

TENTH-GRADE WASL IN SPRING 2006: HOW INDIVIDUAL STUDENT CHARACTERISTICS ARE ASSOCIATED WITH PERFORMANCE

The 2006 Legislature directed the Washington State Institute for Public Policy (Institute) to conduct a “review and statistical analysis of Washington assessment of student learning [WASL] data.”¹ In particular, the Institute was instructed to:

- Increase understanding of the students who did not meet standard in one or more subject areas;
- Identify the characteristics of these students; and
- Identify possible barriers to student success on the WASL.

This report describes how student characteristics are individually associated with performance on the reading, writing, and math assessments of the 10th-grade WASL in spring 2006, and identifies groups of students with the lowest and highest met-standard rates.

This analysis complements a report recently issued by the Institute that used multivariate statistical techniques to evaluate the relative association of different student characteristics on WASL performance.²

We begin with a brief discussion of the multiple factors that affect performance on the WASL. We then identify groups of low- and high-performing students. Finally, we present a series of graphs that display WASL met-standard rates for different categories of students. In particular, we consider the following student characteristics:

- Demographic traits (e.g., gender, race/ethnicity, poverty);
- Family background;
- Educational aspirations and performance; and
- School attendance records and study habits.

¹ SSB 6618, Chapter 352, Laws of 2006.

² R. Barnoski & W. Cole. (2007). *Tenth-grade WASL in spring 2006: Relative strength of associations between student characteristics and met-standard rates*. Olympia: Washington State Institute for Public Policy, Document No. 07-01-2206.

SUMMARY

This report describes how performance on the 10th-grade WASL in spring 2006 varied by student characteristics.

Key finding: A student’s grade point average is the only student characteristic whose association with met-standard rates on the 10th-grade WASL is even moderately strong. Taken individually, all other student characteristics are weakly associated with WASL performance.

Groups of students with **met-standard rates less than or equal to 35 percent** had one or more of the following demographic characteristics in common:

- ✓ Minority status (African American, American Indian, Hispanic),
- ✓ In poverty,
- ✓ Non-English speaker,
- ✓ Disability status,
- ✓ Enrollment in special education, and/or
- ✓ Parent with less than a high school education.

These students, who represented 42.5 percent of WASL completers in spring 2006, accounted for approximately 75 percent of the students who did not meet standard in reading and writing, and 60 percent of students who did not meet standard in math.

Groups of students with **met-standard rates less than or equal to 35 percent** also shared one or more of the following performance-oriented characteristics:

- ✓ GPA below 2.5,
- ✓ Behind grade-level,
- ✓ Poor school attendance,
- ✓ Poor study habits, and/or
- ✓ No aspirations to pursue postsecondary education.

Only three groups of students had overall **met-standard rates above 75 percent**:

- ✓ GPA over 3.5
- ✓ Participation in a gifted/highly capable program, and/or
- ✓ Parent who attended post-graduate school.

FACTORS AFFECTING STUDENT PERFORMANCE ON THE WASL

A student's performance on the WASL is a function of several factors. As illustrated in **Exhibit 1**, these factors include student characteristics, classroom instruction, curriculum alignment with state learning standards, school environmental factors, and extra assistance or remediation. As with any analysis, there are also factors that are unknown or cannot be readily measured.

Classroom instruction consists of factors such as teacher background, experience, and pedagogical style; teaching materials and technologies; teachers' rapport with students; and classroom environment (e.g., safety and disruptive behavior).

Curriculum alignment describes the extent to which classroom instruction and assessments such as the WASL are congruent with statewide learning standards (i.e., the Essential Academic Learning Requirements and Grade Level Expectations).

School environment encompasses an array of characteristics, including school leadership, professional development opportunities, staff collaboration, access to technological and financial resources, safety, and attendance policies.

Extra assistance refers to intervention programs designed to help students meet standard on the WASL. In 2006, for example, the Legislature provided \$28.5 million for the Promoting Academic Success (PAS) program.³

Finally, WASL performance is also a function of **student characteristics**. This report examines the percentage of students who met standard based on a variety of demographic and performance-oriented characteristics.

³ R. Barnoski. (2006). *Summer 2006 Promoting Academic Success program: Influence on WASL retake scores—Revised*. Olympia: Washington State Institute for Public Policy, Document No. 06-12-2202. The Institute will continue to evaluate the success of PAS in a series of future reports.

We obtained data from three sources:

- 10th-grade WASL results for spring 2006,
- the Core Student Record System (CSRS) for school-year 2005–06 compiled by the Office of Superintendent of Public Instruction (OSPI), and
- Survey responses from the 2005 9th-grade Iowa Tests of Educational Development (ITED).

An appendix at the end of this report contains detailed data tables.

LOW- AND HIGH-PERFORMING GROUPS OF STUDENTS

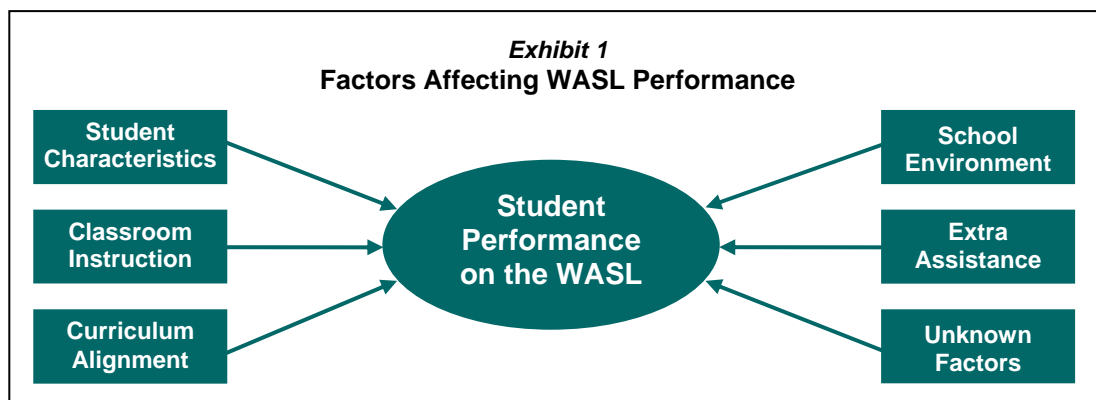
We begin by identifying student characteristics that are associated with relatively low and high met-standard rates on the WASL.

- The **low-performing group** is defined as students with met-standard rates of less than or equal to 35 percent.
- The **high-performing group** is defined as students with met-standard rates equal to or greater than 75 percent.

There are no common definitions or criteria for identifying low and high performance. We selected the lower bound, 35 percent, to correspond approximately with the percentage of "disadvantaged" students who met standard on the 10th-grade WASL in spring 2006.⁴ As for the upper bound, 75 percent is roughly equivalent to the on-time graduation rate in 2005.⁵ Meeting standard on the WASL is now a prerequisite for graduation; as such, we reasoned that the graduation rate furnishes a useful performance threshold for our analysis.

⁴ "Disadvantaged" students have one or more of the following characteristics: minority group status, in poverty, non-English speaking, enrolled in special education, a disability, or a parent who did not finish high school. In spring 2006, 34.1 percent of these students met standard on the WASL (see Exhibit 2).

⁵ R. Barnoski & W. Cole. (2006). *A historic look at the WASL and high school graduation*. Olympia: Washington State Institute for Public Policy, Document No. 06-09-2202.



DEMOGRAPHIC CHARACTERISTICS

Exhibit 2 displays results for demographic categories of students with met-standard rates of less than or equal to 35 percent on the 10th-grade WASL in spring 2006.

On average, students with low WASL performance had one or more of the following demographic characteristics:

- Belonged to a racial or ethnic minority group (African American, Hispanic, or American Indian),
- Were in poverty,
- Were non-English speakers or English language learners,
- Had at least one documented disability,
- Were enrolled in special education, and/or
- Had parents who did not finish high school.

African American, American Indian, and Hispanic students collectively represented 16.9 percent of students who completed the WASL; in spring 2006, the met-standard rate for these students was 28.6 percent.

Students living in poverty—defined as students who were eligible for free or reduced-price meal benefits, and/or who received services from the Title I Targeted Assistance or Migrant Education programs—represented the largest group of students with a met-standard rate of less than 35 percent. These students accounted for 27.4 percent of WASL completers and had a met-standard rate of 33.1 percent.

Students with disabilities, representing 6.6 percent of students who completed the WASL, had the lowest met-standard rate (11.1 percent).

Students who possess one or more of the characteristics in Exhibit 2 comprise 42.5 percent of WASL completers, of whom 34.1 percent met standard on the WASL. The bottom row of **Exhibit 3** shows the number of these students who did not meet standard in each subject-area assessment of the WASL. Students with at least one of the characteristics in Exhibit 2 account for 78 percent of students who did not meet standard in reading, 75 percent of students who did not meet standard in writing, and 60 percent of students who did not meet standard in math.

Exhibit 2
Student Demographic Characteristics
Groups of Students With Met-Standard Rates
Less Than or Equal to 35 Percent

Categories of students	Percentage of students	Percentage met standard			
		All Three	Reading	Writing	Math
All students	100.0	54.2	86.3	84.3	54.9
Race/Ethnicity					
African American	4.4	26.5	73.6	73.3	26.5
Hispanic	9.9	28.0	68.3	65.7	28.6
American Indian	2.4	34.9	75.8	74.0	36.1
Any of the above	16.9	28.6	70.7	69.0	29.1
Poverty					
Free or reduced-price meal	27.1	33.2	73.2	71.0	34.1
Title I Migrant	2.3	17.3	56.9	53.4	19.3
Title I Targeted Assistance	1.8	16.5	56.4	54.0	17.8
Any of above	27.4	33.1	73.1	70.9	34.1
Language					
Primary language is not English	8.5	30.7	62.8	60.7	32.8
Primary language is Spanish	4.4	15.5	52.9	49.1	16.6
Non-Asian primary language	6.7	22.4	57.1	54.9	23.8
Bilingual program	4.3	12.0	41.4	38.7	16.1
English language learner	3.2	11.2	41.0	39.0	14.7
English as Second Language	0.2	9.2	21.6	17.8	11.2
Disability					
Special education	7.4	12.9	46.9	43.0	14.9
Has a disability	6.6	11.1	44.8	41.0	13.4
Family Background					
Parents did not finish high school	5.6	26.2	70.5	67.7	27.0
Any of the above demographic characteristics					
Yes	42.5	34.1	74.2	71.9	35.1
No	57.5	67.5	94.9	93.1	68.7

Exhibit 3
Students Who Did Not Meet Standard on the
10th-Grade WASL in Spring 2006

	Reading	Writing	Math
Students who completed the subject-area assessment	68,505	68,227	67,758
Students who did not meet standard (percentage of students who completed the assessment)	9,480 (14%)	10,841 (16%)	30,732 (45%)
Students who did not meet standard and who had at least one of the characteristics in Exhibit 2 (percentage of students who did not meet standard)	7,437 (78%)	8,083 (75%)	18,303 (60%)

“PERFORMANCE-ORIENTED” CHARACTERISTICS

Exhibit 4 displays groups of students with met-standard rates on the 10th-grade WASL in spring 2006 at or below 35 percent by “performance-oriented characteristics,” defined as characteristics that are a function of or related to a student’s prior or current academic performance. For example, a student may adjust his or her educational aspirations based on prior achievement in classes or on tests.

With respect to performance-oriented characteristics, low-performing students:

- Had low GPAs,
- Were behind grade-level,
- Received services from a Learning Assistance Program,
- Had poor attendance records,
- Had poor study habits, and/or
- Did not aspire to continue their education beyond high school.

Students with a GPA of less than 1.0—representing 5.4 percent of students who took the WASL in spring 2006—had a 17.2 percent met-standard rate. Altogether, approximately one-quarter of the 36.4 percent of students with a GPA below 2.5 met standard on the WASL.

Students who received services from a Learning Assistance Program (3.5 percent of WASL completers in spring 2006) had the lowest met-standard rate—15.7 percent.

Exhibit 4 also shows that students who do not attend school regularly or who reported spending no time on homework also had low met-standard rates, but these students accounted for a small fraction of WASL completers.

Exhibit 5 displays WASL results for high-performing groups of students—that is, categories of students with met-standard rates of 75 percent or greater on the 10th-grade WASL in spring 2006.

Students with a GPA between 3.5 and 3.9 represented 22.3 percent of students who completed the WASL, and 86.6 percent of these students met standard in reading, writing, and math. Students with a GPA of 4.0, comprising 4.3 percent of WASL completers, had an overall met-standard rate of 96.7 percent.

The only other characteristics associated with met-standard rates above 75 percent were receipt of services from a gifted/highly capable program (2.4 percent of WASL completers) and students whose parent(s) hold an advanced post-graduate degree (17.7 percent of completers).

Exhibit 4
School Performance-Oriented Characteristics
Groups of Students With Met-Standard Rates
Less Than or Equal to 35 Percent

Categories of students	Percentage of students	Percentage met standard			
		All Three	Reading	Writing	Math
All students	100.0	54.2	86.3	84.3	54.9
Academic performance					
GPA less than 1.0	5.4	17.2	60.3	57.5	17.8
GPA 1.0 to 1.9	16.7	20.3	70.2	66.3	22.8
GPA 2.0 to 2.4	14.4	32.5	81.1	77.7	35.4
GPA below 2.5	36.4	25.2	73.3	69.7	27.3
Behind grade level	2.5	22.2	60.3	56.6	21.0
Spends no time on homework	2.8	35.0	70.1	64.9	36.3
Adult helps with homework everyday	6.5	26.8	70.3	69.0	27.8
Learning Assistance Program					
Learning Assistance Program	3.5	15.7	64.1	59.0	17.6
Enrollment/Attendance*					
Enrolled less than 18 days during reporting month	1.2	28.8	69.4	64.9	28.7
Not enrolled in school	0.5	19.2	60.1	58.5	20.5
Attended less than 5 days during reporting month	0.5	28.2	64.5	62.0	28.1
Attended 6 to 10 days during reporting month	0.8	29.7	68.8	63.8	27.3
Educational Aspirations					
Not graduate high school	0.8	25.5	59.7	58.7	26.4
Graduate high school, no post-secondary	5.0	22.6	62.9	59.6	24.0
Vocational/trade school	19.1	33.5	78.3	74.5	36.1

* The reporting month for attendance and enrollment data was October 2005.

Exhibit 5
Groups of Students with Met-Standard Rates Over 75 Percent

Categories of students	Percentage of students	Percentage met standard			
		All Three	Reading	Writing	Math
GPA 3.5 to 3.9	22.3	86.6	98.3	97.7	87.3
GPA 4.0	4.3	96.7	99.2	98.8	97.2
Gifted/highly capable program	2.4	93.8	99.5	99.3	94.2
One parent attended post-graduate school	17.7	78.1	96.1	94.5	78.9

WASL PERFORMANCE BY INDIVIDUAL CHARACTERISTICS

This section examines the relationship between student characteristics and WASL performance in greater detail.

Demographic Factors

We begin with an analysis of the relationship between WASL performance and students' demographic characteristics.

Gender

In spring 2006, female students accounted for 49.6 percent of all 10th graders; correspondingly, 50.4 percent of students were male. Compared with male students, female students performed slightly worse in math, slightly better in reading, and substantially better in writing. Ninety percent of female students met standard in writing compared with 79 percent of male students.

Race/Ethnicity

White students, who accounted for nearly 75 percent of 10th graders in spring 2006, had the highest met-standard rate in reading (90 percent). Asian students, the second-largest minority group, had the highest met-standard rates in writing (88 percent) and math (63 percent). Met-standard rates in reading and writing were lowest for Hispanic students; conversely, African American students had the lowest average met-standard rate in math.

Primary Language Spoken

Students who speak English as their primary language had the highest met-standard rates in reading and writing.⁶ Students who speak an Asian language had the highest met-standard rate in math. Among Spanish-speaking students, the largest foreign language group (4.4 percent of all students), 53 percent met standard in reading, 49 percent met standard in writing, and 17 percent met standard in math.

⁶ In this exhibit, English-speaking students include students with missing language data, because the met-standard rates are identical.

Exhibit 6: Gender

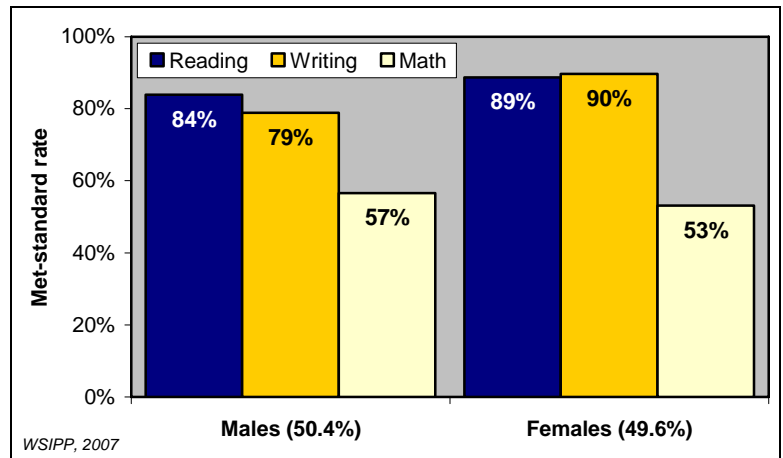


Exhibit 7: Race/Ethnicity

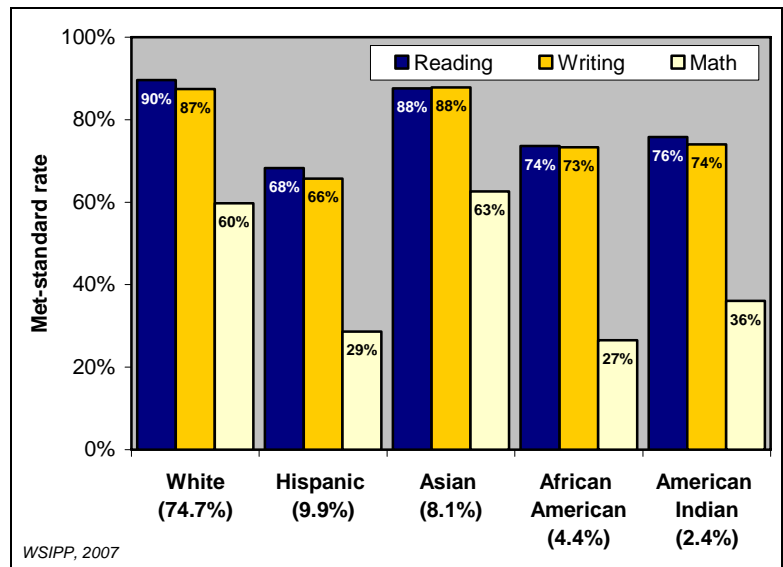
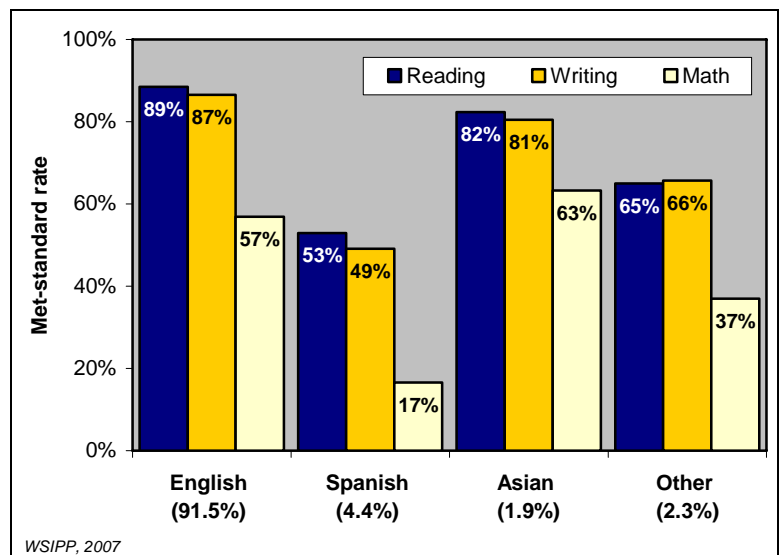


Exhibit 8: Primary Language Spoken



Free or Reduced-Price Meal Benefits

Eligibility for free or reduced-price meal benefits, a commonly used indicator of socioeconomic status, was also associated with performance on the WASL. In spring 2006, 27.1 percent of students who completed the 10th-grade WASL were eligible for free or reduced-price meals. The met-standard rate for these students trailed the rate for all other students by approximately 18 percentage points in reading and writing. The difference in math performance was larger (28 percentage points).

In this analysis, we define “poverty” status as students who received services from the Title I Targeted Assistance or Migrant Education programs, and/or who were eligible for free or reduced-price meal benefits. Slightly more students are considered to be in poverty when these additional criteria are included.

Disability Status and Special Education

Most 10th-grade students who took the WASL in spring 2006 (93.4 percent) did not have a documented disability. Students with at least one disability met standard in reading and writing at approximately half the rate of non-disabled students: among students with a disability, the met-standard rates for reading and writing were 45 and 41 percent, respectively, compared with 89 and 87 percent for non-disabled students. In math, the met-standard rate for students with disabilities was less than one quarter that of non-disabled students.

Students who received special education services—6.5 percent of all 10th graders who participated in the WASL in spring 2006—met standard at rates similar to students with disabilities.

Exhibit 9: Eligibility for Free or Reduced-Price Meal Benefits

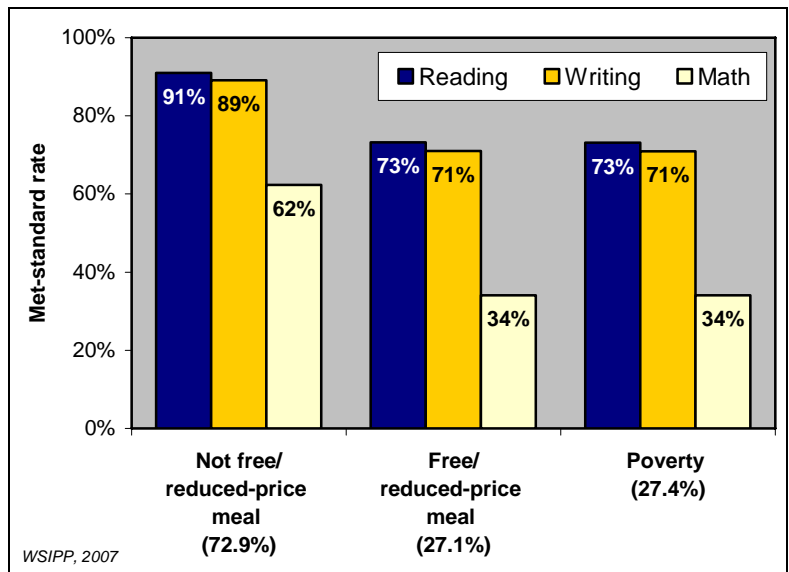
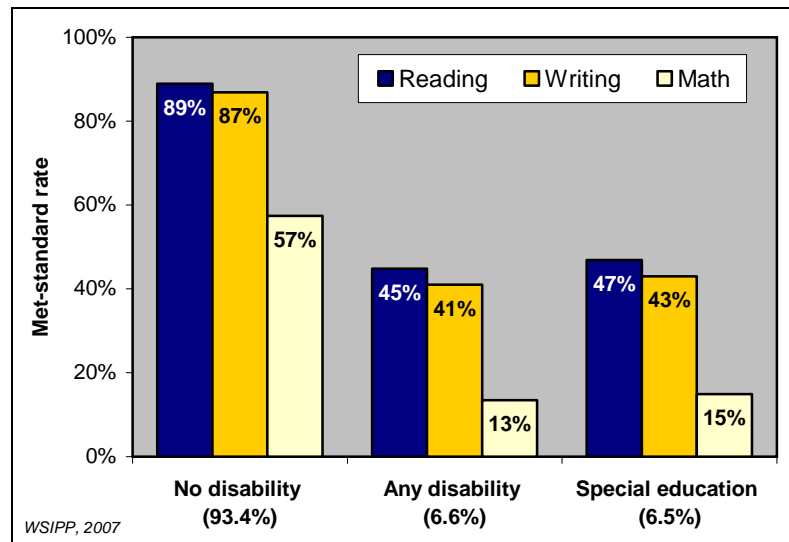


Exhibit 10: Disability Status and Special Education



Family Background Factors

Educational Attainment of Parents

Parents' educational attainment is an indicator of a student's family background. Students with at least one parent who graduated from college or attended graduate school had the highest met-standard rates on the WASL.⁷ This pattern is particularly evident for math: 73 percent of students with at least one parent who graduated from college met standard in math compared with 27 percent of students whose parent(s) attended but did not graduate from college.⁸

Use of Home Computer for School

A student's use of a home computer for school was positively associated with WASL results. Nearly 20 percent of 10th graders did not have a computer in their home one year before the WASL was administered.⁹ Students who reported using a home computer for school had the highest met-standard rates for reading (91 percent), writing (90 percent), and math (62 percent).

Students with a computer at home, but who reported that it was not used for schoolwork, had much lower met-standard rates, especially in math. The results for students without a home computer are similar to those for students with a home computer but who did not use it for school. This suggests that it is the *use* of computers for school, rather than *access* to computers per se, that drives average WASL results upward.

Exhibit 11: Parents' Education

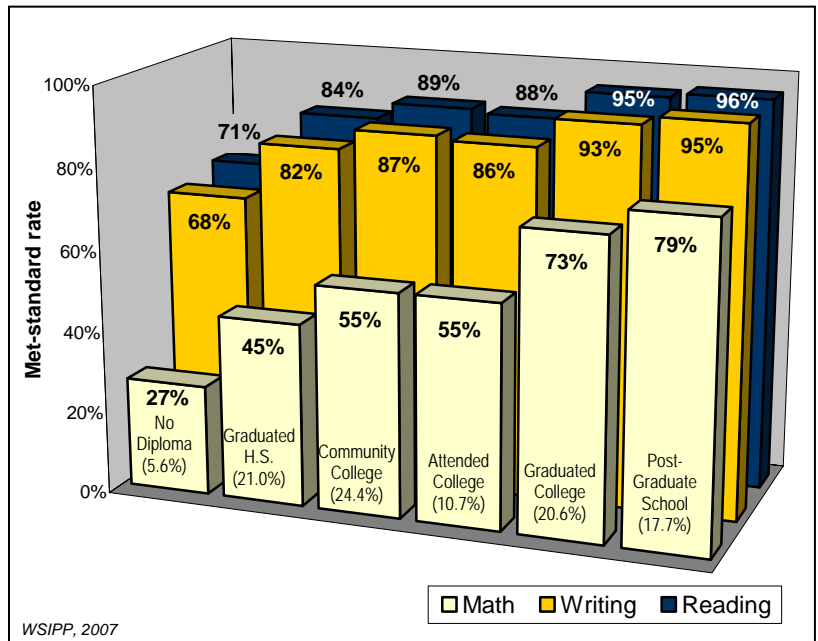
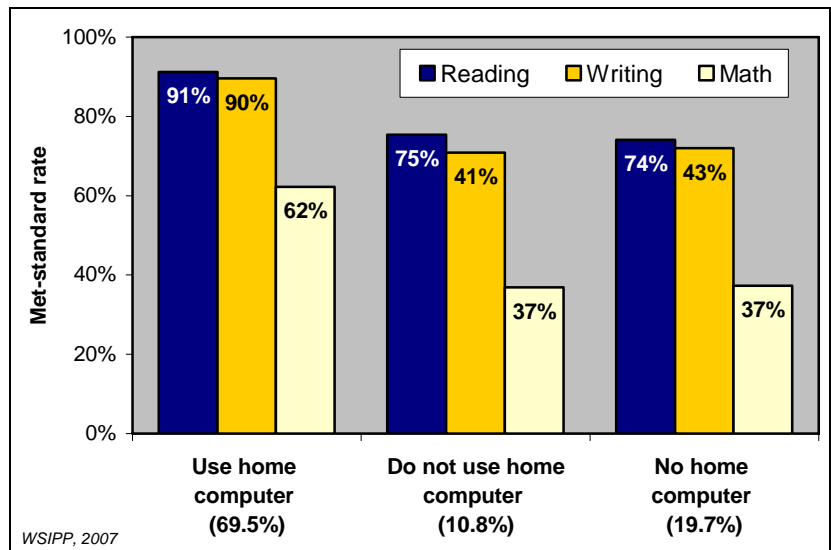


Exhibit 12: Use of Home Computer for School



⁷ Based on students who answered this question on the 9th-grade Iowa Test of Educational Development survey; approximately 25 percent did not answer this item.

⁸ The appendix disaggregates these data by reporting mother's and father's educational attainment separately.

⁹ Based on students who answered this question on the 9th-grade Iowa Test of Educational Development survey; approximately 15 percent did not answer this item.

Academic Performance and Aspirations

Grade Point Average

Grade point average (GPA) was strongly related to WASL performance. As GPA increases, the percentage of students who met standard on the WASL also increases. For example, among the 5.4 percent of 10th graders with a GPA of less than 1.0 who completed the WASL, 60 percent met standard in reading, 58 percent in writing, and 18 percent in math. Conversely, nearly every student with a 4.0 GPA met standard in reading, writing, and math. Students with a GPA between 3.5 and 3.9 also performed well on the WASL.

Vocational Education

Students who participated in vocational education programs, representing 34 percent of students who completed the WASL in spring 2006, had slightly lower met-standard rates than students who did not participate in vocational education.

Educational Aspirations

Students who plan to continue their education beyond high school had higher WASL met-standard rates than students who do not plan to attend postsecondary education.¹⁰ Based on survey responses on the 9th-grade ITED, a plurality of students (41.3 percent) plans to graduate from college. Met-standard rates for these students exceeded 90 percent in reading and writing, but reached only 65 percent in math. For the 22.7 percent of students who plan to attend graduate school, 75 percent met standard in math, 94 percent met standard in writing, and 95 percent met standard in reading.

Exhibit 13: Grade Point Average

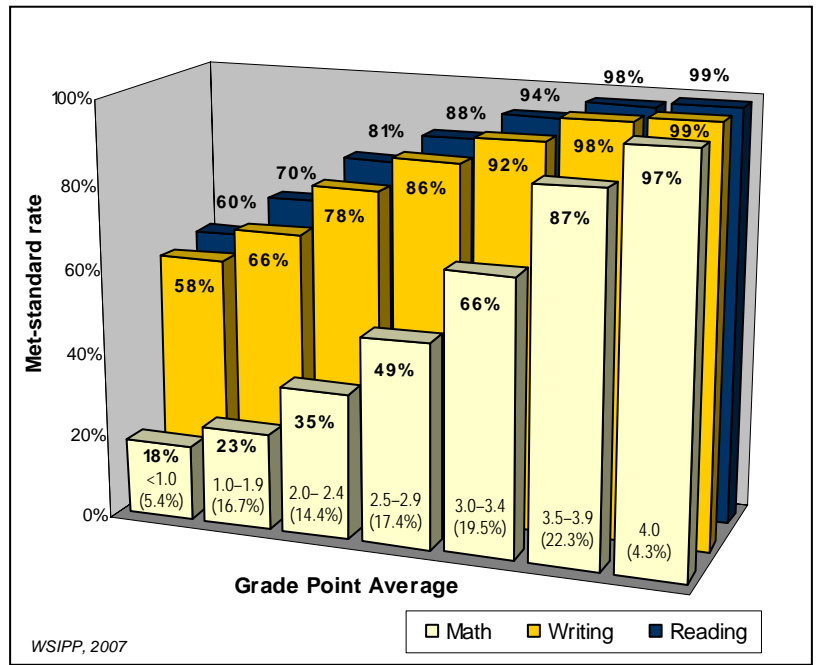


Exhibit 14: Vocational Education

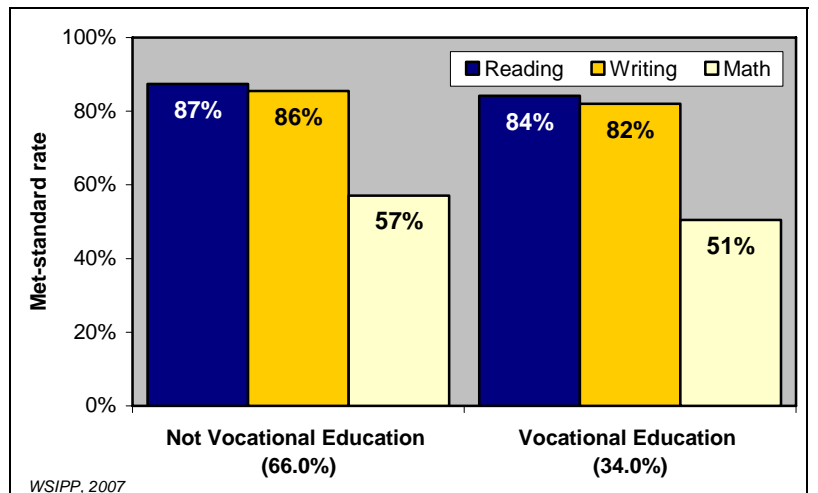
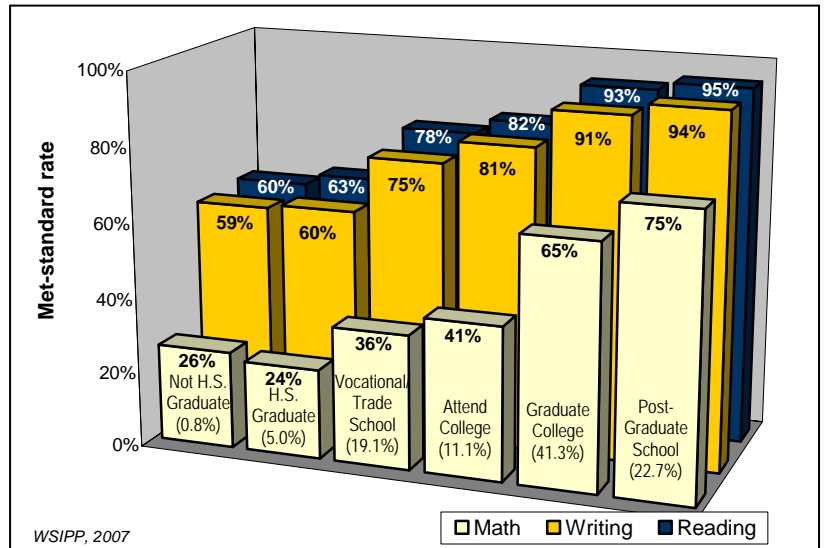


Exhibit 15: Educational Aspirations



¹⁰ Based on students who answered this question on the 9th-grade Iowa Test of Educational Development survey; approximately 15 percent did not answer this item.

School Attendance and Study Habits

Number of Days Attended

As the number of days a student attended school during October 2005 increased, met-standard rates also increased.¹¹

Approximately 28 percent of students who attended 1 to 5 days of school in October 2005 met standard in math, compared with 62 percent in writing and 65 percent in reading. However, these students represented only 0.5 percent of all 10th graders.

Nearly half of students (49.2 percent) attended school for 20 or more days in the month. These students had the highest met-standard rates in reading (88 percent), writing (86 percent), and math (60 percent).

Time Spent on Homework

Met-standard rates on the WASL increased as a student's self-reported time spent on homework increased.¹² The largest group of students (24.3 percent) reported spending between 4 and 6 hours per week on homework. More than 90 percent of these students met standard in reading and writing, and two-thirds met standard in math. Performance in math improved substantially among students who reported spending 7 to 9 hours on homework per week. The percentage of students who met standard in reading, writing, and math declined slightly among students who spent 10 or more hours on homework weekly.

Time Spent Watching TV

As the number of hours that students spent watching TV during the school week increases, met-standard rates decrease, especially for math.¹³ Of the 6.2 percent of students who reported watching 5 or more hours of TV, 36 percent met standard in math; this compares with a met-standard rate in math of 68 percent for students who did not watch TV during the school week.

¹¹ Attendance data reported in OSPI's Core Student Record System are based on October 2005 (fall enrollment) counts.

¹² Based on students who answered this question on the 9th-grade Iowa Test of Educational Development survey; approximately 15 percent did not answer this item.

¹³ Ibid.

Exhibit 16: Days Attending School in Reporting Month

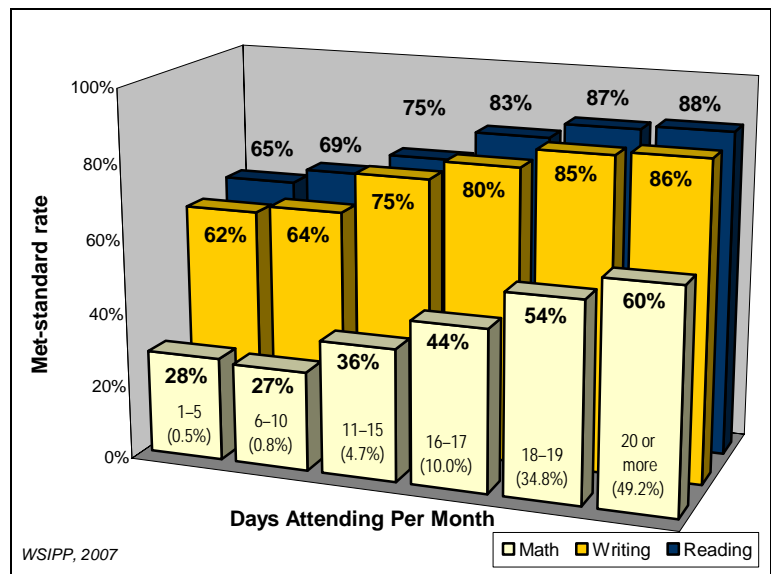


Exhibit 17: Time Spent on Homework Each Week

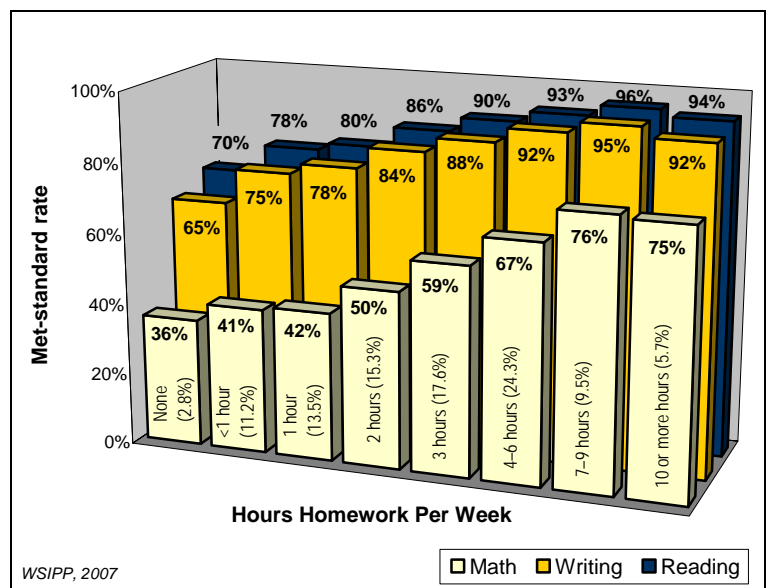
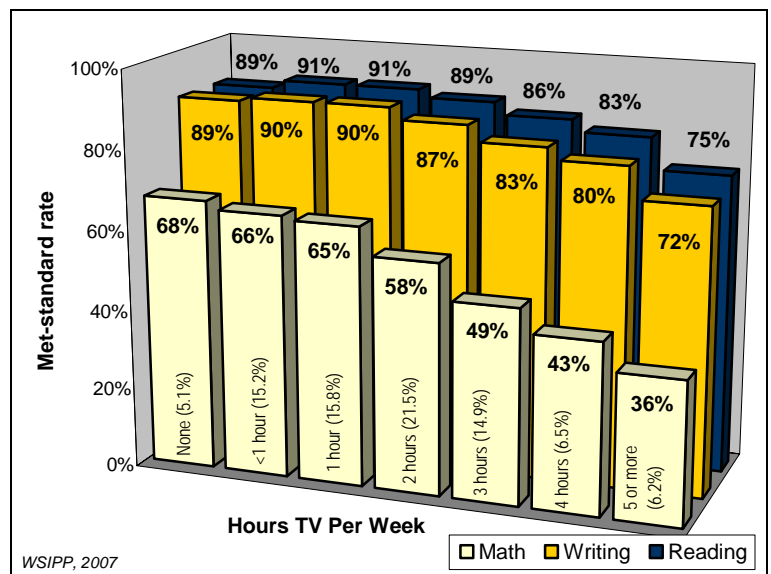


Exhibit 18: Hours Spent Watching TV



MEASURING THE STRENGTH OF ASSOCIATION BETWEEN STUDENT CHARACTERISTICS AND WASL PERFORMANCE

This section summarizes the strength of the associations between each student characteristic and WASL met-standard rates.

The strength of association is measured using a statistic called the Area Under the Receiver Operating Characteristic Curve (AUC). The AUC, which varies between 0.500 and 1.00, describes the degree of *explanatory power* attributed to a characteristic:¹⁴

AUC statistic	Explanatory power
.500 – .599	None
.600 – .699	Weak
.700 – .799	Moderate
.800 – .899	Strong
.900 – .999	Very Strong
1.00	Full

Put differently, an AUC of 1.00 means that one could determine whether a student did or did not meet standard simply by knowing that he or she possessed the associated characteristic; conversely, an AUC of 0.500 indicates that a characteristic does not by itself distinguish students by their performance on the WASL.

Exhibit 19 displays the AUCs for each student characteristic included in this report. The largest AUC corresponds to the association between grade point average (GPA) and met-standard rates (0.780 for reading, 0.774 for writing, and 0.799 for math). GPA is the only student characteristic whose association with WASL performance registers an AUC of 0.700 or greater.

Considered individually, most student characteristics are weakly associated with meeting standard in each content area. However, a combination of six demographic characteristics—gender, race/ethnicity, poverty, language, special education, and parents' education—is moderately-to-strongly associated with WASL performance.

¹⁴ *The Area Under an ROC Curve* <<http://jim.unmc.edu/dxtests/roc3.htm>>; M.E. Rice & G.T. Harris. (2005). Comparing effect sizes in follow-up studies: ROC Area, Cohen's *d*, and *r*. *Law and Human Behavior* 29(5): 615-620; J.A. Swets. (1988). Measuring the accuracy of diagnostic systems. *Science* 240: 1285-1293.

Exhibit 19 Measuring the Strength of Associations: AUCs

Student Characteristics	Reading	Writing	Math
Demographics			
Males	0.550	0.602	0.518
White	0.603	0.585	0.573
African American	0.523	0.518	0.525
Asian	0.505	0.511	0.513
Hispanic	0.574	0.569	0.551
American Indian	0.510	0.509	0.509
Primary Language			
English speakers	0.561	0.554	0.527
English language learners	0.560	0.553	0.525
English spoken at home	0.586	0.583	0.552
Poverty	0.650	0.635	0.611
Free/reduced-price meals	0.647	0.633	0.610
Disability/Special Education			
Disability	0.606	0.593	0.547
Special education	0.612	0.600	0.551
Family Background			
Parents' education	0.680	0.667	0.666
Home computer for school	0.646	0.641	0.604
Access to the internet	0.621	0.611	0.587
Academic Performance			
GPA	0.780	0.774	0.799
Vocational education	0.530	0.530	0.530
Educational aspirations	0.689	0.684	0.677
Attendance/Study Habits			
Days attending school	0.560	0.552	0.571
Time spent on homework	0.670	0.665	0.648
Time spent watching TV	0.614	0.616	0.614
Combination of Characteristics			
Gender, Race/Ethnicity, Poverty, Language, Special education, Parents' education	0.800	0.798	0.736

A multivariate analysis conducted by the Institute concluded that demographic and performance-oriented characteristics are strongly predictive of who meets standard in reading and writing, but are somewhat less predictive of who meets standard in math.¹⁵

¹⁵ R. Barnoski & W. Cole. (2007). *Tenth-grade WASL in spring 2006: Relative strength of associations between student characteristics and met-standard rates*. Olympia: Washington State Institute for Public Policy, Document No. 07-01-2206.

APPENDIX:
10th-Grade WASL Results in Spring 2006

Exhibit A1
Students' Demographic Characteristics

Categories of students	Percentage share of students	Percentage met standard		
		Reading	Writing	Math
Total	100.0	86.3	84.3	54.9
Gender				
Female	49.6	88.7	89.7	53.1
Male	50.4	83.9	78.9	56.6
Race/Ethnicity				
White	74.7	89.6	87.4	59.7
Hispanic	9.9	68.3	65.7	28.6
Asian	8.1	87.6	87.8	62.6
African American	4.4	73.6	73.3	26.5
American Indian	2.4	75.8	74.0	36.1
Multiethnic	0.5	86.1	85.1	48.0
Non-Asian minorities	16.9	70.7	69.0	29.1
Poverty				
Free or reduced lunch eligibility	27.1	73.2	71.0	34.1
Migrant	2.3	56.9	53.4	19.3
Title I	1.8	56.4	54.0	17.8
Any one of the above	27.4	73.1	70.9	34.1
None of the above	72.6	91.1	89.2	62.4
Language				
Student's primary language				
English	91.5	88.5	86.5	56.9
Spanish	4.4	52.9	49.1	16.6
Asian	1.9	82.3	80.5	63.3
Other	2.3	65.0	65.7	37.0
Non-Asian Foreign Language	6.7	57.1	54.9	23.8
Bilingual	4.3	41.4	38.7	16.1
Language spoken at home				
Only English	61.0	89.8	87.9	59.5
Sometimes another language	25.5	83.9	82.5	51.1
More often another language	13.5	74.3	71.3	40.4
English as a Second Language	0.2	21.6	17.8	11.2
English Language Learner	3.2	41.0	39.0	14.7

Exhibit A2
Students' Disability and Special Needs Status

Categories of students	Percentage share of students	Percentage met standard		
		Reading	Writing	Math
No disability	93.4	88.9	86.9	57.4
Any disability	6.6	44.8	41.0	13.4
Specific learning disabilities	4.0	41.6	36.6	10.7
Health	1.7	50.2	46.3	14.6
Emotional/behavioral	0.4	45.0	41.8	16.3
Autism	0.2	59.6	62.0	30.9
Communication	0.2	61.4	62.2	32.0
Hearing	0.1	57.8	67.9	26.8
Mental Retardation	0.1	1.9	8.9	0.0
Visual	<0.1	61.9	60.9	22.7
Orthopedic	<0.1	70.6	66.7	36.8
Deafness	<0.1	25.0	29.4	5.9
Multiple disabilities	<0.1	42.9	41.7	20.0
Traumatic brain	<0.1	25.0	30.8	18.2
Deaf/blindness	<0.1	100.0	100.0	100.0
Special education services	7.4	46.9	43.0	14.9
Section 504	1.2	85.8	81.9	50.2
Learning Assistance Program	3.5	64.1	59.0	17.6
Individual Education Plan	<0.1	25.0	16.0	12.5

Note: Section 504 refers to the component of the Rehabilitation Act of 1973 which prohibits discrimination on the basis of a disability. Students with a Section 504 plan are considered disabled but do not meet the eligibility criteria for receipt of special education services because the disability can be accommodated.

Exhibit A3
Academic Performance and Aspirations

Categories of students	Percentage share of students	Percentage met standard		
		Reading	Writing	Math
Grade point average*				
Less than 1.0	5.4	60.3	57.5	17.8
1.0 to 1.9	16.7	70.2	66.3	22.8
2.0 to 2.4	14.4	81.1	77.7	35.4
2.5 to 2.9	17.4	88.3	85.8	48.6
3.0 to 3.4	19.5	93.7	92.4	66.0
3.5 to 3.9	22.3	98.3	97.7	87.3
4.0	4.3	99.2	98.8	97.2
Gifted/highly capable program	2.4	99.5	99.3	94.2
Behind grade level	2.5	60.3	56.6	21.0
Vocational education				
Not vocational education	65.9	87.4	85.5	57.1
Vocational education	34.1	84.2	82.0	50.5
Educational aspirations (ITED)				
Not graduate high school	0.8	59.7	58.7	26.4
Graduate high school	5.0	62.9	59.6	24.0
Vocational trade school	19.1	78.3	74.5	36.1
Attend college	11.1	81.7	80.6	41.2
Graduate from college	41.3	93.1	91.5	64.7
Attend post graduate school	22.7	94.7	93.5	75.0

*6.4% of students were missing a GPA

Exhibit A4
Students' Attendance Record

Categories of students	Percentage share of students	Percentage met standard		
		Reading	Writing	Math
Not enrolled	0.5	60.1	58.5	20.5
Enrolled fewer than 18 days during reporting month	1.2	69.4	64.9	28.7
Days attended this month				
1 to 5 (up to one week)	0.5	64.5	62.0	28.1
6 to 10 (up to two weeks)	0.8	68.8	63.8	27.3
11 to 15 (up to three weeks)	4.7	74.6	75.2	35.8
16 to 17	10.0	82.7	79.8	43.9
18 to 19	34.8	86.8	85.0	53.9
20 or more	49.2	88.1	86.1	59.9
Unexcused absences this month				
None	89.9	87.2	85.2	56.4
One	5.8	81.0	78.2	43.9
Two or more	4.2	72.5	72.6	35.2

Exhibit A5
Students' Self-Reported Study Habits

Categories of students	Percentage share of students	Percentage met standard		
		Reading	Writing	Math
Adult help with homework				
Never	34.5	88.5	86.2	60.6
1–2 times a month	39.8	91.7	89.8	63.2
1–2 times a week	19.1	84.0	82.5	47.4
Everyday	6.5	70.3	69.0	27.8
Time spent on homework each week				
None	2.8	70.1	64.9	36.3
Less than 1 hour	11.2	78.3	74.8	41.0
1 hour	13.5	80.2	78.1	41.6
2 hours	15.3	85.5	83.7	49.6
3 hours	17.6	89.9	88.4	58.7
4–6 hours	24.3	93.4	91.6	66.6
7–9 hours	9.5	95.8	94.9	75.6
10 or more hours	5.7	93.6	92.2	75.1
Hours a day spent watching TV				
Not at all	5.9	89.1	88.6	67.8
Less than 1 hour	17.9	90.9	90.1	65.9
1 hour	18.6	91.3	89.7	64.9
2 hours	25.2	89.0	86.7	57.8
3 hours	17.4	85.5	83.2	49.2
4 hours	7.7	82.8	80.0	42.9
5 or more hours	7.2	75.3	71.7	36.1

Exhibit A6
Family Background: Parents' Education

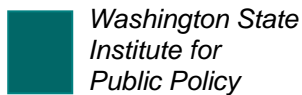
Categories of students	Percentage share of students	Percentage met standard		
		Reading	Writing	Math
Mother's education (ITED)				
Did not finish high school	8.2	74.5	72.1	31.6
Graduated high school	19.5	87.4	84.7	50.6
Community/technical school	17.0	90.3	88.4	58.6
Attended 4-year college	6.7	89.6	88.0	59.9
Graduated 4-year college	12.8	95.7	94.2	76.4
Post graduate school	7.4	96.0	94.1	78.6
Not sure	13.4	79.0	77.3	45.6
Father's education (ITED)				
Did not finish high school	8.5	75.8	72.5	33.6
Graduated high school	18.6	87.2	84.5	50.6
Community/technical school	12.9	90.4	88.1	58.4
Attended 4-year college	5.9	89.6	88.0	59.7
Graduated 4-year college	12.1	95.7	94.1	76.5
Post graduate school	9.6	96.7	95.5	81.3
Not sure	17.4	80.3	79.0	44.6
Parent's education—either mother or father				
Did not finish high school	5.6	70.5	67.7	27.0
Graduated high school	21.0	84.5	81.9	44.7
Community/technical school	24.4	89.4	87.2	55.3
Attended 4-year college	10.7	87.6	86.0	54.7
Graduated 4-year college	20.6	94.7	93.1	72.8
Post graduate school	17.7	96.1	94.5	78.9

Exhibit A7
Access to Technology at Home

Categories of students	Percentage share of students	Percentage met standard		
		Reading	Writing	Math
Use home computer for school				
Yes	69.5	91.2	89.6	62.2
No	10.8	75.4	70.9	36.9
No home computer	19.7	74.1	72.0	37.3
Internet access at home				
Yes	73.5	90.2	88.3	60.7
No	26.5	75.1	72.9	37.9

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