

TIME FOR LEARNING: STATES AND DISTRICTS

An Exploratory Analysis of NAEP Data

**PREPARED FOR THE NATIONAL
ASSESSMENT GOVERNING BOARD**

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February 2013**

ABSTRACT

This report on time for learning in individual states and urban districts participating in NAEP extends a [prior national report](#) to the National Assessment Governing Board (NAGB). The data in this report are for 2011 and cover grades 4 and 8 in terms of: (1) average days students are absent per month; (2) weekly hours of instructional time in reading-English language arts and mathematics; and (3) daily assigned homework time in mathematics.

Key findings include:

- The importance of disaggregating the data sub-nationally. Considerable variations in time for learning occur among states and urban districts that are masked by national averages. This state and district variation in time for learning is generally greater at grade 8 than at grade 4.
- The relationship previously found at the national level between higher absenteeism and lower achievement in reading also holds for mathematics at grades 4 and 8 in each of the 52 state-level jurisdictions and 21 urban districts in NAEP. Also, across states, excessive days absent (3 or more days a month) at grade 4 predicts excessive absenteeism at grade 8 (correlation .78).
- Urban districts, on average, are responding to their greater concentrations of at-risk and low achieving students by providing greater than the national average weekly of instructional time in reading (especially at grade 8) and mathematics and more teacher-assigned homework each day.
- In most states and many urban districts, a near majority or more of grade 8 students are receiving less than an hour a day (under 5 hours a week) of reading or mathematics instruction.
- It is important in allocating instructional time to give priority to students who are the lowest achievers. This report defines the target group of low achievers as students below Basic in NAEP reading or mathematics, who are also absent 3 days or more a month or receive less than an average of an hour a day (5 hours a week) of instruction in reading or mathematics.

Building on these analyses, it is recommended that NAGB explore issuing a compendium of key NAEP background indicators for states and urban districts. As a first step, a proposed list of indicators should be produced with a strong research base and drawing on current questionnaires [recommendation 4b in 2012 Expert Panel report]. Additional questions to fill in gaps may be proposed. An interim study should be presented at the next NAGB meeting. Also, states and districts would benefit from research by the Institute for Education Sciences (IES) on effective

strategies for reducing excessive absenteeism and providing effective instructional and homework time.

EXECUTIVE SUMMARY

1. Introduction

This report to the National Assessment Governing Board (NAGB) on *Time For Learning: States and Districts* extends the national level findings on [Time for Learning](#), a 2012 report to NAGB. The current report draws upon the NAEP background questionnaires to quantify learning time for 52 state-level jurisdictions and 21 urban districts participating in the 2011 National Assessment of Educational Progress in reading and mathematics.

The state and district data are drawn from the most recent 2011 NAEP. They cover reading and mathematics at grades 4 and 8, which are the grades for which NAEP collects subnational information on states and urban NAEP districts.

As with the national-level report, three aspects of students' learning time at the state and urban district level are explored:

- Average days absent per month
- Average reading-English language arts and mathematics weekly instructional time in school
- Average assigned daily homework in mathematics

Note that the NAEP background questionnaires do not collect information on several important aspects of students' learning time. Omitted is information on the length of the school year and length of the school day. It is recommended to NAGB that future NAEP assessments address these information gaps on students' learning time.

2. Days Absent from School

Days absent is measured by student responses to a question about the number of days absent the prior month as measured by three intervals: none, 1-2 days, and 3 or more days.

Student achievement and days absent. The number of days students are absent a month is consistently associated with lower achievement on the 2011 NAEP mathematics assessment. This relationship holds at both grades 4 and 8 within each of the 52 state-level jurisdictions, and within each of the 21 urban NAEP districts. These data extend similar findings at the national level showing a negative association between reading achievement and days absent.

Exhibit E1

Average NAEP scores for mathematics, grade 8, by days absent in the prior month, urban districts: 2011				
Jurisdiction	None	1-2 days	3 or more days	Diff. in scale scores: None minus 3 or more days abs prior month
	Average scale score	Average scale score	Average scale score	
National	289	285	271	18
Large city schools	281	275	260	21
Albuquerque	280	278	262	19
Atlanta	270	268	252	18
Austin	292	291	271	21
Baltimore City	268	261	252	17
Boston	291	279	270	21
Charlotte	290	289	272	18
Chicago	278	266	254	24
Cleveland	260	258	250	10
Dallas	280	272	265	14
Detroit	252	249	241	11
District of Columbia (DCPS)	268	256	244	24
Fresno	264	256	244	20
Hillsborough County (FL)	289	284	269	21
Houston	285	280	266	19
Jefferson County (KY)	280	275	262	18
Los Angeles	268	258	249	19
Miami-Dade	277	271	256	21
Milwaukee	263	255	246	17
New York City	283	273	258	25
Philadelphia	272	267	253	19
San Diego	284	280	268	16

Source: NCES NAEP Data Explorer

Exhibit E1 illustrates this negative association for each of the 21 urban NAEP districts:

- Within each of the 21 urban districts, increased absenteeism is associated with lower scores on the NAEP mathematics assessment. The average NAEP mathematics score for large city schools declines 21 points between the average score of students with perfect attendance and the average score of students with “3 or more” days absence (final column in Exhibit 1). Twenty points is equivalent to student growth of about two grades on the NAEP assessment between grades 4 and 8. (Similar findings are computed for the states in the full report, Exhibit 2a)
- The decline in the NAEP mathematics achievement score is particularly steep between days absent intervals of “1-2 days” and “3 or more days.” The large

city school average shows that NAEP mathematics scores decline by 6 points in going from none to ‘1-2 days’ absent, but decline by 15 points in going from “1-2 days” to “3 or more” days absent. This supports designating “3 or more” days absent a month (equivalent to about five weeks a year) as a benchmark number for excessive absenteeism (Exhibit E1).

Exhibit E2

Percentage of students by high and low-incidence of 3 or more days absent prior month and also by below-Basic on the NAEP mathematics assessment, grades 4 and 8, state and district: 2011				
Jurisdiction	Grade 4		Grade 8	
	3 or more days absent prior month	3 or more days absent prior month and below-Basic	3 or more days absent prior month	3 or more days absent prior month and below-Basic
	% of all students	% of all students	% of all students	% of all students
National	19	5	19	8
State	<ul style="list-style-type: none"> • DC: 20 • New Mexico:13 • Alabama:11 • Arizona:11 • Hawaii: 11 • Louisiana:11 • Michigan:11 • New York:11 • WV:11 			
• High incidence of 3 or more days absent prior month	<ul style="list-style-type: none"> • DC: 31 • Arizona: 24 • Arkansas: 24 • Louisiana: 24 • New Mexico: 24 	<ul style="list-style-type: none"> • DC: 16 • Louisiana: 9 • New Mexico: 9 • Alabama: 8 • Mississippi :8 	<ul style="list-style-type: none"> • DC: 33 • New Mexico: 28 • Wyoming: 27 • Arizona: 26 • Colorado: 26 	<ul style="list-style-type: none"> • Massachusetts: • New Jersey:16 • Vermont:16 • Massachusetts: 4
• Low incidence of 3 or more days absent prior month	<ul style="list-style-type: none"> • California: 17 • Massachusetts: 17 	<ul style="list-style-type: none"> • Massachusetts:2 • New Hampshire: 16 	<ul style="list-style-type: none"> • Massachusetts: • New Jersey:16 • Vermont:16 	<ul style="list-style-type: none"> • Massachusetts: 4
Large city schools	21	8	22	11
Districts	<ul style="list-style-type: none"> • Chicago: 8 • Austin: 9 • Charlotte: 9 • Dallas: 9 • Houston: 9 • Miami-Dade: 9 			
• High incidence of 3 or more days absent prior month	<ul style="list-style-type: none"> • Detroit: 35 • DCPS: 32 • Boston: 28 • Milwaukee: 28 	<ul style="list-style-type: none"> • Detroit: 24 • DCPS: 17 • Cleveland:14 • Milwaukee: 14 	<ul style="list-style-type: none"> • Detroit: 42 • DC:32 • Milwaukee: 32 • Cleveland: 31 	<ul style="list-style-type: none"> • Detroit: 33 • DCPS: 23 • Milwaukee: 22 • Cleveland: 20
• Low incidence of 3 or more days absent prior month	<ul style="list-style-type: none"> • Houston: 14 • Atlanta: 16 • Dallas: 16 • Miami-Dade: 16 • Austin: 17 	<ul style="list-style-type: none"> • Charlotte: 3 • Austin: 4 • Houston: 4 	<ul style="list-style-type: none"> • Chicago: 13 • Miami-Dade: 16 • Atlanta: 18 • Los Angeles: 18 	<ul style="list-style-type: none"> • Chicago: 8 • Austin: 9 • Charlotte: 9 • Dallas: 9 • Houston: 9 • Miami-Dade: 9

Across states & districts rates of excessive absenteeism at grade 4 predict rates of excessive absenteeism at grade 8 (correlation of .8). This suggests the importance of early correction of excessive absenteeism.

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State-level student absenteeism rates. With respect excessive absenteeism rates of 3 or days a month, in general, states with higher or lower rates of excessive absenteeism at grade 4 also have higher or lower rates of excessive absenteeism at grade 8 (the correlation is .8). States including DC, Louisiana and New Mexico consistently exhibit high absenteeism rates at grades 4 and 8, while Massachusetts consistently has low absenteeism (Exhibit E2).

With respect to students with *perfect attendance*:

- Most states fall within five percentage points of the national average of 50 percent of the grade 4 students with perfect attendance and 45 percent at grade 8.

With respect to rates of *excessive days absent* (Exhibit E2)

- Nationally, 19 percent of all students at grades 4 and 8 experience excessive absenteeism, defined by 3 or more days absent a month or the equivalent of 5 weeks a year.
- The District of Columbia, Arizona and New Mexico have about a quarter or more of their grade 4 and grade 8 students excessively absent.

States may want to pay special attention to a doubly at-risk group of students who experience excessive absenteeism and are also very low achievers (below Basic) on the 2011 NAEP mathematics assessment (Exhibit E2)

- At grade 4, nationally, 5 percent of all students are both excessively absent and below-Basic achievers compared with 19 percent absent 3 or more days. The District of Columbia has the highest rate at 10 percent and Massachusetts has the lowest rate at 2 percent.
- At grade 8, nationally, 8 percent of all students are absent 3 or more days a month and below-Basic on the 2011 NAEP mathematics assessment. Nine states have more than 10 percent of their grade 8 students falling into the high absenteeism and low-achievement target group: DC, New Mexico, Alabama, Arizona, Hawaii, Louisiana, Michigan, New York, and West Virginia. Massachusetts has the lowest rate of doubly at-risk students at 4 percent.

Urban district student absenteeism rates. The 21 urban districts participating in the 2011 NAEP assessment typically have a greater proportion of low-income and low-achieving students than the national average. Yet, these districts have only slightly higher excessive absenteeism rates than the national average). There is also considerable variation with Detroit, DCPS, Milwaukee and Cleveland having highest rates of 3 or more days absent the prior month; Chicago and Texas districts (Austin, Dallas and Houston) are among the lowest. With respect to excessive absenteeism rates of 3 or days a month, in general, districts with higher or lower rates of excessive absenteeism at grade 4 also have higher or lower rates of excessive absenteeism at grade 8 (the correlation is .9). (Exhibit E2)

- At grade 4, large city districts have 21 percent of their students with 3 or more days absent a month similar to the national average of 19 percent.

At grade 8, large city districts have 22 percent of their students with 3 or more days absent the prior month compared with 19 percent nationally.

- There is considerable variation among urban districts in rates of excessive absenteeism. In particular at grade 8, the percent of students absent 3 or more days the prior month was Detroit: 42 percent, DCPS: 32 percent, Milwaukee: 32 percent and Cleveland: 31 percent. The excessive absenteeism rates were half those in Chicago: 13 percent and Miami Dade: 16 percent.

Because urban districts have a greater proportion of low-achieving students, they also have a greater portion of all their students who experience both excessive absenteeism and low achievement (Exhibit E2).

- At grade four, 8 percent of the students in the NAEP urban districts experience both excessive absenteeism and below-basic achievement compared with 5 percent of the students nationally. For specific urban districts, Detroit has 24 percent of its grade 4 students doubly at risk by both excessive absenteeism and very low achievement and DC 17 percent. At the low end, Charlotte has only 3 percent and the three Texas urban districts of Austin, Houston and Dallas are at 4 percent.
- At grade 8, a greater 11 percent of the students in the urban NAEP districts are doubly disadvantaged by excessive absenteeism and below-Basic achievement compared with 8 percent nationally. Four of these districts have over 20 percent of their students confronting excessive absenteeism and below basic achievement: Detroit, DCPS, Milwaukee and Cleveland. Among these, Detroit has one-third of its students doubly at-risk. By contrast, Chicago and the three Texas urban districts (Austin, Dallas and Houston) are under 10 percent.

3. Reading-English Language Arts and Mathematics Instructional Time

The amount of instructional time spent on the core subjects of reading-English language arts and mathematics coupled with the quality of that instruction determine students' opportunity to learn these subjects in school. Research shows that instructional time of high quality is consistently related to student achievement, especially for low-income or low-achieving students who require greater assistance to catch-up to do well in school (Patall, Cooper, & Allen, 2010).

States

Reading English language arts. *The amount of instructional time spent on reading-English language arts is considerably greater at grade 4 than at grade 8. At grade 4,*

the modal interval in every state for the amount of daily instructional time spent on reading-English language arts was 7 or more hours of weekly instruction; at grade 8 the modal (most frequent) instructional time diminished to less than 5 hours a week.

With respect to students receiving less than five hours a week of reading-English arts instruction (Exhibit E3):

- At grade 4, only 10 percent of all students nationally received less than 5 hours a week of reading instruction. Across states, Louisiana and Texas at 16 percent had the highest percentage of students with less than 5 hours of reading instruction.

Focusing on grade 4 students who are below basic in achievement and also receive less than five hours of reading-English language arts instruction reduces the priority group nationally to only 4 percent of all students. In Louisiana, about 7 percent of below-Basic students receive less than 5 hours a week of reading-English arts instruction compared with 16 percent of all grade 4 students in Louisiana.

Exhibit E3								
Percentage of students by high and low weekly hours of reading-English language arts and mathematics instructional time and by the subgroup who are also below Basic, grades 4 and 8: state, 2011								
	Instruction: Grade 4				Instruction: Grade 8			
	less than 5 hours	less than 5 hours & below Basic	5-6.9 hours	7 hours or more	less than 5 hours	less than 5 hours & below Basic	5-6.9 hours	7 hours or more
	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage
Nation: Reading	10	4	13	77	47	9	32	22
State: Reading								
•Low instructional time:	• LA: 16 • TX: 16 • GA: 14	• LA: 7		• MS: 65 • Ok: 66 • KY: 69	• WY: 76 • HA 76 • VT: 70	• HA: 23 • AR: 15 • OR: 15 • WV: 15		• HI: 9 • MN: 9 • VT: 9
•High instructional time	• DE: 4 • NJ: 4 • HA: 4 • MA: 5	• DE: 1 • MA: 1 • NH: 1 • NJ: 1		• NV: 90 • WY: 88 • DE: 87	• SC: 16 • LA: 17 • NC: 17	• NJ: 3		• LA: 55 • DC: 33 • NJ: 32
Nation: Math	12	5	59	29	63	14	28	9
State: Math								
•Low instructional time	• NY: 21 • ND: 19 • OR: 18	• OR: 4		• ND: 10 • OR: 12 • VA: 12	• WY: 89 • CT:89 • UT: 88	• AL: 22 • CA: 22 • OR: 22 • UT: 22		• CT.: 1 • HI: 1 • UT: 1 • VT: 1 • WY: 1
•High instructional time	• MD: 2 • MA: 4 • WA: 5	• MD: 0		• MS: 56 • TX: 56 • DC: 54	• NC: 28 • GA: 29 • DC: 31	• MA: 5 • NJ: 6 • NC: 6		• DC: 27 • MD 21
Source: NCES NAEP Data Explorer								

- At grade 8, by contrast, a substantial 47 percent of all students nationally receive less than 5 hours of week on reading-English language arts. In Wyoming and Hawaii the percentages are over 75 percent. (Exhibit E3)

Focusing on the grade 8 students who are below Basic in achievement and also receive less than five hours of reading-English language arts instruction reduces the priority group to about 9 percent nationally from the initial 47 percent. However, in Hawaii, nearly a quarter (23 percent) of all students fall below Basic and receive under 5 hours per week of reading-English language arts instruction.

Mathematics. *The amount of Instructional time States spend on mathematics is uniformly less than for reading-English language arts at both grades 4 and 8.* (Exhibit E3). As with reading-English language arts, mathematics instructional time declines between grades 4 and 8.

- At grade 4, the modal amount of mathematics instructional time in every state is 5-6.9 hours. In reading-English language Arts, the modal instruction time interval was 7 or more hours in every state. Seventy-seven percent of grade 4 students received 7 or more hours of reading instruction compared with only 22 percent in mathematics.
- At grade 8, the modal instructional time for mathematics is less than 5 hours with 63 percent of all U.S. students receiving less than an average of an hour a day. This compares with 47 percent of all students receiving reading-English language arts instruction of less than 5 hours a week.

Focusing on the high-need group of students who are below Basic in mathematics and receive less than 5 hours a week of mathematics

- At grade 4 no state has over 4 percent of their grade 4 Below-basic students with less than 5 hours a week of mathematics instruction.
- At grade 8, on the other hand, all but 44 state-level jurisdictions have more than 10 percent of their students who are below basic and receiving less 5 hours of mathematics instruction. Alabama, California, Oregon and Utah provide 22 percent of their below-Basic mathematics students with less than 5 hours a week of mathematics instruction (Exhibit E3).

Districts

Urban districts serve an economically needier and educational lower-performing student body compared with the nation. It is the intent of the nearly \$15 billion in federal Title I, ESEA to provide additional instruction in terms of more time or

better quality to districts such as urban districts with high concentrations at-risk students.

In terms of the corresponding national average instructional time, urban districts offer more instructional time in reading-English language arts at grade 8 but not at grade 4, and more time in mathematics instruction at both grades 4 and 8. However, some urban districts have significant numbers more than 20 percent of their below-Basic students receiving less than 5 hours a week of reading or mathematics instruction and this is against the intent of Title I, ESEA, which disproportionately go to urban districts.

Reading-English language arts. At grade 4 (Exhibit E4):

- The modal interval for instructional time at grade 4 for the nation and urban districts is 7 or more hours of weekly reading-language arts instruction. About 77 percent of students nationally and a similar 80 percent of all students in large cities (80 percent) receive 7 or more hours of reading-English language arts instruction.

The range among urban NAEP districts is from a high 87 percent of Los Angeles students receiving 7 or more hours of weekly instruction to a low of 43 percent in Atlanta.

- About 11 percent of grade 4 students in large city districts are exposed to less than 5 hours of reading-English language arts instruction, about the same as the 10 percent nationally. (Exhibit E4)

At grade 8 (Exhibit E4)

- The large cities at grade 8 provide their students with greater instructional time in reading-English language arts compared with the national average:
- Nearly half (47 percent) of all students nationally receive less than 5 hours of reading-language arts instruction compared with only 34 percent of all students in large city schools.
- There is quite a range among urban districts. In Baltimore only 7 percent of the students receive less than 5 hours of weekly reading-English language arts instruction, but in Austin and Hillsborough the percentages are closer to 60 percent.
- Focusing on only below-Basic achieving students, the proportion of students receiving only 5 hours or less in reading-English language instruction ranges from about 0 percent in Baltimore to 22 percent in Dallas. (Exhibit E4)

Exhibit E4

Percentages of students by high and low weekly hours of reading-English language arts and mathematics instruction and by the subgroup who are also below Basic, grades 4 and 8: district 2011

	Instruction: Grade 4				Instruction: Grade 8			
	less than 5 hours	less than 5 hours & below basic	5-6.9 hours	7 hours or more	less than 5 hours	less than 5 hours & below basic	5-6.9 hours	7 hours or more
	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage
National: Reading	10	4	13	77	47	9	32	22
Large city schools	11	5	9	80	34	10	35	31
District: Reading								
•Low instructional time:	• Atlanta: 32 • Dallas: 20 • Hillsbr: 17	• Atlanta: 15 • Baltimore: 10 • Fresno: 10	• Atlanta: 43 • Dallas: 66 • Houston :69	• Hillsbr: 60 • Austin: 58 • Dallas: 53 • Fresno: 53	• Hillsbr: 60 • Austin: 58 • Dallas: 53 • Fresno: 53	• Fresno: 23 • Dallas: 22		• Jefferson Cty: 9 • Miami-Dade: 9 • San Diego: 14
•High instructional time	• Albuquerque: 5 • Boston: 5 • Charlotte: 5	• Albuquerque: 2 • Boston: 2 • Charlotte: 2	• LA: 87 • Detroit: 86 • Phil: 86	• Baltimore: 7 • Charlotte: 9 • Phil: 10	• Baltimore: 7 • Charlotte: 9 • Phil: 10	• Baltimore: 0 • Charlotte: 2 • Philadelphia: 4		• Phil: 70 • Detroit: 61 • Baltimore: 60 • NY City: 49
National: Mathematics	12	2	59	29	63	14	28	9
Large city schools	9	2	51	40	45	14	37	18
District: Math								
•Low instructional time	• Chicago: 17 • Phil: 14 • Fresno: 12	• Chicago: 6	• Hillsbr: 10 • Miami-Dade: 16 • Milwaukee: 20	• Hillsbr: 80 • Miami-Da:57 • LA: 56	• Hillsbr: 80 • Miami-Da:57 • LA: 56	• Fresno: 35 • LA 26 • Hillsb: 20		• Hillsbr: 2 • Miami-Dade: 3 • Jefferson Cty: 5 • San Diego: 5
•High instructional time	• Detroit: 3 • Boston: 4 • Jefferson Cty: 5	• Boston: 0 • Detroit: 0	• Dallas: 77 • Austin: 74 • Detroit: 72	• Balt City: 7 • Phil: 12 • Charlotte: 13	• Balt City: 7 • Phil: 12 • Charlotte: 13	• Baltimore: 0 • Charlotte: 4		• Phil: 67 • Detroit: 54 • Balt City: 39

Source: NCES NAEP Data Explorer

Mathematics. For mathematics instruction, consistent with Title I, ESEA supplementation goals, students in large city districts are more likely than others to receive more mathematics instructional time (Exhibit E4). However, there is considerable variation and in some districts more than a quarter of below-Basic students receive less than 5 hours a week of mathematics.

- At grade 4, about 40 percent of large city students are exposed to 7 or more hours of weekly mathematics instruction compared with only 29 percent nationally.
- At grade 8, large cities have 45 percent of all students exposed to less than 5 hours a week of mathematics instruction compared with 63 percent of all such students nationally.

However because urban districts have higher percentages of below basic students, the large cities and the nation both have about 14 percent of all their grade 8 students who are below basic and receive less than 5 hours of mathematics instruction. Inconsistent with the intent of Title I, ESEA, Fresno at 35 percent and Los Angeles at 26 percent have particularly large

percentages of below-Basic students receiving less than 5 hours a week of mathematics.

4. Assigned Daily Homework Time

Research shows students benefit from homework beginning with the middle elementary grades, provided that the homework is not mindlessly repetitive and is graded and feedback formatively to inform students about improvement. (Hoover-Dempsey et al. 2001). The NAEP background variables at grade 4 measure teacher-assigned daily homework time in 15 minute segments from none to an hour or more, At grade 8, unfortunately, the measure is not as fine and describes only three time intervals of: no homework, less than an hour or an hour or more.

Across states:

- At grade 4, the modal assigned daily homework time in mathematics is 15 minutes in 44 of the state level jurisdictions and 30 minutes in the nine other states. The District of Columbia and Massachusetts are the two states with greatest daily amounts of assigned homework with 60 percent of their grade 4 students receiving 30 minutes a day.
- At grade 8, the modal homework time was less than an hour, with 17 percent of the students nationally receiving 1 hour or more of daily assigned mathematics homework. States with approximately a quarter or more of grade 8 students assigned an hour or more a day of mathematics homework are California, District of Columbia, Florida, Hawaii, Illinois, and Department of Defense Schools.

Across urban NAEP districts (Exhibit E5):

- Students in urban districts are more likely to receive a greater amount of assigned homework time than students nationally at grades 4 and 8.
- At grade 4, 65 percent of the students in large city districts receive at least 30 minutes of daily mathematics homework compared with 48 percent of students nationally. In Boston, 86 percent of all students are assigned 30 minutes or more of daily mathematics homework compared with only 55 percent in Albuquerque and 56 percent in Jefferson County.
- At grade eight, 28 percent of large city students are assigned an hour or more of daily mathematics homework compared with 17 percent nationally. In Chicago and Miami-Dade 47 percent of the students receive an hour or more a day and in Fresno only 11 percent.

Exhibit E5

Percentages of students by mathematics homework time teacher assigns per day, grades 4 and 8, districts: 2011

Jurisdiction	Grade 4					Grade 8		
	None	15 minutes	30 minutes	45 minutes	1 hr or more	None	Less than 1 hour	1 hr or more
	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage
National	4	48	43	4	1	2	81	17
Large city	2	33	52	10	3	2	70	28
Albuquerque	1	45	47	6	2	4	82	14
Atlanta	0	32	58	8	2	1	61	38
Austin	0	41	47	9	2	4	69	27
Baltimore City	2	23	55	15	6	0	59	41
Boston	0	13	62	15	9	0	61	39
Charlotte	0	38	52	7	3	1	81	18
Chicago	0	12	62	21	5	0	53	47
Cleveland	1	34	53	5	6	0	67	33
Dallas	1	36	52	6	5	3	70	27
Detroit	1	31	51	12	6	0	55	45
DC (no charters))	1	22	60	12	5	1	70	29
Fresno	1	36	54	7	2	3	86	11
Hillsborough County	1	39	56	3	#	6	81	12
Houston	0	28	60	8	4	2	72	26
Jefferson County (KY)	1	44	49	5	2	1	85	14
Los Angeles	0	20	61	14	4	1	59	40
Miami-Dade	0	16	60	17	7	0	53	47
Milwaukee	1	33	58	4	4	0	57	43
New York City	1	19	58	16	5	0	74	26
Philadelphia	0	25	60	11	4	0	73	27
San Diego	0	24	64	10	2	0	88	12

Source: NAEP Data Explorer Feb 2013

5. Implications

This report documented considerable variation in time for learning among states, among urban districts and between state and urban districts. This variation shows the importance of breaking out and reporting sub-national information on NAEP background variables. Moreover, individual state or urban-NAEP districts benefit from having access to time for learning indicators specific to their particular jurisdiction and to being able compare itself with the results from other jurisdictions.

While the NAEP background variables collect information on the nature of reading and mathematics instruction, they do not report on the characteristics of homework. NAGB should consider the merits of:

- i. Adding brief additional questions based on research that serve as indicators of the quality of homework time, such as whether students complete the

homework and whether teachers grade and feedback homework to students for improvement.

The disaggregated state and district time for learning data offer these jurisdictions useful indicators to compare across their systems on instructionally related practices. It is recommended that NAGB consider implementing the indicator related recommendation from the Expert Panel Report on *Time For Learning*:

- ii. Recommendation 4b. Prepare an online compendium of key background indicators for States and participating urban districts” The first step would be to move forward on an analyses and design study to be reviewed at the next NAGB meeting.

Two implications for organizations or agencies other than NAGB are:

- iii. States and districts should consider collecting and publishing their own up to date data on time for learning by district and school. A key area to explore is information reported on the proportion of students with high rates of absenteeism. Research shows that most states and many do not now generate that information (Attendance Works, 2013; Gottfried, 2011).
- iv. The Institute of Education Sciences should consider synthesizing through their *What Works Practice Guides* what is known about effective strategies for reducing excessive absenteeism, allocating reading and mathematics instructional time and establishing optimal amounts of homework at different grades.

In addition, to specific recommendations from this report it is worth repeating the recommendations to NAGB from the December 2012 national report to improve the time for learning background variables if NAEP collected information on the length of the school day and on all out of school learning, not just homework. It is recommended:

- v. NAGB begin a formal discussion with NCES on strengthening the time for learning background variables based on the recommendations in the national and state and districts reports.