63.0	20.1	19-94
	8	12	67.0	19.6	20-93
	Overall	106	58.0	21.6	1-99
<i>Problem Solving and Data Interpretation</i>	3	28	49.0	20.5	15-99
	4	17	44.0	20.9	24-99
	5	26	50.5	18.6	1-74
	6	11	65.0	20.2	38-99
	7	15	64.0	22.8	20-99
	8	12	59.5	19.8	37-99
	Overall	109	56.0	20.9	1-99
<i>Computation</i>	3	26	47.8	21.5	13-88
	4	17	36.1	18.5	2-78
	5	26	40.3	15.5	1-69
	6	11	35.6	25.3	5-89
	7	15	45.3	21.6	15-78
	8	12	45.9	18.8	10-83
	Overall	107	42.3	19.9	1-89
Total Math	3	24	54.6	19.5	21-92
	4	17	44.4	20.9	16-78
	5	26	49.9	15.9	1-73
	6	11	56.7	22.4	28-99
	7	15	59.5	23.7	17-99
	8	12	59.2	16.7	39-99
	Overall	105	53.2	19.8	1-99

Figure 15 shows the proportion of students who scored average or above average (i.e., scoring 50 or above in NCE points) by grade. Overall, the majority of students scored average or above average on concepts and estimation (64%), problem solving and data interpretation (56%), and Total Math (60%), while only slightly more than one-third of students scored average or above average on computation (37%).

15. ITBS Total Math results, 2014-2015: students scoring average or above average

Subject	Grade	Number of students	Percent scoring average or above average^a
<i>Concepts and Estimation</i>	3	25	60%
	4	17	47%
	5	26	54%
	6	11	73%
	7	15	87%
	8	12	83%
	Overall	106	64%
<i>Problem Solving and Data Interpretation</i>	3	28	46%
	4	17	41%
	5	26	50%
	6	11	64%
	7	15	87%
	8	12	67%
	Overall	109	56%
<i>Computation</i>	3	26	50%
	4	17	18%
	5	26	27%
	6	11	18%
	7	15	53%
	8	12	58%
	Overall	107	37%
Total Math	3	24	58%
	4	17	41%
	5	26	58%
	6	11	64%
	7	15	73%
	8	12	75%
	Overall	105	60%

^a Scoring 50 or above in NCE scores.

Results of Total Math by students' characteristics are presented in Figure 16. The results are reported for all third- through eighth-grade students combined. On average, White/Caucasian students performed significantly better than students of color, and boys scored higher than girls on average. Students who were ineligible for free lunch or reduced-price lunch scored significantly higher than those who were eligible.

16. ITBS Total Math results by student characteristics, 2014-2015

Characteristics	N	Average of NCE
Student race/ethnicity*		
White/Caucasian	59	59.2
Other ^a	46	45.7
Gender*		
Female	43	47.8
Male	62	57.1
Free or reduced-price lunch status*		
Eligible for free lunch or reduced-price lunch	52	49.1
Not eligible	53	57.3

^a Due to small numbers, Black/African American, Asian, American Indian, Hispanic, and biracial/multiracial students are combined. A few student's demographic data are not available.

* Significant difference between groups.

Iowa Tests of Basic Skills Core Battery results

Figure 17 shows the results of the ITBS Core Battery, which is a combination of the reading, language, and math tests. The results show that average scores of all grade-level students, except fourth-grade, met or exceeded the national average on ITBS. Overall, the majority of students (57%) scored average or above average (i.e., scoring 50 or above in NCE) on the Core Battery.

17. ITBS Core Battery results, 2014-2015

Grade	N	NCE Average	Standard Deviation	Range	Percent scoring average or above ^a
3	24	50.9	16.6	18-84	50%
4	17	44.1	23.3	8-87	41%
5	26	51.6	16.0	1-76	54%
6	11	57.9	24.9	28-99	64%
7	15	57.5	20.7	16-99	67%
8	12	63.6	17.4	35-99	83%
Overall	105	53.1	19.7	1-99	57%

^a Scoring 50 or above in NCE scores.

Results of Core Battery average NCE scores by students' characteristics are presented in Figure 18. Consistent with the findings in Total Reading, Total Language, and Total Math, White/Caucasian students performed significantly better than students of color in the Core Battery. Students from higher income background (who were not eligible for free or reduced-price lunch) scored significantly higher than those from lower income background (who were eligible for free or reduced-price lunch). Boys and girls scored similarly. All groups, regardless of their demographic characteristics, scored at or above the national average.

18. ITBS Core Battery results by student characteristics, 2014-2015

Characteristics	N	Average NCE
Student race/ethnicity*		
White/Caucasian	51	64.7
Other ^a	29	50.4
Gender		
Female	33	59.8
Male	48	59.3
Free or reduced-price lunch status*		
Eligible for free lunch or reduced-price lunch	36	52.3
Not eligible	44	65.4

^a Due to small numbers, Black/African American, Asian, American Indian, Hispanic, and biracial/multiracial students are combined. A few student's demographic data are not available.

* Significant difference between groups.

Iowa Tests of Basic Skills science results

Figure 19 shows the results of the ITBS science test. Average scores for all grade levels were above the assessment's national average. Overall, 75 percent of students scored average or above average in science. Results by grade levels are varied. The majority of students in all grade levels scored average or above average in science (64-83%). Out of all the grade levels, fourth and sixth grades had the lowest percentage of students scoring average or above. Again, the number of students in each grade level is small, so results should be interpreted with caution.

19. ITBS Science results, 2014-2015

Grade	N	NCE Average	Standard Deviation	Range	Percent scoring average or above^a
3	28	58.2	16.9	25-99	71%
4	17	54.5	25.3	14-99	65%
5	24	63.0	18.8	21-99	83%
6	11	69.7	28.8	31-99	64%
7	15	70.0	22.2	29-99	80%
8	12	68.7	24.6	8-99	83%
Overall	107	62.7	21.7	1-99	75%

^a Scoring 50 or above in NCE scores.

Results of science average NCE scores by students' characteristics are presented in Figure 20. On average, White/Caucasian students performed significantly better than students of color, and students who were not eligible for free or reduced-price lunch scored higher than those who were eligible. Boys scored slightly higher than girls; however, the difference in average scores between gender is not statistically significant. All groups scored above the national average.

20. ITBS Science results by student characteristics, 2014-2015

Characteristics	N	Average NCE
Student race/ethnicity*		
White/Caucasian	60	70.2
Other ^a	47	53.1

^a Due to small numbers, Black/African American, Asian, American Indian, Hispanic, and biracial/multiracial students are combined. A few student's demographic data are not available.

* Significant difference between groups.

20. ITBS Science results by student characteristics, 2014-2015 (continued)

Characteristics	N	Average NCE
Gender		
Female	45	61.1
Male	62	63.9
Free or reduced-price lunch status*		
Eligible for free lunch or reduced-price lunch	53	56.7
Not eligible	54	68.6

^a Due to small numbers, Black/African American, Asian, American Indian, Hispanic, and biracial/multiracial students are combined. A few student's demographic data are not available.

* Significant difference between groups.

One-year progress in student academic achievement

The following section describes students' academic progress over a one-year period, from the 2013-2014 to the 2014-2015 school year. Progress was measured using the Woodcock-Johnson III Tests of Achievement (WJ III) and the Iowa Tests of Basic Skills (ITBS). To measure change over time, the group is limited to students that were enrolled both years and completed the same test each year. First, results will be examined for 20 current second-grade students who first completed the WJ III while in first grade in 2013-2014. This will be followed by data for 52 current fourth- through eighth-grade students. The latter group completed the ITBS while enrolled in third through seventh grade in 2013-2014.

Academic progress of second-grade students

Figure 21 shows, on average, that children made academic progress in both reading and math. Here, results are presented using W scores, which are not grade- or age-standardized. These scores are useful for measuring performance over time in a single subject area, such as year-to-year changes of individual students or groups of students.

On average, students made more improvement in reading than math. Overall scores in Broad Reading increased by 30.8 on average, and Broad Math overall had an average gain of 15.2. Among the reading skills, students made the largest gain in letter-word identification (39.9 in W scores). For math, students made the largest gains in applied problems (23.1 in W scores).

21. Average WJ III W scores in 2013-2014 to 2014-2015

Woodcock-Johnson tests	N	Average of W scores		
		2013-2014 (First grade)	2014-2015 (Second grade)	Difference
Reading				
<i>Letter-word identification</i>	20	437.3	477.2	+39.9
<i>Reading fluency</i>	15	454.3	479.7	+25.5
<i>Passage comprehension</i>	20	455.4	482.6	+27.3
Broad Reading	20	446.1	476.9	+30.8
Math				
<i>Calculation</i>	20	469.4	484.1	+14.7
<i>Math fluency</i>	20	485.3	493.1	+7.8
<i>Applied problems</i>	20	467.3	490.4	+23.1
Broad Math	20	474.1	489.3	+15.2

Changes in students' reading and math results are also presented in terms of standard scores. In this case, students are compared to same-grade peers in a national normative sample. This means that no change in standard scores from one year to the next indicates normative progress (one year of progress), positive change indicates accelerated progress (more than one year of progress), and negative change indicates slower progress (less than one year of progress) in comparison to one's peers.

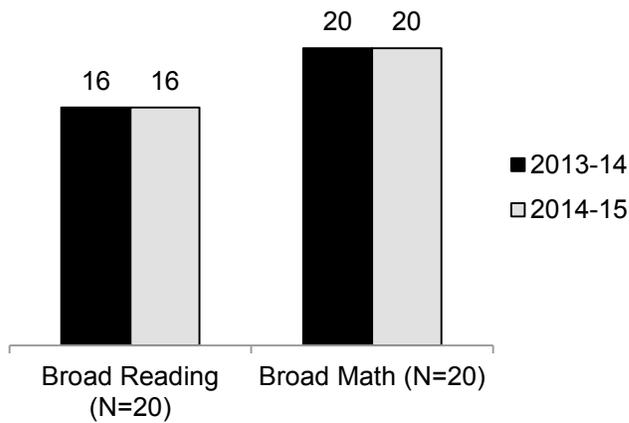
As shown in Figure 22, on average, students made slower progress compared to peers nationally in overall reading and math, with a decrease of 2.9 in Broad Reading and 2.3 in Broad Math. Looking at individual tests, students made slower progress on all the tests, except for math fluency. It should be noted that the average scores on all the tests were well above the average score of the normative sample (i.e., above 100 in standard scores) both years.

22. Change in WJ III average standard scores, 2013-2014 to 2014-2015

Woodcock-Johnson tests	N	Average standard scores		
		2013-2014	2014-2015	Difference
Reading				
<i>Letter-word identification</i>	20	118.6	113.3	-5.3
<i>Reading fluency</i>	15	118.1	115.1	-3.0
<i>Passage comprehension</i>	20	111.1	107.1	-4.0
Broad Reading	20	114.7	111.8	-2.9
Math				
<i>Calculation</i>	20	124.4	117.6	-6.8
<i>Math fluency</i>	20	111.0	113.1	+2.1
<i>Applied problems</i>	20	120.7	119.3	-1.4
Broad Math	20	122.1	119.7	-2.3

Figure 23 shows the number of students who scored at or above average in 2013-2014 and 2014-2015 (scoring at or above 100 in standard score) in Broad Reading and Broad Math. The numbers of students who scored at or above average in 2013-2014 and 2014-2015 remained the same with 16 students for Broad Reading, and 20 students for Broad Math.

23. Number of students at or above average in Broad Reading and Broad Math, 2013-2014 to 2014-2015



Due to the small number of students, changes in students' reading and math results are not analyzed by their characteristics.

Academic progress of fourth- through eighth-grade students

Reading progress

Figure 24 shows changes in students' reading performance on the ITBS in developmental standard scores by grade. The developmental standard scores used in the ITBS are similar to the W scores in Woodcock-Johnson; these scores are used to show students' year-to-year academic growth.

A total of 52 fourth- through eighth-grade students are included in the analyses. Figure 24 shows the one-year change in students' reading scores. The overall results show that students made improvement in all reading subject areas: 13.2 points on vocabulary, 18.2 points on comprehension and 15.6 points on Total Reading. Looking at each grade level, however, all grade levels made one year developmental standard average score gains on all reading tests from 2013-2014 to 2014-2015.

24. Change in ITBS Total Reading standard scores: 2013-2014 to 2014-2015

Subject	Grade (in 2014- 2015)	Number of students	Average developmental standard scores		
			2013-2014	2014-2015	Difference
<i>Vocabulary</i>	4	14	180.6	196.6	+15.9
	5	11	213.2	228.3	+15.1
	6	10	234.1	247.0	+12.9
	7	13	238.4	244.4	+6.0
	8	4	259.6	275.5	+15.9
	Overall	52	225.2	238.4	+13.2
<i>Comprehension</i>	4	14	179.1	201.2	+22.1
	5	11	215.9	229.2	+13.3
	6	10	239.0	252.1	+13.1
	7	13	228.3	252.5	+24.2
	8	4	265.0	283.3	+18.3
	Overall	52	225.5	243.7	+18.2
Total Reading	4	14	184.4	218.3	+19.2
	5	11	227.4	244.6	+14.3
	6	10	226.4	225.4	+12.8
	7	13	244.2	257.5	+14.9
	8	4	237.8	249.8	+16.9
	Overall	52	217.7	236.6	+15.6

One-year change in students' scores is also analyzed using Normal Curve Equivalent (NCE) scores. Similar to standard scores in Woodcock-Johnson, no change in NCE score indicates normative progress, or the equivalent of one year of progress. Meanwhile, positive change indicates accelerated progress (more than one year of progress), and negative change indicates slower progress (less than one year of progress) when compared to same-grade peers.

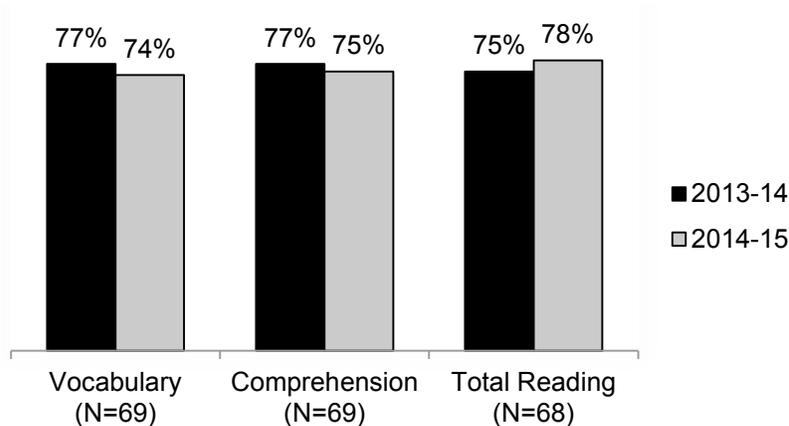
Results in Figure 25 show that, on average, students made accelerated progress in comprehension (1.4 NCE points) and normative progress on Total Reading (0.1 NCE points). In Total Reading, every grade level scored above the national average. Out of all the grade levels, seventh graders had the largest average gain in comprehension (6.0 NCE points); however, seventh graders also had the greatest average decline in vocabulary (6.1 NCE points).

25. Change in ITBS Total Reading NCE scores: 2013-2014 to 2014-2015

Subject	Grade (in 2014- 2015)	Number of students	Average NCE scores		
			2013-2014	2014-2015	Difference
<i>Vocabulary</i>	4	16	55.6	55.4	-0.2
	5	18	70.9	70.6	-0.3
	6	10	74.4	72.4	-2.0
	7	13	65.8	59.7	-6.1
	8	11	71.7	74.5	+2.8
	Overall	68	67.7	66.5	-1.2
<i>Comprehension</i>	4	16	51.8	55.3	+3.5
	5	18	66.3	65.2	-1.1
	6	10	71.7	68.8	-2.9
	7	13	55.8	61.8	+6.0
	8	11	69.6	71.0	+1.4
	Overall	68	63.0	64.4	+1.4
Total Reading	4	16	56.3	53.6	-2.7
	5	17	70.8	72.2	+1.4
	6	10	71.4	73.6	+2.2
	7	13	61.4	61.9	+0.5
	8	4	74.1	72.0	-2.1
	Overall	60	66.8	66.7	-0.1

Figure 26 shows the percentages of students who scored at or above average in 2013-2014 to 2014-2015 (scoring at or above the mean of 50 NCE points). Although the percentages of students at or above average in vocabulary (77% to 74%) and comprehension (77% to 75%) declined slightly, there was a slight increase in percentage of students scoring at or above average for Total Reading (75% to 78%).

26. Percent scoring at or above average in reading, 2013-2014 to 2014-2015



Next, Figure 27 shows the change in Total Reading results by student characteristics. Because of the small numbers of Black/African American, American Indian, Asian, Hispanic, and biracial/multiracial students who completed the ITBS in both 2013-2014 and 2014-2015, their data are reported as one group (i.e., other group).

All demographic groups made normative or accelerated progress in Total Reading from 2013-2014 to 2014-2015. White/Caucasian students and students of color made normative progress. Students eligible for free or reduced-price lunch made higher average gain score than students who were not eligible. Boys had a higher average gain than girls. However, differences in average gain scores between these groups are not statistically significant. It should be noted that all student groups, regardless of demographic characteristics, scored at or above the national average in both years.

27. Change in ITBS Total Reading results by student characteristics, 2013-2014 to 2014-2015

Characteristics	N	Average of NCE scores		
		2013-2014	2014-2015	Difference
Student race/ethnicity				
White/Caucasian	42	70.4	71.2	+0.7
Other ^a	26	56.5	57.0	+0.5
Gender				
Female	38	64.9	65.0	+0.1
Male	30	65.2	66.4	+1.1
Free or reduced-price lunch status				
Eligible for free or reduced-price lunch	30	58.7	59.8	+1.1
Not eligible	38	70.1	70.5	+0.4

^a Due to small numbers, Black/African American, Asian, American Indian, Hispanic, and biracial/multiracial students are combined. A few student's demographic data are not available.

Language progress

One-year change in language developmental standard scores is shown by grade in Figure 28. Overall, all grade level students made developmental gains in Total Language. Among those who made gains in Total Language, eighth-grade students made the largest average gain of 23.3 points and the sixth-grade students made the lowest average gain of 13.7 points from 2013-2014 to 2014-2015.

28. Change in ITBS Total Language developmental standard scores, 2013-2014 to 2014-2015

Subject	Grade (in 2014- 2015)	Number of students	Average developmental standard scores		
			2013-2014	2014-2015	Difference
<i>Spelling</i>	4	15	167.4	187.9	+20.5
	5	19	192.5	213.3	+20.8
	6	10	211.6	235.9	+24.3
	7	13	226.3	242.1	+15.8
	8	11	242.2	261.5	+19.3
	Overall	68	208.0	228.1	+20.1
<i>Capitalization</i>	4	13	152.3	164.2	+11.9
	5	19	180.5	193.4	+12.8
	6	10	195.8	206.2	+10.4
	7	13	228.0	230.5	+2.5
	8	11	232.1	265.5	+33.5
	Overall	66	197.7	211.9	+14.2
<i>Punctuation</i>	4	15	165.0	181.4	+16.4
	5	18	191.7	201.9	+10.2
	6	10	207.8	222.2	+14.4
	7	13	219.2	248.0	+28.8
	8	11	244.5	267.8	+23.4
	Overall	67	205.6	224.3	+18.6
<i>Usage and Expression</i>	4	16	182.8	196.5	+13.8
	5	19	207.6	222.2	+14.6
	6	10	246.8	252.2	+5.4
	7	13	236.5	265.2	+28.6
	8	11	268.5	285.3	+16.7
	Overall	69	228.4	244.3	+15.8
Total Language	4	12	168.5	185.2	+16.7
	5	18	194.8	210.2	+15.4
	6	10	215.4	229.1	+13.7
	7	13	227.5	246.4	+18.8
	8	11	246.7	270.0	+23.3
	Overall	64	210.6	228.2	+17.6

Figure 29 presents the average change in NCE scores from 2013-2014 to 2014-2015. Overall, students made accelerated progress on spelling, capitalization, punctuation and Total Language and made slower progress on usage and expression.

Further examining the grade-level scores, all students improved on their average Total Language score except for sixth-grade students who made normative progress. All grade-level students improved on their average score in spelling and punctuation. Fifth-grade students made the greatest progress in punctuation with an increase of 31.2 NCE points.

29. Change in ITBS Total Language NCE scores, 2013-2014 to 2014-2015

Subject	Grade (in 2014- 2015)	Number of students	Average NCE scores		
			2013-2014	2014-2015	Difference
<i>Spelling</i>	4	15	40.9	46.3	+5.4
	5	19	50.8	54.7	+3.9
	6	10	53.4	59.5	+6.1
	7	13	54.3	55.8	+1.5
	8	11	55.6	60.5	+4.8
	Overall	68	51.0	55.4	+4.3
<i>Capitalization</i>	4	13	29.4	29.2	-0.2
	5	19	41.3	42.5	+1.2
	6	10	42.8	41.0	-1.8
	7	13	52.8	48.4	-4.5
	8	11	48.0	58.7	+10.7
	Overall	66	42.9	44.0	+1.1
<i>Punctuation</i>	4	15	38.6	51.2	+12.6
	5	18	29.5	60.7	+31.2
	6	10	42.6	46.0	+3.4
	7	13	46.8	56.9	+10.1
	8	11	32.3	49.3	+17.0
	Overall	67	45.4	53.5	+8.1

29. Change in ITBS Total Language NCE scores, 2013-2014 to 2014-2015 (continued)

Subject	Grade (in 2014-2015)	Number of students	Average NCE scores		
			2013-2014	2014-2015	Difference
<i>Usage and Expression</i>	4	16	55.6	51.3	-4.3
	5	19	58.7	56.4	-2.3
	6	10	71.2	63.6	-7.6
	7	13	57.7	63.5	+5.8
	8	11	64.6	65.6	+1.0
	Overall	69	61.6	60.1	-1.5
Total Language	4	12	41.4	42.4	+1.0
	5	18	50.7	51.8	+1.2
	6	10	54.6	54.3	-0.3
	7	13	54.2	56.8	+2.6
	8	11	56.5	62.5	+6.0
	Overall	64	54.0	53.6	+2.1

Figure 30 shows the percentages of students who scored at or above average in 2013-2014 and 2014-2015 (scoring at or above the mean of 50 NCE points) in Total Language. For all test subjects except punctuation, the percentage of students scoring at or above average in these language tests increased from the previous year. Spelling had the greatest percentage of students scoring at or above at a nine percentage point increase, while punctuation remained steady.

30. Percent scoring at or above average in language, 2013-2014 to 2014-2015

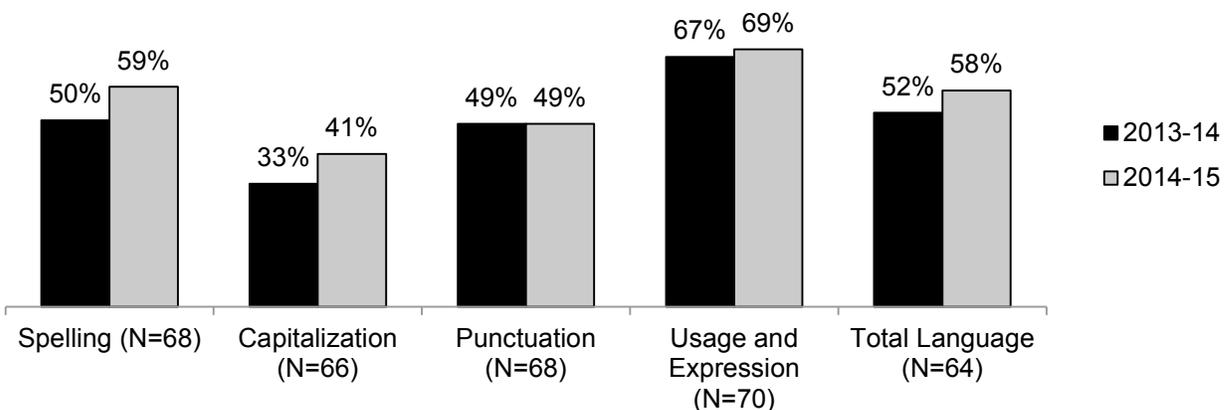


Figure 31 contains the one-year change in Total Language NCE scores by student characteristics. Results show that all groups made normative or accelerated progress on Total Language from 2013-2014 to 2014-2015. Students of color made a higher average gain than White/Caucasian students, and students who were eligible for free or reduced-price lunch made a higher average gain than students who were not eligible. Boys made a higher average gain than girls. However, these average gain differences were not statistically significant. On average, boys made improvement from scoring below the national average in 2013-2014 to above the average in 2014-2015.

31. Change in ITBS Total Language results by student characteristics, 2013-2014 to 2014-2015

Characteristics	N	Average of NCE scores		
		2013-2014	2014-2015	Difference
Student race/ethnicity				
White/Caucasian	38	55.9	57.5	+1.6
Other ^a	26	44.5	47.1	+2.7
Gender				
Female	27	54.4	54.7	+0.3
Male	37	48.9	52.3	+3.3
Free or reduced-price lunch status				
Eligible for free or reduced-price lunch	29	45.8	48.4	+2.6
Not eligible	38	56.1	57.6	+1.6

^a Due to small numbers, Black/African American, Asian, American Indian, Hispanic, and biracial/multiracial students are combined. A few student's demographic data are not available.

Math progress

From 2013-2014 to 2014-2015, students demonstrated developmental progress in math. Figure 32 shows that, on average, students gained 14.9 points on concepts and estimation, 13.1 points on problem solving and data interpretation, 13.0 points on computation, and 13.4 points on Total Math.

32. Change in ITBS Total Math developmental standard scores, 2013-2014 to 2014-2015

Subject	Grade (in 2014-2015)	Number of students	Average developmental standard scores		
			2013-2014	2014-2015	Difference
<i>Concepts and Estimation</i>	4	16	169.6	187.3	+17.7
	5	17	197.7	213.4	+15.6
	6	10	224.9	239.3	+14.4
	7	13	237.2	247.4	+10.2
	8	11	252.6	269.3	+16.6
	Overall	67	216.4	231.3	+14.9
<i>Problem solving and Data Interpretation</i>	4	16	184.1	193.4	+9.3
	5	19	206.5	214.5	+8.0
	6	10	228.9	250.1	+21.2
	7	13	240.3	268.0	+27.7
	8	11	273.8	273.2	-0.6
	Overall	69	226.7	239.8	+13.1
<i>Computation</i>	4	15	164.5	177.3	+12.8
	5	19	180.9	191.8	+10.9
	6	10	198.0	203.2	+5.2
	7	13	210.9	229.0	+18.1
	8	11	218.1	236.0	+17.9
	Overall	68	194.5	207.5	+13.0
Total Math	4	15	173.6	187.5	+13.9
	5	17	196.0	206.1	+10.1
	6	10	217.4	230.7	+13.3
	7	13	229.5	248.1	+18.5
	8	11	248.2	259.5	+11.4
	Overall	66	212.9	226.4	+13.4

The average changes in math NCE scores from 2013-2014 to 2014-2015 are presented in Figure 33. Overall, students had normative or slower progress on all mathematical subject areas. Results in student math progress from 2013-2014 to 2014-2015 vary greatly by grade levels and subject areas. A few individual grade levels made progress over the school years such as the fourth- and eighth-grade in concepts and estimation; sixth- and seventh-grade in problem solving and data interpretation; seventh- and eighth-grade in computation; and seventh-grade in Total Math.

33. Change in ITBS Total Math NCE scores, 2013-2014 to 2014-2015

Subject	Grade (in 2014-2015)	Number of students	Average NCE scores		
			2013-2014	2014-2015	Difference
<i>Concepts and Estimation</i>	4	16	44.8	46.6	+1.8
	5	17	57.7	56.8	-0.9
	6	10	66.7	65.0	-1.7
	7	13	63.5	60.7	-2.8
	8	11	64.6	66.3	+1.6
	Overall	67	59.5	59.1	-0.4
<i>Problem Solving and Data Interpretation</i>	4	16	57.7	50.3	-7.4
	5	19	60.4	54.5	-5.8
	6	10	64.6	67.1	+2.5
	7	13	61.5	68.5	+7.0
	8	11	72.4	64.3	-8.1
	Overall	69	63.3	61.0	-2.4
<i>Computation</i>	4	15	39.3	36.3	-2.9
	5	19	41.2	37.7	-3.4
	6	10	43.4	37.3	-6.1
	7	13	44.5	47.8	+3.2
	8	11	41.0	45.5	+4.5
	Overall	68	41.9	40.9	-1.0
Total Math	4	15	49.0	46.9	-2.1
	5	17	56.2	50.9	-5.4
	6	10	60.8	58.1	-2.7
	7	13	57.6	61.5	+3.9
	8	11	61.7	60.7	-1.0
	Overall	66	57.1	55.6	-1.4

Figure 34 shows the percentages of students who scored at or above average in 2013-2014 to 2014-2015 (scoring at or above the mean of 50 NCE points) in math. Slight increases of one and three percentage points occurred in concepts and estimation and computation, respectively. Among the subject areas, the percentage of students scoring at or above average was the lowest in computation in 2013-2014 and 2014-2015.

34. Percentage of students scoring at or above average in math, 2013-2014 to 2014-2015

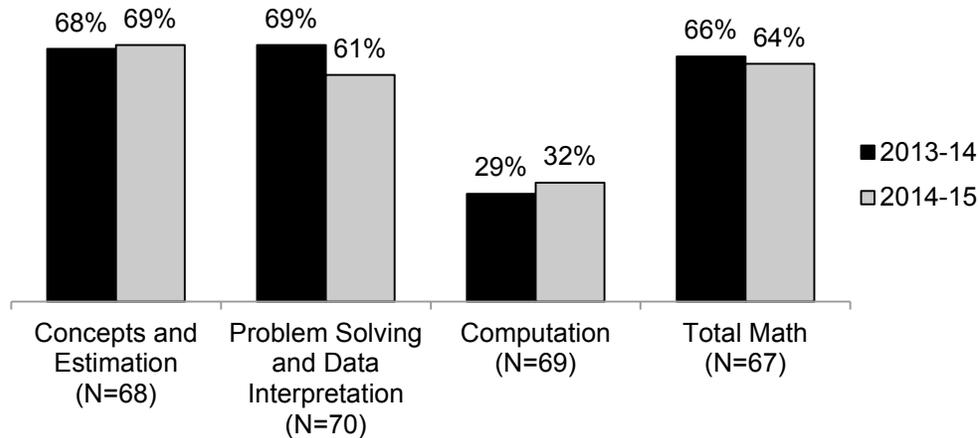


Figure 35 shows one-year change in math NCE results by student characteristics. Results show that all groups had normative or slower than expected progress. On average, White/Caucasian students and students of color made normative progress. Students who were eligible for free or reduced-price lunch made slower than expected progress while those who were ineligible made normative progress. Girls made slower progress than boys. However, none of the differences in the average gain scores between the groups are statistically significant.

35. Change in ITBS Total Math results by student characteristics, 2013-2014 to 2014-2015

Characteristics	N	Average of NCE scores		
		2013-2014	2014-2015	Difference
Student race/ethnicity				
White/Caucasian	83	64.4	64.4	+0.1
Other ^a	23	51.1	50.6	-0.5
Gender				
Female	28	51.9	49.8	-2.2
Male	39	58.8	58.2	-0.6
Free or reduced-price lunch status				
Eligible for free or reduced-price lunch	29	52.6	49.9	-2.6
Not eligible	38	58.5	58.3	-0.3

^a Due to small numbers, Black/African American, Asian, American Indian, Hispanic, and biracial/multiracial students are combined. A few student's demographic data are not available.

Core Battery results

Figure 36 demonstrates the Core Battery Scores, which are a combination of scores from the ITBS reading, language, and math tests. Average developmental standard scores increased for all grade levels. Students' average developmental gains ranged from 13.2 points for fifth-grade to 17.5 points for seventh-grade.

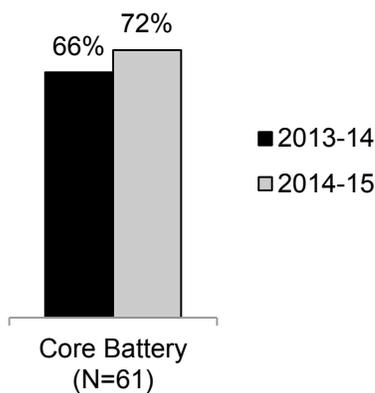
In terms of NCE scores, overall students scored above the national average in both years. Looking at individual grades, fourth-grade students made normative progress, while the seventh- and eighth-grade students made progress of 2.2 and 2.8 points, respectively. Fifth- and sixth-grade students made slower than expected progress, on average.

36. Change in ITBS Core Battery scores, 2013-2014 to 2014-2015

Grade (in 2013-2014)	Number of students	Average developmental standard scores		
		2013-2014	2014-2015	Difference
4	12	176.1	193.2	+17.1
5	15	204.7	217.9	+13.2
6	10	223.0	236.4	+13.4
7	13	230.1	247.6	+17.5
8	11	252.5	269.7	+17.3
Overall	61	217.3	233.0	+15.7
		Average NCE scores		
4	12	50.5	50.6	+0.1
5	15	62.1	59.0	-3.1
6	10	63.3	60.9	-2.4
7	13	58.0	60.2	+2.2
8	11	63.4	66.2	+2.8
Overall	61	59.4	59.3	-0.1

Figure 37 illustrates that the percentage of students scoring at or above the national average in Core Battery increased by six percentage points from 2013-2014 to 2014-2015.

37. Percent scoring at or above average in ITBS Core Battery, 2013-2014 to 2014-2015



Students' progress on the ITBS Core Battery is also analyzed by their characteristics (Figure 38). White/Caucasian students and students of color and students who were eligible and ineligible for free or reduced-price lunch made normative progress. Boys made normative progress while girls' progress declined slightly. All groups scored at or above the national average in both years.

38. Change in ITBS Core Battery results by student characteristics, 2013-2014 to 2014-2015

Characteristics	N	Average of NCE scores		
		2013-2014	2014-2015	Difference
Student race/ethnicity				
White/Caucasian	38	64.4	64.4	+0.1
Other ^a	23	51.1	50.6	-0.5
Gender				
Female	25	58.8	57.8	-1.0
Male	36	59.8	60.1	+0.4
Free or reduced-price lunch status				
Eligible for free or reduced-price lunch	27	52.9	53.2	+0.3
Not eligible	34	64.5	63.9	-0.6

^a Due to small numbers, Black/African American, Asian, American Indian, Hispanic, and biracial/multiracial students are combined. A few student demographic data are not available.

Science progress

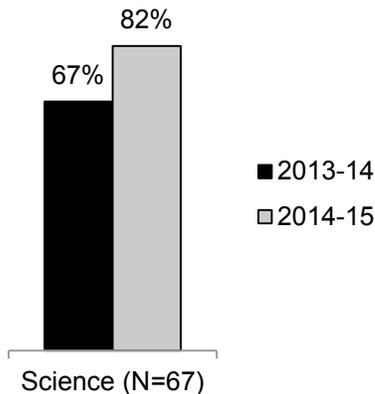
As shown in Figure 39, all grade levels made developmental gains in ITBS Science with fifth-grade students increasing their average score the greatest (30.8 points). In terms of NCE scores, all grade levels made progress with fifth-grade students making the greatest progress at 10.4 points. Students' average scores in both years were well above the national average.

39. Change in ITBS Science scores, 2013-2014 to 2014-2015

Grade (in 2013-2014)	Number of students	Average developmental standard scores		
		2013-2014	2014-2015	Difference
4	16	180.4	202.4	+21.9
5	17	201.8	232.6	+30.8
6	9	241.3	261.9	+20.6
7	13	251.5	277.6	+26.2
8	11	277.8	292.5	+14.7
Overall	66	230.6	253.4	+22.8
		Average NCE scores		
4	16	53.0	56.0	+3.0
5	17	56.1	66.4	+10.4
6	9	71.0	73.6	+2.6
7	13	66.5	73.5	+6.9
8	11	73.6	74.2	+0.5
Overall	66	64.0	68.7	+4.7

Figure 40 shows the percentage of students scoring at or above the national average in science. In 2014-2015, 82 percent of students scored at or above the national average (i.e., at or above 50 NCE points) in science, a large increase from 67 percent in 2013-2014.

40. Percent scoring at or above average in science, 2013-2014 to 2014-2015



Results of students' progress on ITBS Science is also analyzed by their characteristics as shown in Figure 41. Students who were not eligible for free or reduced-price lunch made accelerated progress and had a higher average gain than students who were eligible. Similarly, students of color made larger average gain than White/Caucasian students. Boys scored higher than girls in both years and made slightly larger average gain than girls over the one-year period. However, none of the differences in average gains between groups are statistically significant. All student groups scored above the national average in both years.

41. Change in ITBS Science results by student characteristics, 2013-2014 to 2014-2015

Characteristics	N	Average of NCE scores		
		2013-2014	2014-2015	Difference
Student race/ethnicity				
White/Caucasian	39	69.3	73.7	+4.5
Other ^a	28	50.8	58.8	+8.1
Gender				
Female	21	61.6	64.2	+2.6
Male	28	67.5	70.9	+3.4
Free or reduced-price lunch status				
Eligible for free or reduced-price lunch	32	57.9	62.0	+4.1
Not eligible	35	64.9	72.5	+7.7

^a Due to small numbers, Black/African American, Asian, American Indian, Hispanic, and biracial/multiracial students are combined. A few students' demographic data are not available.