Beyond Test Scores

What NAEP Results Tell Us About Implementing the Common Core in Our Classrooms

July 2014

Council of the Great City Schools

About the Council

The Council of the Great City Schools is the only national organization exclusively representing the needs of urban public schools. Composed of 67 large city school districts, its mission is to promote the cause of urban schools and to advocate for inner-city students through legislation, research, instructional support, leadership, management, technical assistance, and media relations. The organization also provides a network for school districts sharing common problems to exchange information and to collectively address new challenges as they emerge in order to deliver the best education for urban youth.

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Overview

The Common Core State Standards (CCSS) require us to prepare students for college and careers in a new way, equipping them with a deeper understanding of concepts and skills in literacy and mathematics.

In English language arts and literacy, this means three major changes. Students will continue reading and writing. But in addition to stories and literature, students will read more texts that provide facts and background knowledge in areas such as science and social studies. They will read more challenging texts and be asked more questions that require them to refer back to what they have read and support their conclusions with evidence. And there will be an increased emphasis on building a strong vocabulary and understanding how language works so that students can master more challenging material.

The standards also call for three major changes in mathematics. Teachers will concentrate on teaching a more focused set of major math concepts and skills, and will use rich and challenging math content to engage students in solving practical, real-world problems. Additionally, students will need to explain the logic behind their solutions.

Under the new standards in both reading and math, students will be asked to demonstrate and apply what they have learned in ways that are fundamentally different from what was expected in the past. Moreover, college and career readiness will apply to all students, requiring that struggling learners, English language learners, and students with disabilities have access to high levels of instruction that will prepare them for success.

Unfortunately, a new analysis from the Council of the Great City Schools suggests that our students are not yet performing at levels expected by the new standards. The Council analyzed items from the 2013 National Assessment of Educational Progress (NAEP) that were similar in structure, rigor, and complexity to the requirements of the common core standards, as well as sample assessment items released by the Partnership for Assessment of Readiness for College and Careers (PARCC) and the Smarter Balanced Assessment Consortium (SBAC). In general, the results on NAEP show too many students nationwide and in urban public schools are not yet equipped with the knowledge and skills they will need to be successful.

Of course, any analysis of this kind that compares two different systems for measuring student learning and progress faces inherent challenges. NAEP and the common core standards and assessments are designed to serve different purposes. While the common core is intended to bring coherence to the academic functions of school systems—curriculum, assessment, and instruction—in order to create and promote a common high standard for teaching and learning, NAEP is intended only to provide a way to measure and compare student performance across states and districts.[1] This means that each individual item is a particular, partial expression of a more general goal, idea, or set of goals. Moreover, there are dimensions of challenge within the CCSS that NAEP is not well suited to measure. For example, in mathematics, the common core extends beyond NAEP in its focus on rational number algebra, mastery of arithmetic, and rich modeling tasks.

However, NAEP still provides a useful context where the skills measured overlap, and in this analysis we have endeavored to identify and deconstruct sample NAEP items that are most like the ones students will be seeing in their classwork and on the new assessments. In this booklet, the Council lays out these items—two mathematics items and two English Language arts items, shows how our students did on these questions, discusses what may have been missing from their instruction, and outlines what changes to curriculum and instruction might help districts and schools advance student achievement. It also poses a series of questions that district leaders should be asking themselves about curriculum, professional development, and other instructional supports.

The goal in presenting these data is not to try to predict how students will perform on upcoming assessments or to encourage schools to engage in "test prep." The standards require a fundamental shift in teaching and learning, and such short-sighted tactics would prove wholly inadequate to improve performance on the new assessments, much less to prepare students for the future. The goal here is to better articulate what needs to change in classrooms, schools, and central offices in order to realize the full promise of the common core.

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[1]For a more detailed discussion of the differences in methodology and purpose between state educational standards, such as CCSS, and NAEP, see http://nces.ed.gov/nationsreportcard/about/comparing_assessments.aspx.

Evidence from NAEP Sample Item Analysis

Mathematics: Progress toward Standards and Implications for Curriculum and Instruction

One of the underlying ideas behind the new mathematics standards is an emphasis on a few fundamental concepts that deepen and evolve as students progress through their school careers. In practice, this means taking a concept that is introduced in an earlier grade and having students apply it and make connections with other concepts in later grades so that their sophistication and understanding of the concept continues to develop.

Fourth Grade

The following sample grade-four 2013 NAEP mathematics item illustrates this process of developing a student's understanding of a key concept—in this case, place value. In grade four, the common core standards require students to generalize place value understanding for multi-digit whole numbers, and integrate this knowledge with their understanding of the properties of operations to perform multi-digit calculations (4.NBT).[2]

These skills have been carefully developed over a student's previous years of mathematics work. Beginning in kindergarten, teachers help students build a foundation for place value by paying close attention to the number 10. Kindergarten students learn to compose (and decompose) numbers between 11 and 19 into 10 ones and some more ones (K.NBT). For example, kindergarten students visualize 14 ones as a ten with four more ones.

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[2]This item also reflects the complexity and structure of PARCC and SBAC sample items for mathematics. For example, one fourth-grade PARCC item asks students to determine the total number of beads in a bag of beads based on the relative number distributed to different students in a class (for example, the problem states that Trish has 4 times as many beads as Elena, etc.). The problem requires students to calculate a total using several mathematical sub-steps, just as seen in this NAEP item. For further analysis of the similarities between NAEP and PARCC/SBAC items see http://www.cgcs.org/domain/165. Sample PARCC and SBAC items for mathematics can be found at
http://sampleitems.smarterbalanced.org/itempreview/sbac/index.htm and
http://epat-parcc.testnav.com/client/index.html#login?username=guest4&password=guest4.

In grade one, students continue deepening their understanding as they notice that the two digits of a two-digit number represent amounts of tens and ones, i.e., 25 is 25 ones or two tens and five ones (1.NBT). In fact, throughout the elementary grades, students will learn that place value is the same for both whole numbers and decimals. And while students continue building this mastery of place value, they simultaneously begin applying their understanding of the properties of operations to add, subtract, multiply, and divide whole numbers and decimals.

In grade two, students use place value understanding and properties of operations to add and subtract numbers between 1 and 1,000 (2.NBT). By grade three, students use place value understanding and properties of operations to perform multi-digit arithmetic (3.NBT).

Finally, by grade four, students should have the skills and knowledge to tackle a problem such as this:

2013 NAEP RELEASED MATHEMATICS ITEM, Grade Four

HOW BUTTONS ARE SOLD

Type	Number of Buttons
Box of buttons	1,000 buttons
Package of buttons	100 buttons
Card of buttons	10 buttons
Single button	1 button

12. The art teacher bought buttons for a project.

    The teacher bought 1 box, 9 packages, 12 cards, and 5 single buttons.

    How many buttons did the teacher buy altogether?
    Answer: ______________________________ buttons

**United States Department of Education, Institute of Education Sciences, National Center for Education Statistics, retrieved from http://nces.ed.gov/nationsreportcard/itmrlsx/landing.aspx, 2014.

In this item, students are required to apply strategies and properties based on place value to solve the problem and produce a short constructed response. There are no answer choices for students to consider. Students are required to interpret the information presented in the table to infer that if each package holds 100 buttons, then nine would hold 900 buttons (or nine hundreds).

Similarly, students would need to recognize that having 12 cards of ten buttons is the same as having 120 buttons. Students are expected to use this information to determine the total number of buttons that the teacher bought altogether.

Typical errors will include students incorrectly indicating that 12 cards = 12 buttons or nine packages = nine buttons. The following are sample student responses to this NAEP item.[3]

[3]Available at http://nces.ed.gov/nationsreportcard/itmrlsx/landing.aspx.

Sample Student Responses

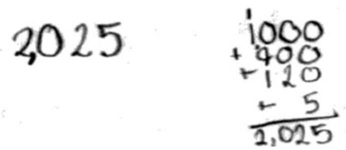
Correct Response

12. The art teacher bought buttons for a project.

    The teacher bought 1 box, 9 packages, 12 cards, and 5 single buttons.

    How many buttons did the teacher buy altogether?

    Answer: ______________________________ buttons



In this correct response, the student accurately determines the number of buttons found in one box, nine packages, 12 cards, and five single ones, and correctly computes the total number of buttons the teacher bought.

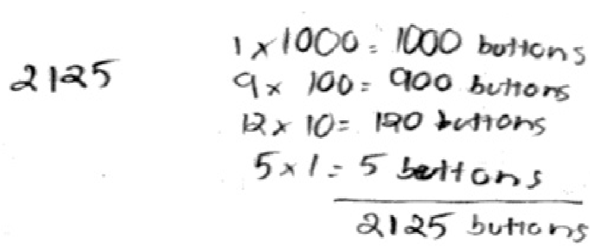
Partially Correct Response #1

12. The art teacher bought buttons for a project.

    The teacher bought 1 box, 9 packages, 12 cards, and 5 single buttons.

    How many buttons did the teacher buy altogether?

    Answer: ______________________________ buttons



In this example of a partially correct response, the student shows the number of buttons in nine packages (900), 12 cards (120), and five single buttons. However, the student adds incorrectly when computing the total number of buttons.

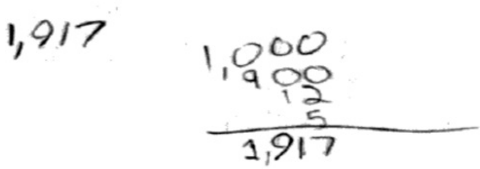
Partially Correct Response #2

12. The art teacher bought buttons for a project.

    The teacher bought 1 box, 9 packages, 12 cards, and 5 single buttons.

    How many buttons did the teacher buy altogether?

    Answer: ______________________________ buttons



In this partially correct response, the student correctly calculates the number of buttons in one box and nine packages, but incorrectly infers that on 12 cards there are only 12 buttons as opposed to 120 buttons. However, the total is consistent with this incorrect assumption of the number of buttons on a card.

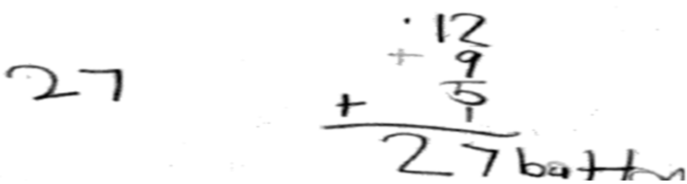
Incorrect Response

12. The art teacher bought buttons for a project.

    The teacher bought 1 box, 9 packages, 12 cards, and 5 single buttons.

    How many buttons did the teacher buy altogether?

    Answer: ______________________________ buttons



In this incorrect response, the student merely adds each individual number found in the problem and incorrectly concludes that this would yield the desired number of buttons.

Results and Implications

So how did students perform on this question? **Only 35 percent of public school students nationwide gave a complete, correct response.** Among the Trial Urban District Assessment (TUDA) districts, only four districts exceeded the nationwide percentage (Boston, Charlotte-Mecklenburg, Hillsborough County, and San Diego, with results ranging from 37 to 43 percent correct). (See Table 1 in Appendix B.)

What was missing from students' understanding or instructional experiences that contributed to these results and to the incorrect or only partially correct responses shown above? In these cases, it may be that students were not provided sufficient time on the base-ten number system linked to properties of operations. Instead they may have simply been asked to read, write, add, or subtract numbers (i.e., translating three hundred fifty-five as 355; or 1,024 as one thousand twenty-four) without a deeper understanding of the meaning of what place value signifies.

In addition, the number of students who chose to omit the item ranged from one to five percent (see Appendix B for city-by-city results). These omissions may be attributed to the fact that this was a multi-step *word* problem. It required students to use information from a table and to read and make inferences rather than merely adding the numbers together. This may have been seen as too difficult, particularly for English language learners who may not have understood the vocabulary employed, and some students were clearly not persistent or willing to attempt a problem presented in this manner. It may also be the case that students in some states are only accustomed to seeing assessment items on their annual state tests that are multiple choice and do not require more complicated responses. This problem of omissions, and the lack of perseverance and avoidance of complexity it points to, should be addressed because it will only become more pronounced as students progress through school.

Addressing the Gaps in Learning

So what could a teacher do that would make it more likely that students could solve this type of problem correctly? To get there, both content and instructional concerns must be addressed to eliminate persistent gaps in student learning. In kindergarten through grade three, teachers should focus classroom work on the base-ten number system, including counting and cardinality, as well as the meaning and properties of addition, subtraction, multiplication, and division. This should include a focus on the base-ten system as repeated bundling by ten: ten tens make a unit of a hundred, while repeating this process allows students to create other units (i.e., bundling groups of ten creates other units such as hundreds, thousands, ten thousands, etc.).

Teachers should also connect place value to the properties of operations so students begin visualizing sets of tens, hundreds, or thousands within a given whole number. Classroom work should routinely feature discussions of the relationships between numbers, and teachers should require students to provide detailed explanations about their computations in a way that shows that any multi-digit number can be reduced to a collection of single-digit computations.

Students—particularly English language learners—may also require additional scaffolding and instruction on mathematical vocabulary to ensure that they are equipped with strategies to access and understand precisely what is being asked of them, and have the language skills and grasp of the conventions of written English to effectively communicate their answers.

Moreover, classroom instruction should routinely require that students make sense of quantities and their relationships in problem situations. This would also entail having students explain connections between different representations—verbal descriptions, tables, diagrams, pictures, tools, and equations.

As a result, students will feel more comfortable identifying entry points to a problem's solution, rather than merely skipping the problem. It shouldn't matter which representation is given—students need to be flexible enough to make connections between them and to develop the habit of routinely checking their answers to problems and continually asking themselves, "Does this make sense?"

This need becomes even more pronounced as students transition from one grade level to another and the content becomes increasingly complex. For example, in grade six students will extend their knowledge of the base-ten number system to negative numbers, while in grade seven they will build on their previously acquired knowledge of fractions to recognize that every fraction can be represented by a decimal number that either repeats or terminates. And as students transition to high school, they will learn how the ideas behind the base-ten number system support computations such as combining like units when they calculate with polynomials. Each skill builds on the other, grade-by-grade, to ensure that students develop a deep understanding of mathematical concepts and are ready to apply these skills in college or a career.

Curriculum leaders must therefore ensure that their mathematics curriculum articulates this progression of ideas as students transition from one grade level to the next. This includes providing guidance to teachers in how to support students in developing a deep conceptual and procedural understanding of place value and all other grade-level concepts required by the standards. The curriculum guidance should also indicate to teachers how their current grade-level work builds on prior concepts and will form the foundation for future work. And, wherever necessary, it should supplement textbooks in helping teachers frame the types of questions and assignments that will require students to explore concepts and explain and justify their solutions to problems. Professional support should also demonstrate techniques for folding in remediation for students who need it while simultaneously working on grade-level concepts.

Eighth Grade

In the sample grade-eight NAEP mathematics item below, students are asked to apply their understanding of prime and composite numbers to solve a multi-step problem requiring them to make generalizations about the sum of any two primes. Students are expected to make plausible arguments, justify their conclusions, and communicate their mathematical reasoning to others (MP.3). In this way, the problem reflects a mixture of the mathematical reasoning and content emphasized in the common core mathematics standards.[4]

Beginning in grade four, the common core standards call for students to gain familiarity with factors and multiples and to learn to identify, define, and list prime and composite numbers between one and 100 (4.0A). This work in grade four is critical to subsequent work in grade six, where students use their skills in recognizing common factors (6.NS) to rewrite expressions (6.EE). This includes recording operations with numbers and letters standing for numbers to make generalizations about their structure.

[4]This item also reflects the complexity and structure of PARCC and SBAC items for mathematics. For example, PARCC and SBAC sample items will involve multistep problems that require students to provide an explanation for their thinking and illustrate the direct application of their answers. One sample PARCC item, for instance, requires students to calculate a total number of tiles, organize the tiles on a wall in a particular pattern, and finally illustrate an equation that might be used to solve the problem in three distinct steps. For further analysis of the similarities between NAEP and PARCC/SBAC items see http://www.cgcs.org/domain/165. Sample PARCC and SBAC items for mathematics can be found at http://sampleitems.smarterbalanced.org/itempreview/sbac/index.htm and http://epat-parcc.testnav.com/client/index.html#login?username=guest4&password=guest4.

2013 NAEP RELEASED MATHEMATICS ITEM, Grade Eight

16. (a) If c and d are different prime numbers less than 10 and the sum $c + d$ is a composite number greater than 10, what is one possible pair of values for c and d ?

c = _______________

d = _______________

(b) If j and k are different prime numbers less than 10 and the sum $j + k$ is a prime number less than 10, what is one possible pair of values for j and k ?

j = _______________

k = _______________

(c) If s and t are different prime numbers greater than 10, explain why the sum $s + t$ cannot be a prime number.

**United States Department of Education, Institute of Education Sciences, National Center for Education Statistics, retrieved from http://nces.ed.gov/nationsreportcard/itmrlsx/landing.aspx, 2014.

In this question, students are asked to move beyond merely identifying or listing prime and composite numbers. Instead, they are expected to apply their understanding to make generalizations. While parts (a) and (b) of the problem involve pairs of prime numbers less than ten whose sum is either less than or greater than ten, part (c) requires students to explain why the sum of two prime numbers greater than the number two is always a composite.

Here, students must discern characteristics of the numbers in a way that will allow them to generalize about their structure when adding two primes. They must also know that two is the only even prime number. The following are sample student responses to this NAEP item.[5]

[5]Available at http://nces.ed.gov/nationsreportcard/itmrlsx/landing.aspx.

Sample Student Responses

Acceptable Response

16. (a) If *c* and *d* are different prime numbers less than 10 and the sum $c + d$ is a composite number greater than 10, what is one possible pair of values for *c* and *d* ?

$c =$ ______________ $d =$ ______________

5 7

(b) If *j* and *k* are different prime numbers less than 10 and the sum $j + k$ is a prime number less than 10, what is one possible pair of values for *j* and *k* ?

$j =$ ______________ $k =$ ______________

2 3

(c) If *s* and *t* are different prime numbers greater than 10, explain why the sum $s + t$ cannot be a prime number.

They cannot be prime because all primes greater than 10 are odd numbers, and when odds are added together, an even is the result, which must have 2 as a factor.

In this example of an acceptable extended response, the student cites the two primes less than ten and provides a detailed explanation relating the sum of the two prime numbers to odd numbers and concluding that the sum of two primes, thereby, results in more than two factors. The student explains this by indicating that two would be a factor of the sum of the two prime numbers.

Satisfactory Response

16. (a) If *c* and *d* are different prime numbers less than 10 and the sum $c + d$ is a composite number greater than 10, what is one possible pair of values for *c* and *d* ?

$c =$ ______________ $d =$ ______________

7 5

(b) If *j* and *k* are different prime numbers less than 10 and the sum $j + k$ is a prime number less than 10, what is one possible pair of values for *j* and *k* ?

$j =$ ______________ $k =$ ______________

3 2

(c) If *s* and *t* are different prime numbers greater than 10, explain why the sum $s + t$ cannot be a prime number.

2 odd always make an even number which is divisible by 2 so a composite number. 2 is a prime number but even so that's why it has to be greater than 10 while s+t is under ten and still prime.

In this satisfactory response, the student correctly answered parts (a) and (b) but did not clearly explain that all primes greater than ten are odd, or why the sum is a number with more than two factors.

Partial Response

16. (a) If *c* and *d* are different prime numbers less than 10 and the sum $c + d$ is a composite number greater than 10, what is one possible pair of values for *c* and *d* ?

$c =$ ______________ $d =$ ______________

5 7

(b) If *j* and *k* are different prime numbers less than 10 and the sum $j + k$ is a prime number less than 10, what is one possible pair of values for *j* and *k* ?

$j =$ ______________ $k =$ ______________

2 3

(c) If *s* and *t* are different prime numbers greater than 10, explain why the sum $s + t$ cannot be a prime number.

because when they are added the sum would become composite

In this partial response, the student correctly answered parts (a) and (b) – merely identifying two prime numbers less than 10. However, the student did not provide a detailed explanation about why the sum would be composite.

This type of response is not uncommon. In several of the student responses to this NAEP item, parts (a) and (b) of the problem were answered correctly, but students did not provide clear and detailed explanations or elaborations to show that they understood clear features about the structure of primes greater than 10. In this case, the student indicates that the sum of the two primes is a composite, but does not provide details about "why," or relate to the actual structure of the sum of the two primes.

Incorrect Response

16. (a) If *c* and *d* are different prime numbers less than 10 and the sum $c + d$ is a composite number greater than 10, what is one possible pair of values for *c* and *d* ?

$c =$ 5 $d =$ 5

(b) If *j* and *k* are different prime numbers less than 10 and the sum $j + k$ is a prime number less than 10, what is one possible pair of values for *j* and *k* ?

$j =$ 6 $k =$ 4

(c) If *s* and *t* are different prime numbers greater than 10, explain why the sum $s + t$ cannot be a prime number.

It can not be a prime number becuase the sum is greater then 10

In this incorrect response, the student did not choose two different prime numbers and their sum was not greater than 10 as required in part (a), and the student wrote two composite numbers in part (b). There is some indication that the student is unclear about the differences between a prime and composite number, or may not know what a prime number is. In part (c), the student incorrectly infers that there are no prime numbers greater than 10.

Results and Implications

So how did students perform on this question? **Only 18 percent of public school students nationwide gave at least a partially correct response, and only two percent gave a complete, correct (i.e., "extended") response.** In most student responses, prime numbers were identified but students had difficulty applying their understanding to provide a clear and detailed explanation about the sum of two primes and to make both connections and generalizations. A problem like this becomes even more challenging when students are asked to clearly justify and defend both their assumptions and conclusions.

Additionally, there was a large number of students who chose to skip or omit the item altogether (nine percent of public school students nationally)—and an even higher percentage of Black and Hispanic students who chose to omit the item (13 percent). Among the Trial Urban District Assessment (TUDA) districts, the number of students who chose to omit the item ranged from six to 23 percent. (See Table 2 in Appendix B.)

The large number of omissions may be attributed to the fact that this item was a word problem. Some students may have seen it as quite "wordy," or as using unfamiliar mathematical terminology. They may also have been intimidated by the number of parts to the problem. In states where annual or benchmark assessments present questions that are primarily multiple choice, students may not have enough practice tackling these types of short-answer or extended response problems.

Even if students learned about prime and composite numbers at an earlier grade level, they may have skipped the entire problem rather than attempting even part (a), where they could have easily identified two different primes less than ten whose sum was greater than ten. This suggests that students lack persistence and have not developed the habit of at least attempting to answer complex, multi-step problems.

Addressing the Gaps in Learning

So, what could a teacher do that would make it more likely that students will be able to solve this type of problem correctly? Teachers should routinely require students to use their prior learning and apply it in new and different contexts. This includes having students look at relationships between numbers to determine patterns or the structure of an operation.

Teachers should also have students take a broader, more strategic look at a problem in order to describe and generalize patterns. Omission rates tend to increase in the upper grades, so it is important that administrators and teachers present problems to students in regular classroom instruction that are multi-step, involve close reading, and require students to explain their answers or to justify generalizations to show that they understand the mathematical concepts and to give them practice persisting with more complex problems.

Moreover, deliberate attention should be paid to unpacking the language demands in mathematical word problems—particularly for students acquiring English—and to reinforcing students' understanding of discipline-specific academic vocabulary and linguistic structure. As noted earlier, students should understand what is being asked of them, and should feel confident in their ability to demonstrate their understanding of mathematical concepts in writing.

Students should also be adept at integrating information provided in a question and explaining the connections between expressions, tables, diagrams/pictures, and equations. This will allow them to look for entry points to solving an unfamiliar problem, rather than merely *omitting* the problem. This depth of knowledge and skills will enable students to confidently handle future demands in college or careers.

District curriculum leaders should be asking themselves the following kinds of questions–

- ✓ Where in our curriculum documents can teachers find guidance on using/creating student tasks, assignments, or assessments that allow time for students to explore concepts in depth, consider the structure of numbers and their relationships, and lead progressively from one grade level to another?
- ✓ Are we providing teachers with guidance and feedback about instruction that emphasizes how mathematics instruction should deepen a student's prior knowledge and help students make explicit connections among multiple concepts?
- ✓ How are teachers connecting grade-level concepts explicitly to prior knowledge from earlier grades?
- ✓ What guidance and resources are available for teachers to work with students who have gaps in their learning?
- ✓ What guidance are we providing on building academic vocabulary and language so that students can read and discuss mathematics problems? Are students routinely expected to use words, phrases, and sentences to apply the technical vocabulary in mathematics?
- ✓ Are students routinely being asked to explain and justify their thinking using the language of mathematics?
- ✓ How are we using evidence from student work to know that students are gaining confidence and expertise in explaining how they derived an answer or explaining generalizations about mathematical concepts?
- ✓ How well do teachers balance the need to provide students with support and scaffolding with the need to allow students to struggle productively at appropriate times? How often are students expected to work through difficult problems themselves, rather than having the teacher walk them through each new problem "step by step"?
- ✓ How are we using samples of student work to refine our supports for schools?

English Language Arts and Literacy: Progress toward Standards and Implications for Curriculum and Instruction

Traditionally, the most common approach to English language arts and literacy instruction has been to focus on teaching one skill or objective at a time. However, the common core requires educators to teach and assess a student's ability to apply multiple reading, writing, and analytic skills simultaneously.

Moreover, students in the past were often asked to describe how they related to or felt about a particular reading passage without having to demonstrate a deeper comprehension of what they read or the ability to cite information or details from the text. Students must now carefully read a text and effectively communicate their answers both verbally and in writing, supporting those answers with evidence from the text.

Fourth Grade

In the 2013 NAEP English language arts assessment item below, fourth-grade students are asked to read an article about sharks and describe a strength and weakness in the author's presentation of the information, citing evidence from the text. As described above, this is similar to the expectations the common core standards in English language arts and literacy set for students.[6]

For example, the common core requires fourth graders to determine how well an author has presented information in a text or part of a text (R.I.4.5). That means interpreting information presented visually, orally, or quantitatively and explaining how the information contributes to one's understanding of the text in which it appears (R.I.4.7).

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[6]This is also consistent with the types of questions students will find on the PARCC and SBAC assessments, which will ask them to explain their answers and provide short or extended responses to individual items. The fourth grade NAEP item described here, for example, mirrors an SBAC item that asks students, "How does the author emphasize the point that the TAM program was a positive influence on the sisters' lives? Use details from the text to support your answer." For further analysis of the similarities between NAEP and PARCC/SBAC items see http://www.cgcs.org/domain/165. Sample PARCC and SBAC items for English language arts can be found at www.parcconline.org and www.smarterbalanced.org.

2013 NAEP RELEASED ENGLISH LANGUAGE ARTS ITEM, Grade Four (Text provided in Appendix A.)

Describe a strength and a weakness in the way the author presents the information in the article. Support your answer with examples from the article.

**United States Department of Education, Institute of Education Sciences, National Center for Education Statistics, retrieved from http://nces.ed.gov/nationsreportcard/itmrlsx/landing.aspx, 2014.

There are several intellectual operations in play here. First, students must be able to read the article and develop an understanding of the topic based on the information provided. Then students must cite the parts of the article that best contributed to their understanding, as well as the parts that were not so effective in enhancing their knowledge.

Moreover, students are *not* asked to select correct answers from a list of choices—they must generate their own answers. The following are sample student responses to this NAEP item.[7]

[7]Available at http://nces.ed.gov/nationsreportcard/itmrlsx/landing.aspx.

Sample Student Responses

Acceptable Response

> A strength the author presents in the story is that the author puts pictures in the story that helped explain what it looks like and what it does. A weakness that the author expresses is that she could have explained a little more on what happened during the sharks stay at the aquarium.

In the acceptable response, even though the wording is awkward, the student uses evidence from the article to support his or her answer, citing the author's use of pictures as a strong point that enhanced his/her understanding of sharks. This student also points out a specific weakness—a paragraph that needed more elaboration on what sharks do in an aquarium. In this case, the student was able to use his/her knowledge of how specific features of a text contribute to a clear understanding of the topic presented.

Unsatisfactory Response

> one strength the author did was making the article very interesting and making the reader want to keep reading. There wasn't really a weakness.

In this unsatisfactory response, the student uses a "text-to-self" approach, answering the question by offering an unsupported personal opinion that implies he or she had a limited exposure to assignments and tasks that required the student to analyze and cite evidence from a text.

Results and Implications

So how did students do on this question? **Only 14 percent of public school students nationwide gave a "correct" response (i.e., an "essential" or "extensive" response), and only four percent gave a complete, correct (i.e., "extensive") response.** Of the 21 districts participating in the Trial Urban District Assessment (TUDA), none had more than eight percent of their students writing complete, correct answers. In public schools nationwide and TUDA districts, the percentage of unsatisfactory responses on this item ranged from 20 percent to 40 percent. (See Table 3 in Appendix B.)

Interestingly, a high number of students—50 percent nationwide—received partial credit for their answers. Many students also chose to skip or omit the item altogether (10 percent in public schools nationwide, and between six and 12 percent in TUDA districts). These high rates of partial credit and omissions indicate that students were not adequately prepared to respond to questions that require them to write out and justify their thinking. This may have been because they lacked experience carefully reading and evaluating text, or because they were more accustomed to multiple-choice, true or false, or fill-in-the-blank questions.

Addressing the Gaps in Learning

What could a teacher be doing that would make it more likely that students are able to provide complete written responses to questions like this? Throughout the year, teachers should provide systematic reading instruction that enables students to read and comprehend grade-level literary and informational texts independently and accurately. Additionally, teachers should provide students with regular opportunities to interpret informational texts and explain—both verbally and in writing—how the presentation of the information (including charts, illustrations, diagrams, etc.) contributed to or inhibited their understanding of the topic. Again, students should be given ample opportunity to gain experience in supporting their conclusions and interpretations with evidence from the text itself.

Additionally, it is important for teachers to model close-reading strategies for students and explicitly teach them how to track their growing understanding of the concepts they are learning as they proceed through the reading material. This is particularly critical as the texts become more complex and abstract.[8]

Eighth Grade

In the sample 2013 grade-eight NAEP assessment item below, students are asked to evaluate the persuasiveness of the writing device an author uses at the end of a text in relationship to the rest of the essay, using details and analysis of the text as a whole to support their answer. Again, this reflects the intellectual requirements of the common core English language arts standards, which require students to analyze the structure of a specific paragraph in a text, including the role of particular sentences and their structures, in developing and refining a key concept (R.I.8.5), and to evaluate the advantages and disadvantages of using different mediums to present a particular topic or idea (R.I.8.7).[9]

2013 NAEP RELEASED ENGLISH LANGUAGE ARTS ITEM, Grade Eight (Text provided in Appendix A.)

The author ends the essay with a childhood story. Does the childhood story do a better job persuading readers of the author's point than the other parts of the essay? Explain why or why not.

**United States Department of Education, Institute of Education Sciences, National Center for Education Statistics, retrieved from http://nces.ed.gov/nationsreportcard/itmrlsx/landing.aspx, 2014.

The following are sample student responses to this NAEP item.[10]

[8]For additional resources for teachers, see the Basal Alignment Project web page at http://www.commoncoreworks.org/domain/112.

[9]This also reflects the types of English language arts items students will encounter on the PARCC and SBAC assessments. For example, one PARCC sample item uses a website, an article, and a video to describe Amelia Earhart. Students are asked to analyze the strength of the author's arguments across mediums and write an essay using textual evidence to support their ideas. For further analysis of the similarities between NAEP and PARCC/SBAC items see http://www.cgcs.org/domain/165. Sample PARCC and SBAC items for English language arts can be found at www.parcconline.org and www.smarterbalanced.org.

[10]Available at http://nces.ed.gov/nationsreportcard/itmrlsx/landing.aspx.

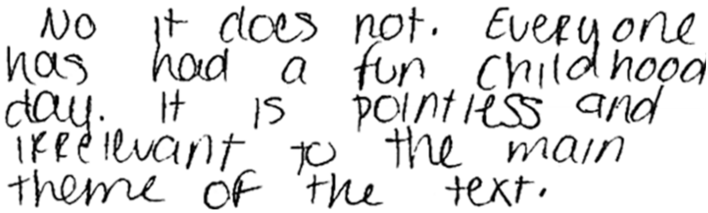
Sample Student Responses

<u>Extensive Response</u>

> Yes, It does a better job persuading reader of the author's point because it was so simple, but fun. It shows that you can't go hunting for fun, but it will come to you in an unexpected way. Also, this part is good at persuading people because they can relate to it. Almost everyone has a similar childhood memory.

As in the case of the earlier sample test item, the difference between the extensive and the unsatisfactory responses is the orientation of the reader's relationship with the text. The student who wrote an extensive response is clearly comfortable supporting claims with evidence from the text.

Unsatisfactory Response


No it does not. Everyone has had a fun childhood day. It is pointless and irrelevant to the main theme of the text.

This unsatisfactory response, meanwhile, dismisses the author's childhood story because "everyone has had a fun childhood day," demonstrating that the student either lacked an understanding of what the author's point was (because he or she did not receive instruction on how to identify the main theme of a text), or the student did not read the entire passage, skimming only the section referenced in the question. In either case, the student defaults to using his or her own experiences to answer the question.

Moreover, the student's use of the words "pointless" and "irrelevant" suggests that he or she understands the concept of evaluating the effectiveness of claims, but needs more practice using evidence from the text to support this assessment.

Results and Implications

So how did students do on this question? **Less than a third of public school students nationwide gave a "correct" response (i.e., an "essential" or "extensive" response), and only eight percent gave a complete, correct ("extensive") response.** Of the 21 TUDA school districts, none of them had more than 11 percent of their students writing correct, complete answers. (See Table 4 in Appendix B.)

As we saw in the grade four sample item, a relatively large number—24 percent—of public school students nationwide earned partial credit for their answers. This indicates that many students may have understood the concept of using persuasive devices, but fell short in their ability to use evidence within the text to evaluate the effectiveness of these devices. Incorrect or incomplete answers, as well as high omission rates, also indicate that students may not feel comfortable writing a short response or are not accustomed to doing so.

Addressing the Gaps in Learning

What could a teacher be doing that would make it more likely that students are able to provide complete written responses to questions like this? Teachers should routinely require students to cite evidence from the text to support their written answers to text-dependent questions. In this case, students may also need more explicit instruction throughout the year that requires them to analyze how authors use various combinations of persuasive devices and word choices to support their positions and arguments.

Teachers should also be providing students with more frequent opportunities to explain how an author's use of one persuasive device may or may not be more effective than another device used in a particular essay. Again, the explanation must be grounded in evidence from the text, and the student needs to know when their answer has sufficiently addressed the question.

Of equal importance in teaching students to accurately respond to complex questions is the role of teacher questioning during classroom instruction and discussion. An effective set of complex, text-dependent questions delves systematically into a text in order to guide students in extracting key ideas and concepts presented in literary and informational texts across content areas. If teachers provide students regular opportunities to answer questions that are specific and multi-layered, students will gain greater confidence in tackling more difficult questions as the year progresses and they gain greater proficiency.[11]

This is also a place where administrators and central office staff should revisit the curriculum or scope and sequence documents to make sure that teachers are provided with the proper guidance about the depth of instruction that is needed across all content areas.

[11] For additional resources for teachers, see the Basal Alignment Project web page at http://www.commoncoreworks.org/domain/112.

District curriculum leaders should be asking themselves the following kinds of questions–

- ✓ Where in our curriculum documents can teachers find guidance on how to use close reading strategies to teach challenging and complex text and to pose text-dependent questions that explore the content, structure, vocabulary, and language of the text?
- ✓ Are we providing teachers with guidance on how to identify measures of text complexity and to differentiate among and select texts for quality and richness?
- ✓ Are teachers regularly providing all students, including those who read below grade level, with opportunities to read and comprehend complex, grade-level appropriate text?
- ✓ Are teachers using a wide range of rich and diverse texts that take into account individual student needs and interests in order to foster independent reading?
- ✓ In secondary schools, how are teachers of other content areas being prepared to ensure that all students are accessing grade-level texts in all subjects?
- ✓ How is the district helping teachers identify texts that will provide students with sufficient reading on a given topic to enable them to work both independently and in classrooms to ensure strong academic vocabulary and language?
- ✓ How are we making our teachers aware of free materials that model the use of text-dependent questions? (See www.commoncoreworks.org for access to the Read-Aloud, Basal Alignment, and Anthology Alignment Projects.)
- ✓ How often are students provided explicit instruction on producing effective, logically-organized written answers and effectively supporting a position in writing? What guidance do we provide to teachers on ensuring adequate attention to writing?
- ✓ How do we use student work to determine additional support needed by teachers and schools?
- ✓ How have we provided look-fors for principal supervisors and principals to ascertain how well students are progressing

Conclusion

Our analysis of selected 2013 NAEP items that are similar in rigor and focus to the common core standards—and the types of items likely to be seen on the new common core assessments—indicates that students are not being academically prepared for college and careers, and that school districts urgently need to pick up the pace of their common core standards implementation.

This will not be accomplished with "test prep," and common core checklists and worksheets won't even skim the surface of the fundamental changes that need to be happening in all classrooms. Meeting these new educational standards will mean a comprehensive examination of the curriculum, materials, instructional guidance, and professional development available to administrators and teachers to institute the level of rigor and instructional shifts called for by the common core.

As central office instructional leaders and specialists, you may have great confidence in the quality and potential utility of current curricular materials and guidance. But if these materials end up sitting on a shelf, or if they aren't viewed by the intended users as immediately useful and applicable in changing classroom instruction, they will do nothing to further instructional quality or student learning.

District and school staff report that, even now, they receive professional development focused on providing an overview of what the standards are, rather than on how to implement them in their classrooms and schools. Understanding the need for the standards is important, but the time for providing only preliminary overviews of the common core has passed.

If the preceding analysis of student performance on selected NAEP items shows us anything, it is that teachers and principals require additional support and more concrete guidance. This includes clear and differentiated "next steps" based on where a school or teacher is in the implementation process. It also includes strategies for adjusting instruction and supporting struggling students, as well as supplemental materials and tools that teachers can use to bridge the divide between the common core standards and textbooks and curricula that do not yet meet these standards.

Moving forward, district instructional staff and leaders should consider the following steps:

- Ensure that the leadership of the district is committed to achieving full implementation of the standards and that their commitment is visible and clearly communicated throughout the district.
- Use cross-functional teams in establishing implementation as a leading priority of the district.
- Build a sense of joint ownership of common core implementation among central office staff. Departments that act as silos will only end up sending disjointed, mixed messages to schools and staff.
- Conduct field research and consult with school leaders and teachers to determine what curricular materials are actually being used, and why or why not.
- Identify where any breakdowns in communication are happening and develop mechanisms for systematically sharing resources with schools, gathering feedback, addressing concerns, and improving tools on an ongoing basis.
- In collaboration with a committee of school and central office staff, develop a clear description of stages of common core implementation. Consider what high quality instruction should look like at each grade level and how student work should indicate the level of implementation at various times of the school year. Use that blueprint and observations of student work to assist schools in moving from one stage to the next to reach comprehensive implementation.
- Enlist regional offices, zones, or other management structures to ensure that the district's strategic priorities and common core implementation plans inform the work of schools. Verify that principal supervisors have the information and skills they need to assist principals in attaining full implementation in schools.

- Shift the focus of teacher and administrator professional development on the common core from the "what" to the "how," providing concrete steps and strategies for teachers to use to adjust their classroom instruction to reflect the focus and rigor of the common core standards while addressing the needs of all students.
- Review the district's curriculum guidance, instructional materials, texts, and programs to ensure that they are aligned to the common core and determine where they are not. In selecting materials, the district should consult the Publishers' Criteria and other tools like the IMET from Student Achievement Partners, EQuIP from Achieve, and the grade-by-grade and ELL-specific rubrics developed by the Council of the Great City Schools.
- Conduct a thorough analysis of the district's professional development program, as well as school use of common planning time and professional learning communities, to ensure that schools and teachers are supported in a way that allows them to provide instruction that results in students meeting the challenges outlined in this booklet. In addition, professional development should be defined and delivered in a way that encourages more reading and discussion across content areas.
- Develop explicit look-fors for observing classroom practice and protocols for teachers to collaboratively review student work samples based on the district's scope and sequence documents and the common core. Provide resources and professional development on these look-fors and protocols. This should not amount to checklists or personnel evaluations, but should reflect the overall spirit and intent of the standards-which is to ensure that students graduate from high school with the essential knowledge and skills they need to be successful in college and careers.

- Develop instructional materials and supports, professional development, and protocols for classroom observation that purposefully and explicitly attend to the specific needs of ELLs, students with disabilities, struggling students, and other groups with special needs.

Finally, while this document used specific examples related to place value, prime numbers, and author's point of view and use of informational and persuasive devices, the overall recommendations here apply to all college and career-ready content. It is important in the implementation of the new standards that-

- Teachers demonstrate an understanding of how specific mathematics and literacy content evolves across grade levels. Teachers and students should be aware of the connections between current concepts and concepts and skills learned in earlier grades. Curriculum guidance should indicate to teachers how their current grade-level work builds on prior learning and will form the foundation for future work.
- Students have consistent (at least weekly) experience with short and extended-response items in mathematics-and more frequently in reading-so that it becomes routine practice for students to explain and justify their conclusions. Students will face a number of items on the new assessments that are not multiple choice, and they will need to feel comfortable writing detailed responses and determining when their answers are complete.
- Students develop an understanding of the deeper meaning and connections between concepts in mathematics, while still getting practice with the basic underlying math skills emphasized in the standards.

- Students learn how to use close reading strategies to access grade-level texts across content areas. Teachers should build students' academic vocabulary and ability to handle the complex language structures they will encounter in their reading.

- In all content areas, students are consistently required to use information from the texts they read to articulate their understanding verbally and in writing.
- Students are presented with math problems or situations that require them to determine which information is necessary to solve multi-step problems.
- Students become comfortable interpreting information that is presented visually, orally, or quantitatively (such as in tables, diagrams, pictures, illustrations, equations, charts, and graphs) and explaining how the information contributes to their understanding of the text. Students must have experience providing detailed explanations—both verbally and in writing—of how specific parts of a text and the presentation of information contribute to or hinder their understanding.
- Students consistently encounter and solve complex, multi-step mathematics problems and respond to questions about rich, nuanced reading passages. This will help students develop patience and perseverance. It will also give them confidence when faced with items that require more than the selection of a single response from four or five multiple-choice options Students should be comfortable enough with academic vocabulary to make generalizations about their understanding, and to justify and defend their assumptions and conclusions.

In conclusion, insofar as NAEP can provide us with a context for charting student performance and preparedness, it is clear that students in urban schools and nationwide are not yet equipped to successfully meet the standards being implemented in their classrooms and the new assessments they will soon take. The results of this analysis should serve as a wake-up call. Our standards of instruction need to quickly catch up to the new academic expectations we have set for students. The ability of our children to thrive and succeed as they prepare for college and careers in a world that will expect much more of them will depend on our collective response—as teachers, principals, curriculum leaders, superintendents, school board members, and parents—to the evidence before us.

Appendix A:
Sample NAEP Reading Passages

Grade Four NAEP Reading Passage

Little Great White

by Pamela S. Turner

Moms, dads, and kids crowded around the window at Monterey Bay Aquarium. When a small gray-and-white shark swam by, a woman squealed, "There she is!"

Eight-year-old Sammy gazed up at the shark. He saw the rows of perfectly white, perfectly sharp teeth. "She's really pretty," said Sammy, "but a little scary, too."

The shark was a baby "great white shark." (Scientists call them *white sharks*.) They have a terrifying reputation: Sometimes the sharks attack swimmers, probably because the shark mistakes the swimmer for a seal or sea lion. Attacks on humans are rare. But many movies make people think that these sharks are monsters waiting to eat them.

The baby white shark at Monterey Bay Aquarium wasn't much of a monster. At 4 feet 4 inches long and 62 pounds, she was about the same size as a nine-year-old girl. But when full-grown, she could reach 19 feet in length and weigh more than 2 tons—longer and heavier than a minivan.

"We are really quite proud of her," said John O'Sullivan of the Monterey Bay Aquarium. "She is a beautiful, fascinating, majestic swimmer."

Can We Keep Her?

Bringing a white shark to the

Page 1 of 7

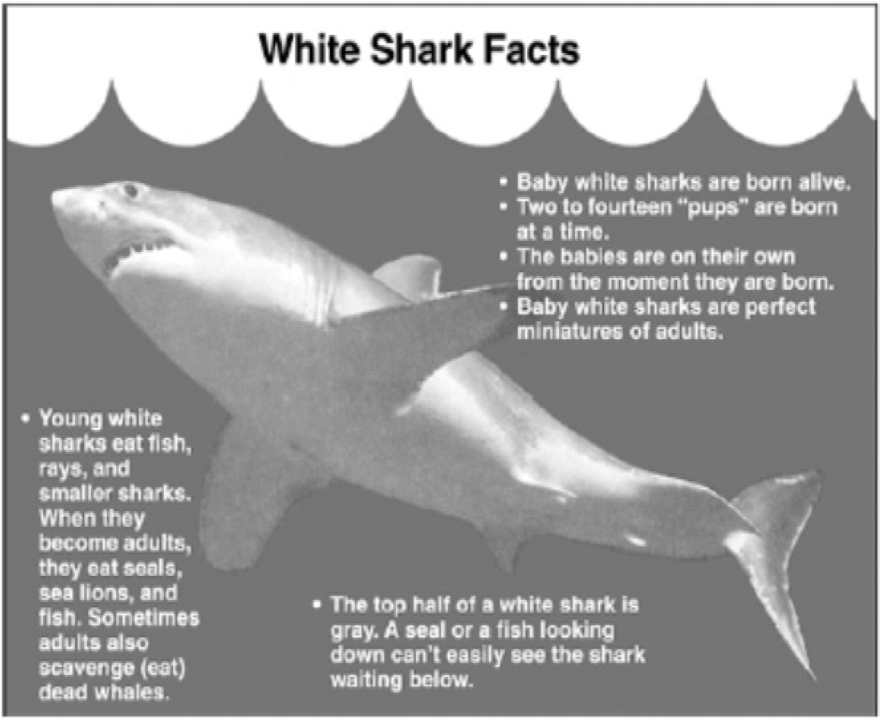
A veterinarian gives the shark a checkup before her trip to the aquarium.

aquarium wasn't easy. For fifty years aquariums have tried to keep white sharks alive, but the sharks would not eat in captivity.

The baby shark had been caught accidentally by a halibut fisherman off the coast of Southern California. Mr. O'Sullivan and his team knew that white sharks were sometimes caught this way. The aquarium had a special floating pen waiting in coastal waters nearby. While the shark lived in the pen, she was fed the same things she would have eaten in the wild—smaller sharks and other fish. The floating pen helped her get used to living in a small space.

After living in the pen for 26 days, the shark was put into a special 3,000-gallon tank and driven north to the aquarium. She was given a quick health check and slipped into the million-gallon Outer Bay Exhibit tank. The next morning, the shark ate

Page 2



salmon for breakfast. The aquarium staff cheered!

The baby shark was fed using a long pole with a loop at the end to hold pieces of fish. "You slap the food in front of her, get her excited, and she attacks it," explained Mr. O'Sullivan. "When you watch her feed, it is very, very exciting." At one point, she bit the feeding stick and snapped off a piece of it.

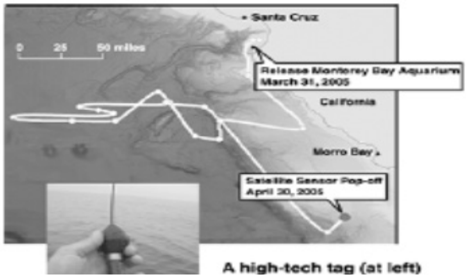
A Healthy Appetite

The aquarium staff worried that the white shark might attack her tankmates, such as tuna, sea turtles, stingrays, and soupfin sharks. "We try to make sure everybody in the tank is happy and has a full tummy," said Mr. O'Sullivan. "A few of the little barracuda nip at her tail. It is sort of like a dog chasing a car. It is probably not a smart thing to do!"

The aquarium staff didn't know how long they could keep the baby white shark. They planned to set her free if she stopped eating. Even if they could keep her a long time, they planned to set her free when she got bigger.

In just six and a half months, the shark grew two feet in length and more than doubled in weight. Scientists were surprised at how quickly she grew.

As the white shark got bigger, she began hunting her tankmates. She bit and killed two soupfin sharks. The aquarium released her into the ocean on March 31, 2005.



A high-tech tag (at left)

5/15/14, 4:14 PM

A Message Home

Before letting her go, scientists attached a special "pop-up" satellite tag to the white shark. A month later the tag automatically popped off the shark, floated to the surface, and sent data to an orbiting satellite.

The tag told scientists that the shark was alive and had swum 200 miles south since her release. This is as close as any shark gets to sending a postcard: "The water is fine. Wish you were here!"

During her stay, the baby shark gave people a more balanced view of white sharks. People fear many animals, such as lions and grizzly bears. But over time, people have accepted the idea that these animals have a right to exist. We set up national parks to protect them.

Many scientists think that white sharks are very rare and should also be protected. It is now against the law to fish for white sharks off the shores of places like the United States, Australia, and South Africa.

"Having a live, swimming white shark lets people say, 'Wow, this animal is really neat,'" says Mr. O'Sullivan. He hopes that people will begin to understand this magnificent creature. Then they will help protect it.

FUN

by Suzanne Britt Jordan

Fun is hard to have.

Fun is a rare jewel.

Somewhere along the line people got the modern idea that fun was there for the asking, that people deserved fun, that if we didn't have a little fun every day we would turn into (sakes alive!) puritans.

"Was it fun?" became the question that overshadowed all other questions: good questions like: Was it moral? Was it kind? Was it honest? Was it beneficial? Was it generous? Was it necessary? And (my favorite) was it selfless?

When the pleasure got to be the main thing, the fun fetish was sure to follow. Everything was supposed to be fun. If it wasn't fun, then we were going to make it fun, or else.

Think of all the things that got the reputation of being fun. Family outings were supposed to be fun. Education was supposed to be fun. Work was supposed to be fun. Walt Disney was supposed to be fun. Church was supposed to be fun.

Staying fit was supposed to be fun.

Just to make sure that everybody knew how much fun we were having, we put happy faces on flunking test papers, dirty bumpers, sticky refrigerator doors, bathroom mirrors.

If a kid, looking at his very happy parents traipsing through that very happy Disney World, said, "This ain't fun, ma," his ma's heart sank. She wondered where she had gone wrong. Everybody told her what fun family outings to Disney World would be. Golly gee, what was the matter?

Fun got to be such a big thing that everybody started to look for more and more thrilling ways to supply it. One way was to step up the level of danger so that you could be sure that, no matter what, you would manage to have a little fun.

Television commercials brought a lot of fun and fun-loving folks into the picture. Everything that people in those commercials did looked like fun: taking Polaroid snapshots, buying insurance, mopping the floor, bowling, taking aspirin. The more commercials people watched, the more they wondered when the fun would start in their own lives. It was pretty depressing.

Page 3

Big occasions were supposed to be fun. Christmas, Thanksgiving and Easter were obviously supposed to be fun. Your wedding day was supposed to be fun. Your honeymoon was supposed to be the epitome of fundom. And so we ended up going through every Big Event we ever celebrated, waiting for the fun to start.

It occurred to me, while I was sitting around waiting for the fun to start, that not much is, and that I should tell you just in case you're worried about your fun capacity.

I don't mean to put a damper on things. I just mean we ought to treat fun reverently. It is a mystery. It cannot be caught like a virus. It cannot be trapped like an animal. The god of mirth is paying us back for all those years of thinking fun was everywhere by refusing to come to our party. I don't want to blaspheme fun anymore. When fun comes in on little dancing feet, you probably won't be expecting it. In fact, I bet it comes when you're doing your duty, your job, or your work. It may even come on a Tuesday.

I remember one day, long ago, on which I had an especially good time. Pam Davis and I walked to the College Village drug store one Saturday morning to buy some candy. We were about 12 years old. She got her Bit-O-Honey. I got my malted milk balls, chocolate stars, Chunkys, and a small bag of M & M's. We started back to her house. I was going to spend the night. We had the whole day to look forward to. We had plenty of candy. It was a long way to Pam's house but every time we got weary Pam would put her hand over her eyes, scan the horizon like a sailor and say, "Oughta reach home by nightfall," at which point the two of us would laugh until we thought we couldn't stand it another minute. Then after we got calm, she'd say it again. You should have been there. It was the kind of day and friendship and occasion that made me deeply regretful that I had to grow up.

It was fun.

Appendix B:
City-by-City NAEP Item Results

Table 1.
Percentage of Students in Various Response Categories for a 2013 Grade Four Constructed Response NAEP Released Mathematics Item

	Incorrect Response*	Partial Response 2*	Partial Response 1*	Correct Response*	Omitted
National Public	57	4	2	35	2
Albuquerque	66	1	1	28	4
Atlanta	70	2	1	25	3
Austin	59	3	1	35	1
Baltimore City	75	3	1	16	5
Boston	53	1	1	41	3
Charlotte	47	5	2	43	3
Chicago	67	3	2	25	4
Cleveland	80	2	1	13	3
Dallas	63	4	2	29	3
Detroit	83	1	#	11	4
District of Columbia (DCPS)	71	3	1	3	2
Fresno	79	2	1	13	5
Hillsborough County	51	4	2	40	3
Houston	73	3	1	21	2
Jefferson County (KY)	60	5	2	29	4
Los Angeles	67	4	1	24	4
Miami-Dade	62	1	3	32	2
Milwaukee	74	2	1	21	2
New York City	58	6	2	32	2
Philadelphia	75	2	1	18	3
San Diego	59	3	#	37	2

United States Department of Education, Institute of Education Sciences, National Center for Education Statistics, retrieved from http://nces.ed.gov/nationsreportcard/itmrlsx/landing.aspx, 2014.

*For a detailed explanation of the differences between performance levels, see http://nces.ed.gov/nationsreportcard/itmrlsx/search.aspx?subject=mathematics

rounds to zero

Table 2.
Percentage of Students in Various Response Categories for a 2013 Grade Eight Extended Constructed Response NAEP Released Mathematics Item

	Incorrect Response*	Minimal Response*	Partial Response*	Satisfactory Response*	Extended Response *	Omitted	Off Task
National Public	52	20	12	4	2	9	1
Albuquerque	47	19	13	4	2	14	#
Atlanta	56	19	10	2	1	11	#
Austin	52	16	10	5	2	14	2
Baltimore City	63	16	5	1	#	15	#
Boston	37	20	13	6	3	18	2
Charlotte	47	20	11	6	4	11	1
Chicago	60	14	7	3	1	15	1
Cleveland	64	14	4	1	#	17	#
Dallas	53	18	4	1	#	23	#
Detroit	65	12	5	#	#	16	1
District of Columbia (DCPS)	66	12	6	2	#	15	#
Fresno	57	20	6	1	2	11	2
Hillsborough County	60	16	9	2	3	6	3
Houston	60	13	8	1	2	16	#
Jefferson County (KY)	61	16	9	4	2	7	1
Los Angeles	47	16	14	2	2	19	1
Miami-Dade	62	15	8	1	1	12	1
Milwaukee	65	16	2	1	#	15	#
New York City	47	18	11	3	3	18	#

United States Department of Education, Institute of Education Sciences, National Center for Education Statistics, retrieved from http://nces.ed.gov/nationsreportcard/itmrlsx/landing.aspx, 2014.

*For a detailed explanation of the differences between performance levels, see http://nces.ed.gov/nationsreportcard/itmrlsx/search.aspx?subject=mathematics

rounds to zero

Table 3.
Percentage of Students in Various Response Categories for a 2013 Grade Four Short Constructed Response NAEP Released Reading Item

	Unsatisfactory Response*	Partial Response*	Essential Response*	Extensive Response*	Omitted	Off Task
National Public	25	50	10	4	10	1
Albuquerque	33	48	9	2	8	1
Atlanta	29	51	10	3	7	#
Austin	28	47	10	4	9	3
Baltimore City	32	46	5	5	12	1
Boston	29	48	7	4	10	1
Charlotte	26	47	12	6	8	1
Chicago	27	50	8	5	8	2
Cleveland	35	46	4	1	12	2
Dallas	38	39	10	2	11	#
Detroit	40	41	6	1	11	1
District of Columbia (DCPS)	32	44	11	4	8	1
Fresno	38	41	6	1	12	1
Hillsborough County	22	43	14	8	12	1
Houston	34	51	5	2	8	#
Jefferson County	20	56	12	5	6	#
Los Angeles	35	45	8	2	10	1
Miami-Dade	22	54	9	5	11	#
Milwaukee	33	51	7	#	8	1
New York City	20	55	11	5	8	1
Philadelphia	34	48	4	2	9	2
San Diego	24	48	12	6	9	1

United States Department of Education, Institute of Education Sciences, National Center for Education Statistics, retrieved from http://nces.ed.gov/nationsreportcard/itmrlsx/landing.aspx, 2014.

*For a detailed explanation of the differences between performance levels, see http://nces.ed.gov/nationsreportcard/itmrlsx/search.aspx?subject=reading

rounds to zero

Table 4.
Percentage of Students in Various Response Categories for a 2013 Grade Eight Extended Constructed Response NAEP Released Reading Item

	Unsatisfactory Response*	Partial Response*	Essential Response*	Extensive Response*	Omitted	Off Task
National Public	40	24	24	8	3	#
Albuquerque	47	16	26	10	1	#
Atlanta	50	24	17	7	3	#
Austin	43	22	25	6	3	1
Baltimore City	42	28	17	6	6	1
Boston	44	23	18	10	6	1
Charlotte	39	28	24	6	3	1
Chicago	41	25	24	7	3	#
Cleveland	59	19	15	5	3	#
Dallas	48	21	20	4	5	2
Detroit	55	17	16	6	7	#
District of Columbia (DCPS)	49	20	18	5	9	#
Fresno	53	19	19	5	3	1
Hillsborough County	39	23	24	11	3	#
Houston	48	22	20	3	5	2
Jefferson County (KY)	48	25	20	5	2	#
Los Angeles	52	21	17	7	4	#
Miami-Dade	40	27	21	6	5	#
Milwaukee	49	19	18	5	8	1
New York City	40	21	18	10	11	#
Philadelphia	44	22	14	9	11	#
San Diego	39	21	26	7	3	3

United States Department of Education, Institute of Education Sciences, National Center for Education Statistics, retrieved from http://nces.ed.gov/nationsreportcard/itmrlsx/landing.aspx, 2014.

*For a detailed explanation of the differences between performance levels, see http://nces.ed.gov/nationsreportcard/itmrlsx/search.aspx?subject=reading

rounds to zero

Albuquerque
Anchorage
Atlanta
Austin
Baltimore
Birmingham
Boston
Bridgeport
Broward County
Buffalo
Charleston
Charlotte
Chicago
Cincinnati
Clark County
Cleveland
Columbus
Dallas
Dayton
Denver
Des Moines
Detroit
East Baton Rouge
El Paso
Fort Worth
Fresno
Greensboro
Honolulu
Houston
Indianapolis
Jackson
Jacksonville
Kansas City
Long Beach
Los Angeles
Louisville
Miami-Dade
Milwaukee
Minneapolis
Nashville
Newark
New Orleans
New York City
Norfolk
Oakland
Oklahoma City
Omaha
Orange County
Palm Beach
Philadelphia
Pittsburgh
Portland
Providence
Richmond
Rochester
Sacramento
San Diego
San Francisco
Santa Ana
Seattle
Shelby County
St. Louis
St. Paul
Tampa
Toledo
Washington, DC
Wichita

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