# National Assessment Governing Board
## Executive Committee

March 3, 2016  
4:30-6:00 pm

**AGENDA**

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| 4:30 – 5:20 pm| Closed Session: 4:30-5:20 pm  
Welcome and Agenda Overview  
_Terry Mazany, Chair_  
NAEP Budget and Assessment Schedule  
_Terry Mazany  
Bill Bushaw, Executive Director  
Peggy Carr, Acting Commissioner, NCES_|                                                                 |                   |
| 5:20 – 5:40 pm| 2017 Trial Urban District Assessment Expansion  
**ACTION: Approve New TUDA Districts**  
_Terry Mazany  
Bill Bushaw_|                                                                 | Attachment A      |
| 5:40 – 5:50 pm| Strategic Planning Initiative  
_Lucille Davy, Vice Chair_ |                                                      | Attachment B      |
| 5:50 – 6:00 pm| Legislative Updates  
_Lily Clark, Assistant Director for Policy and Research_ |                                                      | Attachment C      |
2017 Trial Urban District Assessment Expansion

On December 18, 2015, Congress passed and the President signed the “Consolidated Appropriations Act, 2016”. The fiscal year 2016 appropriations provided a critical infusion of funds for NAEP. The NAEP program was appropriated $149 million, an increase of $20 million from the previous year. The President’s justification to Congress for this increase included the Board’s priority to expand the Trial Urban District Assessment (TUDA) program. The National Center of Education Statistics (NCES) conducted a budget review of the increased funding and revised cost estimates to implement the Governing Board’s Assessment Schedule and priorities, including the investment required to implement digital-based assessments (DBA). NCES estimates that the NAEP budget could support an expansion of up to six new TUDA participants beginning with the 2017 NAEP.

The Governing Board staff worked in partnership with NCES and the Council of the Great City Schools staff to identify and invite eligible districts to participate in the program. This work was conducted in accordance with the Governing Board’s TUDA policy.

Of the 16 large urban districts eligible to participate in TUDA, six districts submitted official letters of intent indicating their voluntary long term commitment to the program, if approved by the Board to participate. These six districts are:

1) Clark County School District (including Las Vegas, NV);
2) Denver Public Schools (CO);
3) Fort Worth Independent School District (TX);
4) Guilford County Schools (including Greensboro, NC);
5) Milwaukee Public Schools (WI); and
6) Shelby County Schools (including Memphis, TN).

Recommended Action: Approve the six districts that submitted an official letter of intent to participate in the TUDA program beginning in 2017.

The following pages include the below-listed materials to inform the Executive Committee and Governing Board’s decisions.

- List of Eligible Districts for 2017 TUDA
- Eligibility Criteria and Procedures for Selecting Districts for Participation in the NAEP TUDA (2012)
- Map of Districts Participating in TUDA, Including Recommended New Districts for 2017
List of Eligible Districts for 2017 Trial Urban District Assessments (TUDA)

Districts Participating in the 2017 TUDA
1) Albuquerque Public Schools (NM)
2) Atlanta Public Schools (GA)
3) Austin Independent School District (TX)
4) Baltimore City Public Schools (MD)
5) Boston Public Schools (MA)
6) Charlotte-Mecklenburg Schools (NC)
7) Chicago Public Schools (IL)
8) Cleveland Metropolitan School District (OH)
9) Dallas Independent School District (TX)
10) Detroit Public Schools (MI)
11) District of Columbia Public Schools (DC)
12) Duval County Public Schools (Jacksonville, FL)
13) Fresno Unified School District (CA)
14) Hillsborough County Public Schools (FL)
15) Houston Independent School District (TX)
16) Jefferson County Public Schools (KY)
17) Los Angeles Unified School District (CA)
18) Miami-Dade County Public Schools (FL)
19) New York City Public Schools (NY)
20) School District of Philadelphia (PA)
21) San Diego Unified School District (CA)

Districts Eligible to Participate in the 2017 TUDA (pending NAEP funding)

Submitted an Official Letter of Intent to Participate:
1) Clark County School District (including Las Vegas, NV)
2) Denver Public Schools (CO)
3) Fort Worth Independent School District (TX)
4) Guilford County Schools (including Greensboro, NC)
5) Milwaukee Public Schools (WI)
6) Shelby County Schools (including Memphis, TN)

Did Not Submit an Official Letter of Intent to Participate:
7) Arlington Independent School District (TX)
8) Cypress-Fairbanks Independent School District (TX)
9) Davidson County Schools (including Nashville, TN)
10) Elk Grove Unified School District (CA)
11) Fort Bend Independent School District (TX)
12) Long Beach Unified School District (CA)
13) Mesa Public School (AZ)
14) North East Independent School District (TX)
15) Northside Independent School District (TX)
16) Wake County Schools (including Raleigh, NC)
National Assessment Governing Board

Eligibility Criteria and Procedures for Selecting Districts for Participation in the National Assessment of Educational Progress

Trial Urban District Assessment

Policy Statement

Purpose

To define the eligibility criteria and selection procedures for participation of urban school districts in the National Assessment of Educational Progress (NAEP) Trial Urban District Assessment (TUDA).

Guiding Principles

Principle 1
Participation in TUDA shall be voluntary.

Principle 2
A primary goal of TUDA is to support the improvement of student achievement in the nation’s large urban school districts and to focus attention on the specific challenges and accomplishments associated with urban education.

Principle 3
Districts participating in TUDA shall have the characteristics of large urban areas.

Principle 4
All districts that have participated in TUDA without interruption once included shall be deemed eligible and permitted to continue to participate.
Principle 5
The eligibility criteria for participation in TUDA shall promote (1) inter-district comparability, so that participating districts are reasonably similar with respect to key demographics and (2) efficiency in resources required of the NAEP program.

Principle 6
Increasing the total number of districts participating in TUDA shall be contingent on additional funding from Congress.

Principle 7
The Governing Board implements the selection procedures used to consider districts for participation in TUDA.

Principle 8
Districts applying for participation in TUDA should be committed to long-term participation.

Eligibility Criteria

1. Only cities having 250,000 or more population shall be represented in TUDA.

2. Districts participating in TUDA shall have a student enrollment large enough to support NAEP assessments in three subjects in each grade assessed. The enrollment requirement is a minimum of approximately 1,500 students per subject per grade level assessed.

3. Districts participating in TUDA shall have an enrollment district-wide or in the grade levels assessed that meets at least one of the following criteria:
   a. 50% or more are minority students (i.e., African American, American Indian/Alaskan Native, Asian, Hispanic, Native Hawaiian/Other Pacific Islander, and/or multi-racial).
   b. 50% or more are eligible for participation in the free and reduced-price lunch program (or other appropriate indicator of poverty status).

Districts that are very near to meeting a particular eligibility requirement may be considered eligible if they request to participate in the program and if funds are sufficient to permit participation. Eligibility data shall be updated and verified periodically.
Application and Selection Process/Procedures

To provide time for consultation, notification, and operational planning for the conduct of the Trial Urban District Assessments, the steps described below should be sequenced to conclude approximately 14 months prior to the start of testing.

1. Prior to the assessment year in which TUDA is to be conducted, the Governing Board Executive Director, in consultation with the National Center for Education Statistics (NCES), prepares a list of eligible districts and posts that list on the Governing Board website.

2. Prior to the assessment year in which TUDA is to be conducted, the Governing Board Executive Director sends a letter to each district that participated in the immediately preceding administration of TUDA to determine the district’s interest in continuing as a participant in the upcoming administration of TUDA.

3. Based on funding from Congress and the decision of any previous TUDA participant not to continue, the Governing Board determines whether new districts can be considered for participation in the upcoming TUDA administration.

4. If the Governing Board determines that new districts can be considered for participation in the upcoming TUDA administration, the Governing Board Executive Director sends a letter notifying eligible districts of the opportunity to submit an application and the instructions for applying.

5. Eligible districts seeking to participate in TUDA submit an application to the Executive Director of the Governing Board. The application should be signed by the district superintendent or designee, include the most recent information documenting the district’s enrollment and eligibility, and contain a commitment for long-term participation in TUDA if selected.

6. The Executive Director of the Governing Board and appropriate staff of the Governing Board shall review applications in consultation with the Chairman of the Governing Board, the Chairman of the Board’s Committee on Standards, Design and Methodology, staff of the National Center for Education Statistics, and the Executive Director of the Council of the Great City Schools.

7. The Executive Director of the Governing Board shall recommend new districts for participation in TUDA to the Governing Board for final action.

8. The Executive Director of the Governing Board shall send notification of the Board’s decision regarding district participation in TUDA to the district and to the Commissioner of Education Statistics.

Potential Pool of Eligible Districts

The list of eligible districts shall be posted on the website of the National Assessment Governing Board (www.nagb.gov) and made publicly available through other appropriate means. The list of districts will change from time to time due to changes in the population of the district and the district setting.
Symbols indicate which year each district first participated in TUDA, excluding Milwaukee which participated in TUDA in 2013 and rejoined in 2017.

(*) Indicates the total number of districts participating in TUDA each year.

2002 (6)
2003 (10)
2005, 2007 (11)
2009 (18)
2011, 2013 (21)
2015 (21)
2017 (27)

Symbols indicate which year each district first participated in TUDA, excluding Milwaukee which participated in TUDA in 2013 and rejoined in 2017.

(*) Indicates the total number of districts participating in TUDA each year.
National Assessment Governing Board
Strategic Planning Initiative
Phase II Timeline

November 2015
• Board reviews draft activities for the Strategic Plan

March 2016
• Board receives findings of external feedback on draft activities

May 2016
• Board reviews draft Strategic Plan, including actions and metrics

August 2016
• Board considers action on the Strategic Plan
NAEP Reauthorization Update


Support for the SETRA bill by the Members of the HELP Committee was clearly bipartisan in the Senate—as evidenced by the unanimous support by voice vote during the January 28, 2015 markup. HELP Chairman Senator Alexander limited his stated remarks during the Committee’s Executive Session, but made a point to mention the importance of NAEP and strengthening the National Assessment Governing Board’s independence through this legislation.

The Senate passed S. 227 on December 17, 2015 with bipartisan support. As of this writing, the House of Representatives has not scheduled a vote on the bill to reauthorize NAEP/NAGB/IES.

The following pages show the current NAEP legislation, with in track changes displaying the amendments under S. 227 and explanatory comments.

Summary of Bill Provisions:
The overriding thrust of the amendments is to clarify the respective roles of the Board and NCES, aligning the bill text with 25 years of actual practice.

For example, the bill clarifies the Board’s authority to: release NAEP reports; nominate candidates for Board vacancies; and set the schedule of assessments. It also provides a new authority: providing input to the IES Director on the annual NAEP budget requests for submission to the Secretary.

The bill changes "[The Assessment Board shall] formulate policy guidelines [for NAEP]" to "[The Assessment Board shall] oversee and set policies [for NAEP]" in the Board's establishment clause in Section 302(a) of the bill.

It changes "The [NCES Commissioner] shall, with the advice of the Assessment Board [carry out...[NAEP]" in the NCES section of the bill to "The [NCES Commissioner] shall, in a manner consistent with accepted professional standards and the policies set for the by the Assessment Board...[carry out...[NAEP]". The phrase “in a manner consistent with…accepted professional standards” is also added to the Board’s establishment clause in Section 302(a).

The bill provides language that gives the Commissioner the final word on the content of NAEP reports, and in doing so, must take into account policy set by the Board.

The bill maintains and, in some ways, strengthens the checks and balances that were a part of the original conception of the NAEP governance structure.

The authorization of appropriations is for six years and increases incrementally. The funding authorization levels in S.227 are not binding or limiting, they are included as guidelines for the appropriations Committee’s consideration. The suggested amounts in S.227 are lower than the appropriations amount for fiscal year 2016.

TITLE III—NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS
(as would be amended under S. 227)

SEC. 301. SHORT TITLE.
This title may be referred to as the "National Assessment of Educational Progress Authorization Act".

SEC. 302. NATIONAL ASSESSMENT GOVERNING BOARD.

(a) ESTABLISHMENT—There is established the National Assessment Governing Board (hereafter in this title referred to as the 'Assessment Board'), which shall oversee and set policies, in a manner consistent with subsection (e) and accepted professional standards, for the National Assessment (carried out under section 303).

(b) MEMBERSHIP—

(1) APPOINTMENT AND COMPOSITION—The Assessment Board shall be appointed by the Secretary and be composed as follows:

(A) Two Governors, or former Governors, who shall not be members of the same political party.
(B) Two State legislators, who shall not be members of the same political party.
(C) Two chief State school officers.
(D) One superintendent of a local educational agency.
(E) One member of a State board of education.
(F) One member of a local board of education.
(G) Three classroom teachers representing the grade levels at which the National Assessment is conducted.
(H) One representative of business or industry.
(I) Two curriculum specialists.
(J) Three testing and measurement experts, who shall have training and experience in the field of testing and measurement.
(K) One nonpublic school administrator or policymaker.
(L) Two school leaders, of whom one shall be an elementary school leader principal and one shall be a secondary school leader principal.
(M) Two parents who are not employed by a local, State or Federal educational agency.
(N) Two additional members who are representatives of the general public, and who may be parents, but who are not employed by a local, State, or Federal educational agency.

Comment [LC1]:
"SCHOOL LEADER.—The term ‘school leader’ means a principal, assistant principal, or other individual who is—
(A) an employee or officer of—
(i) an elementary school or secondary school;
(ii) a local educational agency serving an elementary school or secondary school; or
another entity operating the elementary school or secondary school; and responsible for the daily instructional leadership and managerial operations of the elementary school or secondary school."
(2) DIRECTOR OF THE INSTITUTE OF EDUCATION SCIENCES- The Director of the Institute of Education Sciences shall serve as an ex officio, nonvoting member of the Assessment Board.

(3) BALANCE AND DIVERSITY- The Secretary and the Assessment Board shall ensure at all times that the membership of the Assessment Board reflects regional, racial, gender, and cultural balance and diversity and that the Assessment Board exercises its independent judgment, free from inappropriate influences and special interests.

(c) TERMS-

(1) IN GENERAL- Terms of service of members of the Assessment Board shall be staggered and may not exceed a period of 4 years, as determined by the Secretary.

(2) SERVICE LIMITATION- Members of the Assessment Board may serve not more than two terms.

(3) CHANGE OF STATUS- A member of the Assessment Board who changes status under subsection (b) during the term of the appointment of the member may continue to serve as a member until the expiration of such term.

(4) CONFORMING PROVISION- Members of the Assessment Board previously granted 3 year terms, whose terms are in effect on the date of enactment of the Department of Education Appropriations Act, 2001, shall have their terms extended by 1 year.

(d) VACANCIES-

(1) IN GENERAL-

(A) ORGANIZATIONS- The Secretary shall appoint new members to fill vacancies on the Assessment Board from among individuals who are nominated by the Assessment Board after consultation with organizations representing the type of individuals described in subsection (b)(1) with respect to which the vacancy exists.

(B) NOMINATIONS- Each organization submitting nominations to the Secretary with respect to a particular vacancy, the Assessment Board shall nominate for such vacancy six individuals who are qualified by experience or training to fill the particular Assessment Board vacancy.

(C) MAINTENANCE OF ASSESSMENT BOARD- The Secretary's appointments shall maintain the composition, diversity, and balance of the Assessment Board required under subsection (b).

(2) ADDITIONAL NOMINATIONS- The Secretary may request additional nominations from the Assessment Board or each organization described in
paragraph (1)(A) that each organization described in paragraph (1)(A) submit additional nominations if the Secretary determines that none of the individuals nominated by the Assessment Board of such organization have appropriate knowledge or expertise.

(e) DUTIES-

(1) IN GENERAL- In carrying out its functions under this section the Assessment Board shall--

(A) in consultation with the Commissioner for Education Statistics, select the subject areas and grades or ages to be assessed, and determine the year in which such assessments will be conducted (consistent with section 303(b));

(B) develop appropriate student achievement levels as provided in section 303(e);

(C) develop assessment objectives consistent with the requirements of this section and test specifications that produce an assessment that is valid and reliable, and are based on relevant widely accepted professional standards;

(D) develop a process for review of the assessment which includes the active participation of teachers, school leaders, curriculum specialists, local school administrators, parents, and concerned members of the public;

(E) provide input on design the methodology of the assessment to ensure that assessment items are valid and reliable, in consultation with appropriate technical experts in measurement and assessment, content and subject matter, sampling, and other technical experts who engage in large scale surveys;

(F) consistent with section 303, measure student academic achievement in grades 4, 8, and 12 in the authorized academic subjects;

(G) develop guidelines for reporting and disseminating results;

(H) develop standards and procedures for regional and national comparisons;

(I) take appropriate actions needed to improve the form, content, use, and reporting of results of any assessment authorized by section 303 consistent with the provisions of this section and section 303; and

(J) provide input to the Director on annual budget requests for the National Assessment of Educational Progress; and;

(K) release the initial plan and execute the initial public release of National Assessment of Educational Progress reports.

The National Assessment of Educational Progress data shall not be released prior to the release of the reports described in subparagraph (K).

(2) DELEGATION- The Assessment Board may delegate any of the Assessment Board’s procedural and administrative functions to its staff.
(3) ALL COGNITIVE AND NONCOGNITIVE ASSESSMENT ITEMS- The Assessment Board shall have final authority on the appropriateness of all assessment items.

(4) PROHIBITION AGAINST BIAS- The Assessment Board shall take steps to ensure that all items selected for use in the National Assessment are free from racial, cultural, gender, or regional bias and are secular, neutral, and non-ideological.

(5) TECHNICAL- In carrying out the duties required by paragraph (1), the Assessment Board may seek technical advice, as appropriate, from the Commissioner for Education Statistics and other experts.

(6) REPORT- Not later than 90 days after an evaluation of the student achievement levels under section 303(e), the Assessment Board shall make a report to the Secretary, the Committee on Education and the Workforce of the House of Representatives, and the Committee on Health, Education, Labor, and Pensions of the Senate describing the steps the Assessment Board is taking to respond to each of the recommendations contained in such evaluation.

(f) PERSONNEL-

(1) IN GENERAL- In the exercise of its responsibilities, the Assessment Board shall be independent of the Secretary and the other offices and officers of the Department.

(2) STAFF-

(A) IN GENERAL- The Secretary may appoint, at the request of the Assessment Board, such staff as will enable the Assessment Board to carry out its responsibilities.

(B) TECHNICAL EMPLOYEES- Such appointments may include, for terms not to exceed 3 years and without regard to the provisions of title 5, United States Code, governing appointments in the competitive service, not more than six technical employees who may be paid without regard to the provisions of chapter 51 and subchapter III of chapter 53 of such title relating to classification and General Schedule pay rates.

(g) COORDINATION- The Commissioner for Education Statistics and the Assessment Board shall meet periodically--

(1) to ensure coordination of their duties and activities relating to the National Assessment; and

(2) for the Commissioner for Education Statistics to report to the Assessment Board on the Department's actions to implement the decisions of the Assessment Board.
(h) ADMINISTRATION- The Federal Advisory Committee Act (5 U.S.C. App.) shall not apply with respect to the Assessment Board, other than sections 10, 11, and 12 of such Act.

SEC. 303. NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS.

(a) ESTABLISHMENT- The Commissioner for Education Statistics shall, in a manner consistent with accepted professional standards and the policies set forth by the Assessment Board under section 302(a) with the advice of the Assessment Board established under section 302, carry out, through grants, contracts, or cooperative agreements with one or more qualified organizations, or consortia thereof, a National Assessment of Educational Progress, which collectively refers to a national assessment, State assessments, and a long-term trend assessment in reading and mathematics.

(b) PURPOSE; STATE ASSESSMENTS-

(1) PURPOSE- The purpose of this section is to provide, in a timely manner, a fair and accurate measurement of student academic achievement and reporting of trends in such achievement in reading, mathematics, and other subject matter as specified in this section.

(2) MEASUREMENT AND REPORTING- The Commissioner for Education Statistics, in carrying out the measurement and reporting described in paragraph (1), shall--

(A) use a random sampling process which is consistent with relevant, widely accepted professional assessment standards and that produces data that are representative on a national and regional basis;

(B) conduct a national assessment and collect and report assessment data, including achievement data trends, in a valid and reliable manner on student academic achievement in public and private elementary schools and secondary schools at least once every 2 years, in grades 4 and 8 in reading and mathematics;

(C) conduct a national assessment and collect and report assessment data, including achievement data trends, in a valid and reliable manner on student academic achievement in public and private schools in reading and mathematics in grade 12 in regularly scheduled intervals, but at least as often as such assessments were conducted prior to the date of enactment of the No Child Left Behind Act of 2001;

(D) to the extent time and resources allow and consistent with section 302(e)(1)(A), and after the requirements described in subparagraph (B) are implemented and the requirements described in subparagraph (C) are met, conduct additional national assessments and collect and report assessment data, including achievement data trends, in a valid and reliable manner on student academic achievement in grades 4, 8, and 12 in public and private elementary schools and secondary schools in regularly scheduled intervals in additional subject matter, including writing, science, history, geography,
civics, economics, foreign languages, and arts, and the trend assessment
described in subparagraph (F);
(E) conduct the reading and mathematics assessments described in subparagraph
(B) in the same year, and every other year thereafter, to provide for 1 year in
which no such assessments are conducted in between each administration of
such assessments;
(F) continue to conduct the trend assessment of academic achievement at ages 9,
13, and 17 for the purpose of maintaining data on long-term trends in reading
and mathematics;
(G) include information on special groups, including, whenever feasible,
information collected, cross tabulated, compared, and reported by race,
ethnicity, socioeconomic status, gender, disability and English learner
status; limited English proficiency; and
(H) ensure that achievement data are made available on a timely basis following
official reporting, in a manner that facilitates further analysis and that
includes trend lines; and
and
(II) determine, after taking into account section 302(c)(1)(I), the content of
initial and subsequent reports of all assessments authorized under this section
and ensure that such reports are valid and reliable.

(3) STATE ASSESSMENTS-

(A) IN GENERAL- The Commissioner for Education Statistics--

(i) shall conduct biennial State academic assessments of student
achievement in reading and mathematics in grades 4 and 8 as described
in paragraphs (2)(B) and (2)(E);
(ii) may conduct the State academic assessments of student achievement
in reading and mathematics in grade 12 as described in paragraph
(2)(C);
(iii) may conduct State academic assessments of student achievement in
grades 4, 8, and 12 as described in paragraph (2)(D); and
(iv) shall conduct each such State assessment, in each subject area and
at each grade level, on a developmental basis until the Commissioner
for Education Statistics determines, as the result of an evaluation
required by subsection (f), that such assessment produces high quality
data that are valid and reliable.

(B) AGREEMENT-

(i) IN GENERAL- States participating in State assessments shall enter
into an agreement with the Secretary pursuant to subsection (d)(3).
(ii) CONTENT- Such agreement shall contain information sufficient to
give States full information about the process for decision-making
(which shall include the consensus process used), on objectives to be

Comment [LC2]:
New term, but definition is unchanged:
"The term 'English learner' means an individual who
is limited English Proficient, as defined in section
9101 of the Elementary and Secondary Education
Act of 1965 (20 U.S.C. 701) or section 637 of the
Head Start Act (42 U.S.C. 9832)."

tested, and the standards for random sampling, test administration, test security, data collection, validation, and reporting.

(C) REVIEW AND RELEASE-

(i) IN GENERAL- Except as provided in clause (ii), a participating State shall review and give permission for the release of results from any test of its students administered as a part of a State assessment prior to the release of such data. Refusal by a State to release its data shall not restrict the release of data from other States that have approved the release of such data.

(ii) SPECIAL RULE- A State participating in the biennial academic assessments of student achievement in reading and mathematics in grades 4 and 8 shall be deemed to have given its permission to release its data if the State has an approved plan under section 1111 of the Elementary and Secondary Education Act of 1965.

(4) PROHIBITED ACTIVITIES-

(A) IN GENERAL- The use of assessment items and data on any assessment authorized under this section by an agent or agents of the Federal Government to rank, compare, or otherwise evaluate individual students or teachers, or to provide rewards or sanctions for individual students, teachers, schools or local educational agencies is prohibited.

(B) SPECIAL RULE- Any assessment authorized under this section shall not be used by an agent or agents of the Federal Government to establish, require, or influence the standards, assessments, curriculum, including lesson plans, textbooks, or classroom materials, or instructional practices of States or local educational agencies.

(C) APPLICABILITY TO STUDENT EDUCATIONAL DECISIONS- Nothing in this section shall be construed to prescribe the use of any assessment authorized under this section for student promotion or graduation purposes.

(D) APPLICABILITY TO HOME SCHOOLS- Nothing in this section shall be construed to affect home schools, whether or not a home school is treated as a home school or a private school under State law, nor shall any home schooled student be required to participate in any assessment referenced or authorized under this section.

(5) REQUIREMENT- In carrying out any assessment authorized under this section, the Commissioner for Education Statistics, in a manner consistent with subsection (c)(3), shall--

(A) use widely accepted professional testing standards, objectively measure academic achievement, knowledge, and skills, and ensure that any academic assessment authorized under this section be tests
that do not evaluate or assess personal or family beliefs and attitudes or publicly disclose personally identifiable information;
(B) only collect information that is directly related to the appraisal of academic achievement, and to the fair and accurate presentation of such information; and
(C) collect information on race, ethnicity, socioeconomic status, disability, English learner status, limited English proficiency, and gender.

(6) TECHNICAL ASSISTANCE- In carrying out any assessment authorized under this section, the Commissioner for Education Statistics may provide technical assistance to States, localities, and other parties.

(c) ACCESS-

(1) PUBLIC ACCESS-

(A) IN GENERAL- Except as provided in paragraph (3), parents and members of the public shall have access to all assessment data, questions, and complete and current assessment instruments of any assessment authorized under this section. The local educational agency shall make reasonable efforts to inform parents and members of the public about the access required under this paragraph.
(B) TIMELINE- The access described in this paragraph shall be provided within 45 days of the date the request was made, in writing, and be made available in a secure setting that is convenient to both parties.
(C) PROHIBITION- To protect the integrity of the assessment, no copy of the assessment items or assessment instruments shall be duplicated or taken from the secure setting.

(2) COMPLAINTS-

(A) IN GENERAL- Parents and members of the public may submit written complaints to the National Assessment Governing Board.
(B) FORWARDING OF COMPLAINTS- The National Assessment Governing Board shall forward such complaints to the Commissioner for Education Statistics, the Secretary of Education, and the State and local educational agency from within which the complaint originated within 30 days of receipt of such complaint.
(C) REVIEW- The National Assessment Governing Board, in consultation with the Commissioner for Education Statistics, shall review such complaint and determine whether revisions are necessary and appropriate. As determined by such review, the Assessment Board shall revise, as necessary and appropriate, the procedures or assessment items that have generated the complaint and respond to the individual submitting the complaint, with a copy of such response provided to the Secretary, describing any action taken, not later than 30 days after so acting.
(D) REPORT- The Secretary shall submit a summary report of all complaints received pursuant to subparagraph (A) and responses by the National Assessment Governing Board pursuant to subparagraph (C) to the Chairman of the House Committee on Education and the Workforce of the House of Representatives, and the Chairman of the Senate Committee on Health, Education, Labor, and Pensions of the Senate.

(E) COGNITIVE QUESTIONS-

(i) IN GENERAL- The Commissioner for Education Statistics may decline to make available through public means, such as posting on the Internet, distribution to the media, distribution through public agencies, or in response to a request under section 552 of title 5, United States Code, for a period, not to exceed 10 years after initial use, cognitive questions that the Commissioner for Education Statistics intends to reuse in the future.

(ii) EXTENSION- Notwithstanding clause (i), the Commissioner for Education Statistics may decline to make cognitive questions available as described in clause (i) for a period longer than 10 years if the Commissioner for Education Statistics determines such additional period is necessary to protect the security and integrity of long-term trend data.

(3) PERSONALLY IDENTIFIABLE INFORMATION-

(A) IN GENERAL- The Commissioner for Education Statistics shall ensure that all personally identifiable information about students, their academic achievement, and their families, and that information with respect to individual schools, remains confidential, in accordance with section 552a of title 5, United States Code.

(B) PROHIBITION- The Assessment Board, the Commissioner for Education Statistics, and any contractor or subcontractor shall not maintain any system of records containing a student's name, birth information, Social Security number, or parents' name or names, or any other personally identifiable information.

(4) PENALTIES- Any unauthorized person who knowingly discloses, publishes, or uses assessment questions, or complete and current assessment instruments of any assessment authorized under this section may be fined as specified in section 3571 of title 18, United States Code or charged with a class E felony.

(d) PARTICIPATION-

(1) VOLUNTARY PARTICIPATION- Participation in any assessment authorized under this section shall be voluntary for students, schools, and local educational agencies, except as required under section 1112(b)(1)(F) of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 6312(b)(1)(F)).
(2) STUDENT PARTICIPATION- Parents of children selected to participate in any assessment authorized under this section shall be informed before the administration of any authorized assessment, that their child may be excused from participation for any reason, is not required to finish any authorized assessment, and is not required to answer any test question.

(3) STATE PARTICIPATION-

(A) VOLUNTARY- Participation in assessments authorized under this section, other than reading and mathematics in grades 4 and 8, shall be voluntary. 

(B) AGREEMENT- For reading and mathematics assessments in grades 4 and 8, the Secretary shall enter into an agreement with any State carrying out an assessment for the State under this section. Each such agreement shall contain provisions designed to ensure that the State will participate in the assessment.

(4) REVIEW- Representatives of State educational agencies and local educational agencies or the chief State school officer shall have the right to review any assessment item or procedure of any authorized assessment upon request in a manner consistent with subsection (c), except the review described in subparagraph (2)(C) of subsection (c) shall take place in consultation with the representatives described in this paragraph.

(e) STUDENT ACHIEVEMENT LEVELS-

(1) ACHIEVEMENT LEVELS- The National Assessment Governing Board shall develop appropriate student achievement levels for each grade or age in each subject area to be tested under assessments authorized under this section, except the trend assessment described in subsection (b)(2)(F).

(2) DETERMINATION OF LEVELS-

(A) IN GENERAL- Such levels shall be determined by--

(i) identifying the knowledge that can be measured and verified objectively using widely accepted professional assessment standards; and

(ii) developing achievement levels that are consistent with relevant widely accepted professional assessment standards and based on the appropriate level of subject matter knowledge for grade levels to be assessed, or the age of the students, as the case may be.

(B) NATIONAL CONSENSUS APPROACH- The Assessment Board shall, in making the determination described in subparagraph (A), use...
determinations described in subparagraph (A), devising a national consensus approach, providing for the active participation of teachers, school leaders, curriculum specialists, local school administrators, parents, and concerned members of the general public.

(C) TRIAL BASIS- The achievement levels shall be used on a trial basis until the Commissioner for Education Statistics determines, as a result of an evaluation under subsection (f), that such levels are reasonable, valid, and informative to the public.

(D) STATUS- The Commissioner for Education Statistics and the Assessment Board shall ensure that reports using such levels on a trial basis do so in a manner that makes clear the status of such levels.

(E) UPDATES- Such levels shall be updated as appropriate by the National Assessment Governing Board in consultation with the Commissioner for Education Statistics.

(3) REPORTING- After determining that such levels are reasonable, valid, and informative to the public, as the result of an evaluation under subsection (f), the Commissioner for Education Statistics shall use such levels or other methods or indicators for reporting results of the National Assessment and State assessments.

(4) REVIEW- The National Assessment Governing Board shall provide for a review of any trial student achievement levels under development by representatives of State educational agencies or the chief State school officer in a manner consistent with subsection (c), except the review described in paragraph (2)(C) of such subsection shall take place in consultation with the representatives described in this paragraph.

(f) REVIEW OF NATIONAL AND STATE ASSESSMENTS-

(1) REVIEW-

(A) IN GENERAL- The Secretary shall provide for continuing review of any assessment authorized under this section, and student achievement levels, by one or more professional assessment evaluation organizations.

(B) ISSUES ADDRESSED- Such continuing review shall address--

(i) whether any authorized assessment is properly administered, produces high quality data that are valid and reliable, is consistent with relevant widely accepted professional assessment standards, and produces data on student achievement that are not otherwise available to the State (other than data comparing participating States to each other and the Nation);

(ii) whether student achievement levels are reasonable, valid, reliable, and informative to the public;-

(iii) whether any authorized assessment is being administered as a random sample and is reporting the trends in academic achievement in a
valid and reliable manner in the subject areas being assessed; 
(iv) whether any of the test questions are biased, as described in section 
302(e)(4); and 
(v) whether the appropriate authorized assessments are measuring, 
consistent with this section, reading ability and mathematical 
knowledge.

(2) REPORT- The Secretary shall report to the Committee on Education and the 
Workforce of the House of Representatives and the Committee on Health, 
Education, Labor, and Pensions of the Senate, the President, and the Nation on the 
findings and recommendations of such reviews.

(3) USE OF FINDINGS AND RECOMMENDATIONS- The Commissioner for 
Education Statistics and the National Assessment Governing Board shall consider 
the findings and recommendations of such reviews in designing the competition to 
select the organization, or organizations, through which the Commissioner for 
Education Statistics carries out the National Assessment.

(g) COVERAGE AGREEMENTS-

(1) DEPARTMENT OF DEFENSE SCHOOLS- The Secretary and the Secretary of 
Defense may enter into an agreement, including such terms as are mutually 
satisfactory, to include in the National Assessment elementary schools and 
secondary schools operated by the Department of Defense.

(2) BUREAU OF INDIAN EDUCATIONAFFAIRS SCHOOLS- The Secretary and 
the Secretary of the Interior may enter into an agreement, including such terms as 
are mutually satisfactory, to include in the National Assessment schools for Indian 
children operated or supported by the Bureau of Indian EducationAffairs.

SEC. 304. DEFINITIONS.

In this title:

(1) IN GENERAL.—The terms ‘elementary school’, ‘local educational agency’, and ‘secondary 
school’ have the meanings given those terms in section 9101 of the Elementary and Secondary 

(2) DIRECTOR.—The term ‘Director’ means the Director of the Institute of Education Sciences.

(3) SCHOOL LEADER.—The term ‘school leader’ has the meaning given the term in section 
102.

(4) SECRETARY.—The term ‘Secretary’ means the Secretary of Education.

Comment [LC4]:
“SCHOOL LEADER.—The term ‘school leader’ means a principal, assistant principal, or other 
individual who is—
(A) an employee or officer of—
(i) an elementary school or secondary school; 
(ii) a local educational agency serving an 
elementary school or secondary school; or 
another entity operating the elementary school or 
secondary school; and responsible for the daily 
instructional leadership and managerial operations of 
the elementary school or secondary school.”
STATE.— The term ‘State’ means each of the 50 States, the District of Columbia, and the Commonwealth of Puerto Rico.

SEC. 305. AUTHORIZATION OF APPROPRIATIONS.

(a) IN GENERAL.—There are authorized to be appropriated—

1. for fiscal year 2016—
   (A) $8,235,000 to carry out section 302 (relating to the National Assessment Governing Board); and
   (B) $129,000,000 to carry out section 303 (relating to the National Assessment of Educational Progress);

2. for fiscal year 2017—
   (A) $8,424,405 to carry out section 302 (relating to the National Assessment Governing Board); and
   (B) $131,967,000 to carry out section 303 (relating to the National Assessment of Educational Progress);

3. for fiscal year 2018—
   (A) $8,618,166 to carry out section 302 (relating to the National Assessment Governing Board); and
   (B) $135,002,241 to carry out section 303 (relating to the National Assessment of Educational Progress);

4. for fiscal year 2019—
   (A) $8,816,384 to carry out section 302 (relating to the National Assessment Governing Board); and
   (B) $138,107,293 to carry out section 303 (relating to the National Assessment of Educational Progress);

5. for fiscal year 2020—
   (A) $9,019,161 to carry out section 302 (relating to the National Assessment Governing Board); and
   (B) $141,283,760 to carry out section 303 (relating to the National Assessment of Educational Progress);

6. for fiscal year 2021—
   (A) $9,184,183 to carry out section 302 (relating to the National Assessment Governing Board); and
   (B) $143,868,805 to carry out section 303 (relating to the National Assessment of Educational Progress).

(1) for fiscal year 2003—

1. $4,600,000 to carry out section 302, as amended by section 401 of this Act (relating to the National Assessment Governing Board); and

2. $107,500,000 to carry out section 303, as amended by section 401 of this Act (relating to the National Assessment of Educational Progress); and (2) such sums as may be necessary for each of the 5 succeeding fiscal years to carry out sections 302 and 303, as amended by section 401 of this Act.
(b) AVAILABILITY—Amounts made available under this section shall remain available until expended.
# AGENDA

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenter(s)</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 10:15 – 10:25 am | Welcome, Introductions, and Agenda Overview  
 Introduction of New Committee Member  
 *Shannon Garrison, Chair* |              |                                            |
| 10:25 – 10:50 am | Update on NAEP Topics  
  - Technology and Engineering Literacy (TEL) Report Release Activities  
    *Mary Crovo, Deputy Executive Director  
    Cary Sneider, ADC Vice Chair*  
  - NAEP Mathematics Framework and the Common Core State Standards  
    *Mary Crovo*  
  - NAEP Item Review Schedule  
    *Mary Crovo* |              | Attachment A  
 Attachment B  
 Attachment C |
| 10:50 am – 12:00 pm | **Closed Session**  
 Review of NAEP Mathematics Tasks in Grades 4 and 8  
 *Shannon Garrison* |              | Secure material provided under separate cover |
| 12:00 – 12:45 pm | **Closed Session**  
 Update on NAEP Transition to Digital-Based Assessments (DBA)  
 *Eunice Greer, NCES* |              | Attachment D |
Update on NAEP Topics:
Technology and Engineering Literacy (TEL) Report
Release Activities

At its March 4, 2016 meeting, the Assessment Development Committee (ADC) will receive an update on release activities for the 2014 NAEP Technology and Engineering Literacy (TEL) Report Card.

Throughout the TEL cycle, the ADC has received briefings on various TEL topics such as assessment administration, contextual variables analysis, achievement levels setting, and web-based report development. On the latter topic, ADC has met twice in joint session with the Reporting and Dissemination (R&D) Committee to provide input and feedback to NCES on the TEL report content and format.

A release plan for the TEL report is included on the following pages of Attachment A. At their Friday, March 4, 2016 meeting, the R&D Committee will take formal action on the TEL release plan, followed by full Board action on Saturday, March 5.

The TEL release plan is included in the ADC materials as an informational topic. Taken together, the activities surrounding the TEL release include pre-release communications and outreach strategies, embargoed briefings, an in-person release event at the Michigan Science Center in Detroit, and several post-release panels with diverse stakeholders. One of these post-release panels, led by ADC Vice Chair Cary Sneider, will feature assessment and subject field experts who will discuss TEL contextual variables and other related issues for an audience comprising primarily educators, researchers, and assessment experts.

The goal of these activities is to provide various stakeholders with a comprehensive overview of the TEL assessment, followed by findings and data to help ensure accurate reporting to the public and deeper understanding of results.
NATIONAL ASSESSMENT GOVERNING BOARD
RELEASE PLAN FOR THE
NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS (NAEP)


The 2014 National Assessment of Educational Progress (NAEP) Technology and Engineering Literacy (TEL) Report Card will be released to the general public through a series of in-person events in May 2016. Following a review and approval of the report’s results, three events will be arranged in Detroit.

The first event, to be simultaneously webcast for a national audience, will involve the initial release of report results at the Michigan Science Center and would include a data presentation by the Acting Commissioner of the National Center for Education Statistics (NCES); moderation and comments by Governing Board member Tonya Matthews and Chair Terry Mazany; and comments from other panelists as well as from a select group of students who will take part of the assessment and describe their experience performing the scenario-based tasks designed to solve real-world problems. The event, slated to be 60-90 minutes, will also include a conversational Q&A session that would include questions submitted via livestream. Full accompanying data will be posted on the Internet at the scheduled time of release.

The second event, also to be held at the Michigan Science Center and simultaneously webcast for a national audience shortly after the first event, will feature a panel from various industries discussing TEL in the context of the workplace. The event, also slated to be about 60-90 minutes, will entail a conversational Q&A session that would include questions submitted via livestream. An archived version of the webcasts of these two events, with closed captioning, will be posted on the Governing Board website at www.nagb.org.

The third event will be held at Wayne State University and feature assessment and subject field experts, led by Board member Cary Sneider, who will discuss TEL contextual variables and other related trends and issues for a primarily educator, research, and assessment audience. The event would feature robust discussions and interaction by attendees and would be scheduled for about 3 hours.

The 2014 TEL Report Card will present findings from a representative sample of about 21,500 8th-graders nationwide. Results, which will be presented in terms of scale scores, percentiles, and NAEP achievement levels, will be for the nation only. Data will be presented for all students and by demographic and socioeconomic groups, such as race/ethnicity and gender. Contextual information (i.e., student and school survey data) with findings of interest will also be reported.
DATE AND LOCATION

The release event will occur in May 2016. The release date will be determined by the Chair of the Reporting and Dissemination Committee, in accordance with Governing Board policy, following acceptance of the final report.

ACTIVITIES BEFORE RELEASE

In the weeks and months before the release events, the Governing Board will work to inform various audiences and stakeholder groups about the TEL assessment to provide important context and information before results are public. The efforts could include production and distribution of materials such as one-pagers and infographics, presentations, social media campaigns, webinars, and online chats.

In the days preceding the release, the Governing Board and NCES will offer in-person briefings to U.S. Congressional staff in Washington, DC; a conference call for appropriate media as defined by the Governing Board’s Embargo Policy; and an embargoed data website available to Congressional staff, approved senior representatives of the National Governors Association and the Council of Chief State School Officers, and approved media. The goal of these activities is to provide these stakeholders with a comprehensive overview of findings and data to help ensure accurate reporting to the public and deeper understanding of results.

REPORT RELEASE

The Acting Commissioner of Education Statistics will publicly release the report at the NAEP website—http://nationsreportcard.gov—and at the scheduled time of the release event. An online copy of the report, along with data tools, questions, and other resources, will also be available at the time of release on the NAEP site. An interactive version of the release with panelists’ statements, a Governing Board press release, the TEL Framework, and related materials will be posted on the Board’s web site at www.nagb.org. The site will also feature links to social networking sites and audio and/or video material related to the event.

ACTIVITIES AFTER THE RELEASE

The Governing Board’s communications contractor will work with Board staff to coordinate additional post-release communications efforts—which could include such strategies as an online chat, major presentation, webinar, or social media campaign—that would target communities and audiences with an interest in STEM. The goal of these activities is to further extend the life of the results and provide value and relevance to stakeholders with an interest in student achievement and assessment in these areas.
NAEP Mathematics Framework and the Common Core State Standards

Following the release last October of the 2015 NAEP Mathematics Report Card for grades 4 and 8, Board members discussed issues relating to the relationship between the NAEP Mathematics Framework and the Common Core State Standards in Mathematics. To gain more insight into this issue, we have planned a session at the annual meeting of the National Council on Measurement in Education (NCME), scheduled for April 10, 2016. Following remarks from two prominent panelists with differing views on the issue, Michael Cohen and Chester Finn, Board Chair Terry Mazany will engage the audience in a question and answer session. The session description from the NCME program appears below. Board staff will be on hand to take notes on the presentations and Q&A session. The ADC will receive an update on this session at the May 2016 Board meeting.

Should the NAEP Mathematics Framework be Revised to Align with the Common Core State Standards?

Organizer/Chair: Bill Bushaw, National Assessment Governing Board

Moderator: Terry Mazany, Chicago Community Trust

Presenters:

Michael P. Cohen, Achieve

Chester E. Finn, Fordham Institute

The 2015 National Assessment of Educational Progress (NAEP) results showed declines in mathematics scores at grades 4 and 8 for the nation and several states and districts. The release of the 2015 NAEP results prompted discussion about the extent to which the results may have been affected by differences between the content of the NAEP mathematics assessments and the Common Core State Standards in mathematics. The National Assessment Governing Board wants to know what you think. The presenters will frame the issue and then audience members will engage in a thorough discussion providing important insights to Governing Board members.
### Assessment Development Committee
**Item Review Schedule**
**November 2015 – August 2016**
(Updated 2/8/16)

<table>
<thead>
<tr>
<th>Review Package to Board</th>
<th>Board Comments to NCES</th>
<th>Survey/Cognitive</th>
<th>Review Task</th>
<th>Approx. Number Items</th>
<th>Status</th>
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<tbody>
<tr>
<td>1/8/16</td>
<td>1/22/16</td>
<td>Cognitive</td>
<td>2019 Reading (8) Pilot (SBT) Draft builds</td>
<td>2 tasks</td>
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<td>1/25/16</td>
<td>2/16/16</td>
<td>Cognitive</td>
<td>2019 Reading (12) Pilot (SBT) Concept sketches</td>
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<td>2/24/16</td>
<td>3/11/16</td>
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<td>3 - 4 sketches</td>
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<td>4/28/16</td>
<td>5/20/16</td>
<td>Survey</td>
<td>2018 Social Sciences (8) Pilot</td>
<td>130-140</td>
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<tr>
<td>4/28/16</td>
<td>5/20/16</td>
<td>Cognitive</td>
<td>2019 Reading (4) Pilot (SBT) Draft builds</td>
<td>2 tasks</td>
<td></td>
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<tr>
<td>4/28/16</td>
<td>5/20/16</td>
<td>Cognitive</td>
<td>2018 US History (8) Pilot (DI)</td>
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<td>5/20/16</td>
<td>Cognitive</td>
<td>2018 Civics (8) Pilot (DI)</td>
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<td>2019 Reading (4, 8) Pilot (DI)</td>
<td>70-75</td>
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**NOTE:** “SBT” indicates Scenario-Based Task
“DI” indicates Discrete Item

*The item count may be adjusted downward*
<table>
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<tr>
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<th>Status</th>
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<td>2019 Reading (12) Pilot (DI) Passage Review</td>
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<td>2017 Reading (4, 8) Operational</td>
<td>130-150</td>
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<td></td>
<td></td>
<td>2017 Writing (8) Operational</td>
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<td>2017 Writing (8) Operational (DI)</td>
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<td>2 tasks</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** “SBT” indicates Scenario-Based Task  
“DI” indicates Discrete Item  
*The item count may be adjusted downward*
Update on Digital-Based Assessment Development

NAEP’s transition from a paper and pencil assessment to one that is being presented on tablets (i.e. Digital-Based Assessment) continues to move ahead along several paths.

- The 2015 administration of NAEP’s reading and mathematics items in paper and pencil and tablet modes began in January of 2015 was an essential part of the 2015 Digital-Based Assessment (DBA) transition study.
- Results for try-outs and cognitive labs are contributing to our understandings as well. Analyses of student performance data, along with tryout and cognitive lab data are currently underway.
- Concurrently, the piloting of new DBA items in reading and mathematics as part of the 2016 NAEP assessment is underway.

This session will address two topics of interest to the Assessment Development Committee:

1) It will provide the Assessment Development Committee with a status update on DBA development for reading, mathematics, U.S. history, geography, and civics assessments.

2) It will summarize how emerging data, the Reading Framework, and contemporary, research-based understandings of texts and comprehension should inform and guide the development of discrete items and scenario-based tasks for reading.
# National Assessment Governing Board
## Committee on Standards, Design and Methodology
### March 4, 2016
**10:15 am – 12:45 pm**

## AGENDA

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Presenter(s)</th>
<th>Attachment</th>
</tr>
</thead>
</table>
| 10:15 – 11:15 am | Joint Session with Reporting and Dissemination Committee: Collaboration on Infographics and Communicating NAEP Findings | *Rebecca Gagnon, R&D Committee Chair*
                     |                                                                       | *Andrew Ho, COSDM Chair*                                                      | A           |
| 11:15 – 11:20 am | Break                                                                 |                                                                              |            |
| 11:20 am – 12:05 pm | **CLOSED SESSION:** Update on Maintaining Trends with Transition to Digital-Based Assessments (DBA) | *Andreas Oranje, Educational Testing Service*                                   | B           |
| 12:05 – 12:25 pm | **CLOSED SESSION:** Plans for 2017 Writing Grade 4 Achievement Levels Setting Procurement | *Sharyn Rosenberg, Assistant Director for Psychometrics*                        | C           |
| 12:25 – 12:40 pm | Update on NAEP Linking Studies                                      | *Andrew Ho*
                     |                                                                       | *Sharyn Rosenberg*                                                           | D           |
| 12:40 – 12:45 pm | Information Items                                                   | • Update on Evaluation of NAEP Achievement Levels
                     |                                                                       | • Student Engagement in NAEP: Critical Review and Synthesis of Research       | E           |
Joint Session of the
Reporting and Dissemination Committee & the Committee on Standards,
Design and Methodology:
Collaboration on Infographics and Communicating NAEP Findings

Initial drafts of the Governing Board’s Strategic Plan and the Communications Plan adopted by the Governing Board in 2014 emphasize the need for compelling and comprehensible ways to report NAEP findings. NAEP reporting should appeal to a diverse range of stakeholders in education, from the general public and parents through administrators and policymakers at state and local levels. An essential element of the Board’s Communications Plan is connecting with these target audiences through:

“sharing relevant messages, content, stories… to identify and highlight hidden gems of NAEP data, connecting the dots between data and practice and leveraging resources to reach specific audiences to deliver important messages in a meaningful and memorable way.” (Communications Plan, p.3)

At the same time, any dissemination of NAEP findings—e.g., infographics, panel discussions, briefs—must be technically sound and help these audiences accurately interpret the meaning, impact, and implications of the findings. The Governing Board’s Reporting and Dissemination Committee (R&D) is responsible for pursuing this effort to expand the content, frequency, and presentation of disseminating NAEP findings while providing these audiences with enough information to understand the magnitude and meaning of the results accurately.

To this end, the R&D Committee has invited members of the Committee on Standards, Design and Methodology (COSDAM) to engage in a conversation about implementing the Governing Board’s Communications Plan. The more inward-focused expertise of COSDAM in NAEP design and methodology neatly complements the more outward-focused expertise of R&D in disseminating NAEP findings. The joint meeting’s discussion should center on COSDAM’s collective thoughts on how to consider the statistical and technical implications of extending NAEP’s message.

Examples of infographics to extend the message are included with your Board materials, as is the Board’s Communications Plan. To guide the discussion, please review these materials and consider the following questions:

1. What questions do the diverse audiences for NAEP have of the Governing Board’s efforts to disseminate NAEP results?
   a. What information would help anticipate and address these questions?
b. How can the Governing Board strike the appropriate balance between making reporting accessible and helping audiences interpret findings accurately?

2. What types of data presentations best extend the reach of NAEP after the initial release of findings?

3. How can the Governing Board best disseminate and promote materials featuring the findings of contextual variables without unintentionally implying “cause and effect”?
In 2014 and beyond, the National Assessment Governing Board seeks to focus its communication efforts strategically and cost effectively to "Make Data Matter" for various target audiences. The Board is well-positioned to increase the impact of its outreach, but it must prioritize its audiences and identify its objectives for each, while integrating innovative strategies to elevate the Board’s work—and NAEP—as a thought leader in education.

Reingold proposes three goals the Board can pursue to amplify its outreach efforts.

I. Make a Connection With Target Audiences  
II. Engage Audiences Between Report Card Releases  
III. Maximize Impact Through Innovation

Reingold’s assumption in developing strategic priorities for the Board is that reporting and dissemination activities must support a vision to make an impact in education through engagement with NAEP that will enable the use, discussion, and sharing of NAEP data and information. A time-phased action plan, including specific outreach tactics and metrics, will be developed with Governing Board staff on the Board’s approval of this strategic communications plan.

The members of the Reporting and Dissemination Committee have identified three key audiences it believes the Board should focus on—parents; teachers and administrators; and policymakers—as each of these audiences is in a position to make an impact through NAEP data. Working with staff, we will identify the Board’s goals and expectations of each audience and the key messages needed to engage each one effectively.

Potential outcomes of the audience-focused outreach are listed below:

**Parents**
- Understand the value of NAEP and its implication for parents.  
- Ask informed questions about their child’s education and the school system.  
- Use NAEP to consider out-of-school factors that might affect their child’s education.  
- Share NAEP information and messages with their parent peers.

**Teachers and Administrators**
- Understand the value of NAEP and its implication for teachers and administrators.  
- Use NAEP to influence change within their classroom or school system.  
- Educate parents about NAEP data and resources.  
- Share and distribute NAEP information to their peers.
Policymakers

- Understand the value of NAEP and its implication for education policy.
- Use and cite NAEP data in policy decisions, public statements, and white papers.
- Distribute NAEP information and messages to constituents and peers to help advocate for change.

It is important to remember that messages and calls to action are intended to move the Board’s priority audiences along an engagement continuum, from awareness and education to trial, buy-in, and, ultimately, action. But creating the right messages is only the beginning. It is critical to know which information to deliver first, which should follow, and who are the most credible messengers. We will lay out a cohesive, practical, comprehensive roadmap for reaching the Board’s target audiences that identifies how to take advantage of existing opportunities, what new strategies to develop, and optimal methods of dissemination. The action plan will include a variety of opportunities to connect with each audience to maximize the reach and frequency of each message. The proposed strategies involve cultivating and leveraging partnerships that will include stakeholders or champions. There will also be collaboration with the National Center for Education Statistics (NCES) to ensure efforts are not duplicated, with Board and NCES staff coordinating on roles, responsibilities, and resources on various strategies as needed.

To illustrate the strategies identified above, below we discuss what the execution of each one could involve for the Board’s three priority audiences.

I. Make a Connection With Target Audiences

The goal is personal and powerful: “Communicate the Value of NAEP.” This means goin beyond the distribution of NAEP data to highlighting, developing, and sharing relevant messages, content, stories, and calls to action for key audiences. Communicating the “So what?” and “Why should we care?” can help the Board move beyond the scores and headlines to clarify the value of NAEP and its important role as an indicator of student achievement.

- Develop key messages and calls to action for priority audiences. The Governing Board’s audience is widely diverse—in their knowledge of and experience with NAEP, in their intended uses and consumption of data and information, and in their communications networks, favored channels, and approaches. With these differences in mind, it is imperative that the Governing Board tailor messages for each of its audiences to inspire deeper engagement with NAEP data. Instead of a one-size-fits-all approach, we will define and continually test and adjust the messages that are the most relevant to each audience.

Example of the strategy in action for parents: Include the tailored messages and calls to action on the website’s “Information For” parent pages. The parent landing page could have calls to action including “Learn about NAEP,” “Download NAEP resources,” or “Test yourself on NAEP questions.” The page could also have a section devoted to the Board’s assessment literacy efforts (including resources, information and questions to ask) once outreach strategies from the work group are finalized.
Example of the strategy in action for teachers and administrators: The American Federation of Teachers and National Education Association could include a NAEP toolkit with messages for teachers on its website in a resources section.

Example of the strategy in action for policymakers: Minneapolis Board of Education and Governing Board member Rebecca Gagnon could use and reference data from Science in Action: Hands-On and Interactive Computer Tasks From the 2009 Science Assessment in a discussion with the Minnesota Department of Education and the Minnesota Education Technology Task Force about the importance of science computer labs.

Impact metrics: The number of downloads of materials such as a PowerPoint or frequently asked questions PDF; number of clicks on links for calls to action (e.g., “Test yourself on NAEP questions”); number of champions—that is, advocates—who commit to using or distributing the NAEP messaging and toolkit.

- Expand communications beyond reporting on the scores. We need to get beyond the typical report presentations of the data and find meaningful ways to elevate the data (and their implications) through materials, messaging, and outreach activities. We will identify and highlight hidden gems of NAEP data, connecting the dots between data and practice and leveraging resources to reach specific audiences to deliver important messages in a meaningful and memorable way. The Governing Board must be a storyteller that educates its audiences about the relevancy of NAEP data and resources in a way that resonates with its audiences’ interests and needs in an actionable manner.

Example of the strategy in action for parents: Develop a parent leader discussion guide to assist parent leaders in using NAEP and other assessment data in their conversations with school administrators about improving student achievement for all children.

Example of the strategy in action for teachers and administrators: Develop an interactive Prezi presentation (a visually animated storytelling tool for presenting ideas and messages) on NAEP achievement gap data from the recent 2013 Mathematics and Reading, Grade 12 report card for New Leaders, a national nonprofit organization that develops transformational school leaders and designs effective leadership policies and practices for school systems across the country.

Example of the strategy in action for policymakers: Governing Board member Anitere Flores could host a Florida Senate session on parent involvement in education to highlight NAEP contextual variables data in reading from the 2013 Mathematics and Reading, Grade 12 report card. For example, when asked whether students discussed what they read, students who reported discussing their reading every day or almost every day had higher reading scores.
**Impact metrics:** The number of guides distributed at stakeholder conferences or downloaded from the website; number of groups posting the guide on their websites; number of Prezi and data downloads; parent-submitted testimonials and feedback on using the guide to speak with school and district leaders.

- **Tell the NAEP story through user testimonials:** NAEP data become more impactful when stakeholders learn how others use the data to fulfill their missions and advance their educational goals. Working through key groups, we will collect and disseminate real-life testimonials from the priority audiences to become an authentic author of the NAEP story.

  **Example of the strategy in action for parents:** Collaborate with National PTA to solicit testimonials from parents about how they use NAEP and other assessment data, and then promote the testimonials through the Board’s and PTA’s online networks. These testimonials and other NAEP information could also be featured on the websites of other national education groups, encouraging parents to learn about different assessments their children might take and how the data can be used.

  **Example of the strategy in action for teachers and administrators:** Coordinate with elementary school principal and Board member Doris Hicks and future Board member chosen for the secondary school principal slot to collaborate with the National Association of Elementary School Principals and the National Association of Secondary School Principals to solicit testimonials from principals and teachers within their districts about how they use NAEP and the importance of at-home and out-of-school activities that enhance learning, then promote testimonials through the school communication channels.

  **Example of the strategy in action for policymakers:** Collaborate with the National Association of State Boards of Education to collect testimonials from state board members on how data, including NAEP data, are used to inform policy-level decisions and improvements.

  **Impact metrics:** The number of NAEP user testimonials received; number of testimonial views online; number of social media shares and engagement; quality of the engagements and comments about parents using data.

  ➢ **Potential action taken by key audiences under this goal:** Using NAEP materials and resources on organization websites to inform questions of school and education leaders about school curriculum and district progress; downloading NAEP sample questions to test student knowledge or supplement classroom lessons;

**II. Engage Audiences Between Report Card Releases**

The goal is ongoing and impactful: “Continual Engagement.” This means building tangible connections—outside of report card release events—between NAEP and its stakeholders, and equipping them with the insight, information, and tools to make a difference in educational quality and student achievement. This important strategy cannot be executed by staff alone, and will require the contributions of Board members and the partnership of stakeholder groups and other NAEP champions, including former Board members.
- **Expand the report card release life cycle.** There is great opportunity for the Governing Board to enliven data and engage target audiences by taking a comprehensive, reimagined view of releasing and reporting on NAEP results that goes beyond the one-day release event. The entire life cycle of an assessment—from developing the framework to fielding assessments to disseminating results—offers content and commentary that, if shared more strategically, will powerfully support the NAEP brand and use of NAEP by target audiences. The Board can both enhance the report card releases and extend the life cycle to make meaningful connections with target audiences by developing pre- and post-release content, and recording and sharing video or audio which tease out and illuminate NAEP data.

**Example of the strategy in action for parents:** For each report card release develop a highlight reel with panelist quotes, select data points, and facts on reading, mathematics, and science contextual variables to send to parent stakeholder groups to distribute to their networks and on the Web.

**Example of the strategy in action for teachers and administrators:** Governin Board member Terry Mazany could host a meeting with the executive director of the Chicago Principals & Administrators Association to discuss the value of NAEP state and TUDA achievement data.

**Example of the strategy in action for policymakers:** Host a briefing with the California State Board of Education on the performance of fourth-grade students in the **NAEP 2012 Writing Grade 4 Pilot** with a diverse panel to include California fourth-grade teacher and Governing Board member Shannon Garrison, the executive director of the National Writing Project, and authors Carol Bedard and Charles Fuhrken.

**Impact metrics:** The numbers of video views and shares; number of groups postin the video; quality of comments and conversations under the video; feedback from stakeholder groups about the impact of the video and parent engagement with the content; number of participants at the meeting or briefing.

- **Leverage partnerships with stakeholder organizations and champions.** As a trusted messenger of information to key audiences, the Governing Board needs to mobilize its existing networks, engaging stakeholder groups and champions to share and shape future outreach. Stakeholders and champions are diverse and can be from education associations or news outlets like NBC News. They could also be politicians, celebrities, athletes, or prominent individuals like First Lady Michelle Obama. We will help the Board identify key partnership opportunities for its priority audiences and develop specific recommendations for engagement, to put their distinct capabilities to work in promoting NAEP and extending the Governing Board’s reach. For example, we could keep working with the Alliance for Excellent Education to produce and promote post-release webinars, provide data infographics to the National Council of Teachers of Mathematics, and collaborate with the National Council of La Raza in sponsoring Facebook chats in addition to consistently pursuing new opportunities with key stakeholder organizations.
Example of the strategy in action for parents: Collaborate with NBC News’ Education Nation and Pearson on their Parent Toolkit (www.parenttoolkit.com) including NAEP materials, graphics, and downloadable resources on the website that position the Governing Board as an authoritative source of information on student assessment data.

Example of the strategy in action for teachers and administrators: Collaborate with Danica McKellar, actress, author, and STEM education advocate, to submit an article to the National Science Teachers Association’s NSTA Express newsletter on the importance of STEM education and girls’ involvement in STEM, and include data from NAEP’s Technology and Engineering Literacy assessment.

Example of the strategy in action for policymakers: Arrange for James Geringer and/or Ronnie Musgrove, Board members and former governors, to present at the annual National Governors Association conference on an important policy issue affecting states in which NAEP data and contextual variables are relevant. Additionally, the Board and he governors can collaborate with the Center on Education Policy to include NAEP reading data and contextual variables (such as frequency of discussing what they read or finding reading enjoyable) in their research papers, publications and annual progress report.

Impact metrics: The number of clicks on the NAEP content; number of downloads of NAEP materials; use of presented NAEP data by governors and state policy leaders in media citations, state websites and other materials; volume of referral traffic from the Parent Toolkit site back to the Governing Board’s website; Education Nation engagement that identifies stories of the Toolkit in action; number of newsletter opens and clicks; number of research report downloads.

- Equip, empower, and display thought leadership. The Governing Board and NCES are well-positioned as thought leaders among researchers and many national policymakers but could expand their influence with other audiences, such as parents, local policymakers, and education practitioners. Governing Board members and staff should be seen by media representatives and stakeholders as valued spokespeople on educational assessment and achievement, including specific topics such as computerized assessments, achievement gap trends, 12th-grade academic preparedness, and the importance of technology, engineering, and literacy. The Board can also continually secure speaking engagements at a variety of events such as the International Reading Association’s annual conference or local PTA chapter meetings, or pitch quotes for inclusion in news articles and op-eds on relevant topics.

Example of the strategy in action for parents: Work with Board member and parent Tonya Miles and develop and pitch op-eds that connect NAEP data with important year-round education events, emphasizing the role parents can play in raising student achievement. During Black History Month, pitch a piece to HuffPost Parents that spotlights achievement gap success stories, or pitch a piece about technology and engineering skill-building beyond the classroom to Sacramento Parent magazine.
Example of the strategy in action for teachers and administrators: Co-host a webinar discussion on NAEP state achievement trends with the American Federation of School Administrators, with members weighing in on state-level changes and education initiatives that are aimed at increasing achievement.

Example of the strategy in action for policymakers: Submit a proposal to the National School Board Association’s annual conference for a Board member and NCES to co-host a breakout session to share and discuss the recent 2013 Mathematics and Reading, Grade 12 report card, academic preparedness data, and recent graduation rate research.

Impact metrics: The numbers of op-ed placements, shares, and comments; quality of user engagements and comments; number of follow-up questions from readers; number of new emails collected (from a “Subscribe to the Governing Board” call to action); number of webinar and conference participants and follow-up requests.

- Potential action taken by key audiences under this goal: Inspired by op-ed on racial achievement gaps, exploring gaps in their own districts and talking with school leaders about parity of resources; noting performance trends in subjects by state and/or urban district and then using that knowledge to inform state, local, or school district-level decisions regarding academic programs.

III. Maximize Impact Through Innovation

The goal is proactive and cutting-edge: “Lead the Way.” This means reaching and making meaningful connections with priority audiences, customizing events, fostering and driving online conversations, and creating tech-savvy materials with compelling content.

- Customize release event formats. Report cards are not one-size-fits-all; innovative release event strategies are needed to achieve the specific goals of each release. Each release event strategy should have distinct goals, audiences messages, materials, strategies, and tactics to Make Data Matter. The Governing Board has expanded the report card release event structure from physical events for every release to include webinars and live-streaming during events, a post-release social media Facebook chat, and an online town hall event. We will continue to refine this approach to customizing every release to maximize the immediate release impact and create a sustained conversation that continues to reach and engage key audiences.

Example of the strategy in action for parents: Host a Google Hangout for parents after a NAEP release that can feature panelists from the National Council of La Raza talking about the importance of parent involvement in education, and encourage parent participants to share how they use data to help their students achieve.
**Example of the strategy in action for teachers and administrators:** Develop a Twitter town hall guide (NAEP data points, question-and-answer content, best-practice tips, and facilitation instructions) for teachers and school administrators to host their own facilitated chats with parents and the school district on state-level NAEP data and areas for application.

**Example of the strategy in action for policymakers:** Host an in-person round-table discussion with members of the Massachusetts Mayors’ Association on the latest state-level NAEP reading and mathematics results and their state-based implications.

**Impact metrics:** The number of promotions of the online events and shares of the URL; numbers of event participants and total users viewing them or reached; numbers of comments or participants sharing their testimonials; number of follow-up testimonials received for inclusion in materials or on the website.

- **Engage in the online conversation.** It is important to be aware of the conversations on important education issues, but to influence and help shape public understanding and perceptions the Governing Board needs to participate in the conversation with key messages. We will help the Governing Board foster conversations through real-time engagement on social media platforms, develop content such as an article written by a Governing Board member to post on NAEP’s upcoming blog coordinated by NCES, and create a strategy to join or host online chat events, sponsor Q&A sessions, or solicit feedback. Champions are key to the success of this effort, providing greater reach and often a more powerful story than the Governing Board can tell alone.

**Example of the strategy in action for parents:** Hold a webinar with the Governing Board’s Education Summit for Parent Leaders attendees and parent leader champions to review the NAEP website workshop tutorial and obtain feedback through a moderated chat on how they have used NAEP data since the event. Compile feedback to create a one-pager and share it with participants.

**Example of the strategy in action for teachers and administrators:** Collaborate with the National Council of Teachers of Mathematics (NCTM) on an online Q&A chat session based on the NAEP *Mathematics Curriculum Study* data, educating NCTM about the wide variance of content in mathematics courses and books with the same name. Board member and math teacher Dale Nowlin could be a participating panelist.

**Example of the strategy in action for policymakers:** Reach out to the National Governors Association (NGA) on Twitter and provide NGA with content and data about the 2013 *Mathematics and Reading, Grade 12* report card.

**Impact metrics:** Numbers of campaign participants and user submissions; numbers of engagements (“likes,” comments, shares, retweets, views) for the multimedia submissions; quality of comments on the multimedia submissions; growth in the Governing Board social media audience and number of engaged users discussing assessment data.
• **Create multimedia, digital content and materials.** The Governing Board must present messages, graphics, and images that resonate with target audiences. A wealth of materials has been developed by the Governing Board and NCES, and the first step will be to audit and catalog resources that may be repurposed through outreach and promotional activities. For the materials gaps that are identified, it is imperative to develop interactive, multimedia content and materials that deliver key messages to target priority audiences and include a call to action. Examples include infographics that embellish key report card findings to facilitate understanding and encourage engagement with NAEP data among nonexperts; videos, Prezi, and other presentation tools allowing exploration of the relationships between ideas and numbers and visual presentations of NAEP; and an email newsletter with new content and specific calls to action.

*Example of the strategy in action for parents:* Create a “NAEP for Parents” email newsletter with information on the latest report card data and trends, multimedia content such as video clips or NAEP data user testimonials, and links to other resource or news content and the interactive data maps on the Board’s parent Web pages, to be distributed bimonthly or consistently throughout the year.

*Example of the strategy in action for teachers and administrators:* Create an infographic with “hidden data” gems from the *NAEP Grade 8 Black Male Students* report and accompanying language to share with the National Alliance of Black School Educators to post on social media.

*Example of the strategy in action for policymakers:* Work with Board member Terry Holliday to create an interactive presentation at CCSSO’s annual large-scale assessment conference on NAEP computer-based assessments, or work with Board member Tom Luna to distribute the dynamic 12th-grade preparedness video highlighting the new college preparedness data to Chiefs for Change members.

*Impact metrics:* Email open rate; numbers of email shares, clicks from email to website, and new email subscribers; number of release participants who list the email as their referral source; numbers of email replies or responses with inquiries about NAEP or acquiring NAEP materials and resources; number of video and infographic views and shares.

*Potential action taken by key audiences under this goal:* Using contextual data to influence out-of-school factors that have been shown to correlate with achievement; using curriculum study findings to investigate course rigor and influence change for exposure to challenging subject matter.

By pursuing these three fundamental communication goals and identifying priority strategies and tactics, the Governing Board can more effectively reach its target audiences to Make Data Matter and, ultimately, make an impact.
Understanding Testing in America

EDUCATIONAL TESTS MEASURE MANY DIFFERENT SKILLS AND ARE USED FOR DIFFERENT PURPOSES.

**INSTRUCTIONAL GUIDANCE**
Teachers can use classroom assessments to continually adjust instruction to help each student learn.
- Quizzes and tests
- Written reports and oral queries
- Student presentations

**INDIVIDUAL ACHIEVEMENT**
Schools, districts, or states may administer tests to assess student learning or preparedness for the next step in their education.
- Final course exams
- State tests
- High school exit exams

**ACCOUNTABILITY**
Assessments may evaluate the progress of a particular school, educational program, teacher, or district toward statewide standards.
- State-mandated standardized tests

**NATIONWIDE ACHIEVEMENT**
A nationally representative assessment can be given to a sample of students and provide a snapshot of achievement across subjects, demographic groups, and regions by nation, state, and large urban district.
- The National Assessment of Educational Progress (NAEP)

**PLACEMENT AND ADMISSIONS**
Assessments can help determine whether a student is prepared for a particular course, course level, or educational program.
- Placement tests—AP & IB
- College admission exams—SAT & ACT

WHAT MAKES NAEP UNIQUE: AN OBJECTIVE, VALUABLE MEASURE OF STUDENT ACHIEVEMENT
NAEP—The Nation’s Report Card—is the country’s most respected continuing, independent, and nationally representative measure of student achievement in about a dozen subjects by nation, selected subjects by state, and selected large urban districts. NAEP is a congressionally authorized project of the National Center for Education Statistics (NCES) within the U.S. Department of Education. The National Assessment Governing Board sets policy for NAEP.
- Gathers and reports nationally representative data on all states and for 21 large urban districts
- Shows comprehensive trends in student achievement for more than 40 years
- Provides parents, educators, and policymakers with important information to understand achievement and promote learning
- Identifies gaps in achievement among different demographic groups of students nationwide
- Collects information from students, teachers, and schools on factors related to student achievement including student study habits, classroom practices, and school resources.
- Ensures students randomly selected to participate in NEAP represent the nation’s geographical, racial, ethnic, and socioeconomic diversity. Each student only takes a portion of NAEP, reducing the burden on schools and on participants. It does not result in scores for individual students or schools and cannot be used for placement or teacher evaluation purposes.

TO LEARN MORE ABOUT THE NATION’S REPORT CARD, VISIT WWW.NAGB.GOV.
Student Race/Ethnicity and Teacher Experience Level, Grade 8 Mathematics

From the National Assessment of Educational Progress (NAEP), 2015

Experience level of math teachers varies with race/ethnicity of 8th-grade students surveyed on NAEP.

Teacher’s Experience*
- 21 or more years
- 11-20 years
- 6-10 years
- 3-5 years
- 2 years or less


* Teacher-reported question: “Excluding student teaching, how many years have you taught mathematics in grades 6 through 12, counting this year?” Original responses that were collapsed for this graphic: Less than 1 year, 1-2 years, 3-5 years, 6-10 years, 11-20 years, or 21 or more years.
Update on Maintaining Trends with Transition to Digital-Based Assessments (DBA)

As NAEP transitions from paper to digitally-based assessments, an important question is how this transition affects trend reporting. To address this question NCES has done two things:

(1) Designed, implemented, and extended bridge studies to investigate the effect of mode changes on score distributions;

(2) Developed a decision tree to describe the key factors for subsequent analysis and decision making about trend reporting.

(1) Two bridge studies have been planned, one of which is currently being executed. Data collection for the first bridge study was part of the 2015 operational administration and entailed national samples in all three grades for math, reading, and science. In these samples, a tablet-based version of the various NAEP instruments was administered on NAEP-provided tablets and analysis is currently under way. The goal is to compare the results from these digitally-based assessments to the paper-based assessments. The second bridge study currently planned would occur in 2017 in math and reading in 4th and 8th grade and entails small state-level samples participating in the paper-based assessment alongside larger state-level samples participating in the tablet-based assessment. The goal of this second study would be to (a) look at the stability of the mode differences (if any) across years (2015 and 2017) and (b) to estimate mode differences at the state level.

(2) A decision tree was developed as a way to establish a priori decision parameters in preparation for the analysis and to reduce hindsight biases. As discussed previously by COSDAM and made explicit in a Governing Board Resolution on trend results recently adopted, the question is not about whether to report trends, but how to report trends. The decision framework has been set up accordingly. At the highest level, there are two chained questions: (a) Do we measure the same construct across modes? and (b) If so, are (construct-irrelevant) mode differences constant across student groups? Answering those questions is complicated and the decision tree attempts to connect sources of evidence to outcomes as they relate to how trend could be reported in accordance with the policy. Key factors that are brought to bear are dimensionality and model-data fit, national student group differences, and state-level differences, among many other less prominent factors.

At the November 2015 COSDAM meeting, we presented the decision tree that we developed to guide our analyses and trend decision-making for the transition from paper to tablet administration. In addition, some initial results from the 2015 reading study were shown, noting that most of the work was still ahead of us in
terms of other subjects, quality control (QC), and various deeper analyses. At the March 2016 COSDAM meeting we will provide an update on the trend results, discuss some of the challenges we faced, and relate the findings to design decisions for 2017 and beyond.

The reading analysis has progressed quite nicely meaning that we will be able to show equated results for all three grades and disaggregated by many student groups. In addition, we have conducted calibrations that explicitly quantify the differences between paper and tablet in terms of scale scores. This was done for investigative purposes to further understand the results across items and student groups and to help us provide appropriate context around equated results.

The mathematics analysis has also progressed significantly, focusing predominantly on the multi-stage testing design of the tablet based administration. We will show percent correct and equated results for grades 4 and 8 and discuss the scaling approach we end up using for these results.

Finally, we have revisited the overall design for 2017. In the third part of this presentation, we will present a more conservative design approach, particularly in mathematics, in 2017. We will lay out the design for 2017, which represents a more consistent approach with (1) the principle of a gradual shift to digitally based assessments and (2) NAEP’s tried-and-tested way of conducting extensive research before an operational change is made. In fact, the principle of a gradual shift was the core reason to incorporate a state level paper based assessment in 2017.
Plans for 2017 Writing Grade 4 Achievement Levels Setting Procurement

The 2017 NAEP writing assessment is the first administration of the grade 4 assessment under the current computer-based Writing Framework (https://www.nagb.org/publications/frameworks-writing/2011-writing-framework.html)\(^1\). Pursuant to the Governing Board’s legislative mandate, achievement levels must be set for the grade 4 writing assessment. In accordance with the Board policy on setting performance levels for NAEP, the achievement levels setting process includes achievement levels descriptions (ALDs), cut scores, and exemplar items. In 2012, the Board formally approved the updated achievement levels descriptions for writing at all three grade levels. A procurement is being planned for a contractor to design and implement studies to recommend cut scores and exemplar items.

The 2017 grade 4 writing achievement levels setting will include a field trial (to test logistics associated with any software used to conduct the process), a pilot study, and an operational achievement levels setting study. In addition, the design procedures will require the collection of multiple sources of validity evidence. COSDAM will receive briefings and have the opportunity to provide input on the process throughout the life of the project, with Board action on the grade 4 writing achievement levels planned for the May 2018 Governing Board meeting.

On February 4, 2016, a pre-solicitation notice was issued on www.fbo.gov: https://www.fbo.gov/index?s=opportunity&mode=form&id=bc7a4709b2f43033d22b3bcf851d1c b1&tab=core&_cview=0. The Request for Proposals (RFP) will be issued by approximately March 31, 2016, with an intended award date of summer 2016. The contract period of performance is anticipated to be 24 months.

In this closed session, Governing Board Assistant Director for Psychometrics Sharyn Rosenberg will provide a brief overview of the plans for the grade 4 writing achievement levels setting and will seek feedback from COSDAM members on the essential elements of the procurement.

\(^1\) In 2011, NAEP writing assessments were administered at grades 8 and 12 under the current Writing Framework, and achievement levels were set for grades 8 and 12. The grade 4 assessment initially was planned for 2013 administration but was postponed to 2017 due to budgetary constraints.
# NAEP Linking Studies (2005 – 2015 NAEP Administration)

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<th>Grade 12</th>
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<td>Grade 4</td>
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Green = Other NCES assessments; Blue = International assessments; Red = Assessments from state longitudinal data systems; Black = other
NAEP Linking Studies

NCES has conducted a variety of studies that link NAEP to other assessments or data sources. The Governing Board has also conducted several NAEP linking studies as part of its research program on academic preparedness for college. A brief summary of the studies that have been conducted over the past 10 years (or are currently planned or underway) is provided below:

- **2005 HSTS**: NCES periodically surveys the curricula of our nation's high schools and the course-taking patterns of high school students through its High School Transcript Study (HSTS). In conjunction with the administration of 12th-grade NAEP assessments, the HSTS also offers information on the relationship of student course-taking patterns to student achievement at grade 12. Transcripts were collected from seniors who graduated in 1987, 1990, 1994, 1998, 2000, and were collected again in 2005. Results from the 2005 study can be found at: [https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2007467](https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2007467)

- **2007 NAEP-ECLS-K**: NCES conducted this study to link results from the Early Childhood Longitudinal Study-Kindergarten Class of 1998-1999 (ECLS-K) and the NAEP 8th-grade assessments. One research study investigated the relationship between ECLS-K reading proficiency levels and 8th-grade NAEP achievement levels and explored the relationship between reading performance at earlier grades and performance on the 8th-grade NAEP reading assessment. The results were published in: Dogan, E., Ogut, B., & Kim, Y. (2015). Early childhood reading skills and proficiency in NAEP eighth-grade reading assessment. *Applied Measurement in Education*, 28(3), 187-201. Another research study investigated the concordance of student-reported parental education on the NAEP student background questionnaire with parent reports on the same variable from the ECLS-K questionnaire. The results were presented at a national conference: Ogut, B. and Bohrnstedt, G. W. (2012). Reliability of student-reported parental education at NAEP grade 8 mathematics assessment. Paper presented at the annual meeting of the American Educational Research Association, Vancouver.

- **2009 Preparedness Research**
  - Statistical Linking of NAEP and the SAT: The purpose of this study was to identify a reference point or range on the NAEP 12th-grade reading and mathematics scales that might be associated with the College Board’s SAT preparedness benchmarks. The NAEP and SAT scores for 12th-grade students who had taken both assessments in 2009 were the basis for this linking. The report based on the results of this study can be found at:
Longitudinal Analyses of Performance on NAEP Related to Performance in College and Other Outcomes of Florida Students: The purpose of this study was to relate NAEP scores to ACT and SAT scores, college performance and other outcomes. Working with Florida state officials and their longitudinal database, scores for students who had participated in the 2009 NAEP 12th-grade assessments and were subsequently enrolled in Florida’s public colleges in 2010 were linked to a variety of outcome indicators. Although data are still being collected and analyzed, the initial report can be found at:

https://www.nagb.org/content/nagb/assets/documents/what-we-do/preparedness-research/statistical-relationships/Florida_Statistical_Study.pdf

- 2009 HSTS: The most recent installment of the HSTS was in 2009. The goals and design of the study were similar to those of earlier administrations. Results from the 2009 study can be found at: http://www.nationsreportcard.gov/hsts_2009/

- 2011 NAEP-TIMSS: NCES initiated this study in an effort to link the National Assessment of Educational Progress (NAEP) scale to the Trends in International Mathematics and Science Study (TIMSS) scale so that states could compare the performance of their students with that of students in other countries. The study was conducted in 2011 with eighth-grade students in all 52 states/jurisdictions that participated in the NAEP mathematics and science assessments. The report based on the results of this study can be found at: https://nces.ed.gov/nationsreportcard/studies/naep_timss/

- 2011 NAEP-PIRLS: The purpose of this study was to obtain a statistical comparison between NAEP and the Progress in International Reading Literacy Study (PIRLS). The results of the 2011 NAEP grade 4 reading assessment were expressed in terms of the metric of the 2011 PIRLS assessment thereby providing international benchmarks for the NAEP grade 4 reading achievement levels. The report based on the results of this study can be found at: http://files.eric.ed.gov/fulltext/ED545246.pdf

- 2013 NAEP-HSLS: Data for students who had participated in both the 2013 NAEP 12th-grade assessments and the 2009 High School Longitudinal Study (HSLS) were linked so that information from the HSLS student and parent questionnaires could provide a broader context for understanding NAEP results. In addition, the study explored using the relationship between the HSLS questionnaire variables and NAEP scores to predict NAEP mathematics scale scores for the full HSLS sample. The results from this research study are under review by NCES.

- 2013 NAEP-PISA: NCES conducted a pilot study to investigate the feasibility of creating a statistical link between the NAEP mathematics scale and the Program for
International Student Assessment (PISA) mathematics literacy scale. Two states that participated in the 2013 NAEP state-level 12th-grade pilot and had participated in the 2012 PISA were included in this study. In each state, additional samples of students in grades 9, 10, and 11 were administered a version of the NAEP mathematics assessment. Although it was determined that establishing a statistical link between NAEP and PISA is feasible, the validity of the predicted PISA results requires further evaluation.

- **2013 NAEP-Lexile® Study**: The Lexile® framework and measures (owned by MetaMetrics®) include a vertical reading scale that spans grades 1 to 12, in addition to benchmarks for college and career readiness. The purpose of the study was to identify scores on the NAEP scale that correspond to preparedness benchmarks on the Lexile scale. To accomplish this link, a subsample of students in the 2013 NAEP assessment were administered Lexile items. Although it was determined that establishing a statistical link between NAEP and the Lexile measure is feasible, the validity of the results requires further evaluation.

- **2013 Preparedness Research**: As part of the Governing Board’s preparedness research agenda, a variety of statistical linking studies are currently underway with the 2013 NAEP data. They include 1) linking of NAEP and ACT at the national-level and with a group of select states, 2) linking NAEP and SAT scores within one state, 3) linking to longitudinal databases at grades 8 and 12 with a group of select states, and 4) linking grade 8 NAEP and EXPLORE® with a group of select states. Results from the NAEP and EXPLORE linking study were shared at the August, 2015 Governing Board meeting. Additional results from the grade 12 analyses will be shared later this year.

- **2015 NAEP-ECLS-K:2011**: NCES conducted this study to link results from the Early Childhood Longitudinal Study-Kindergarten Class 2010-2011 (ECLS-K:2011) and the NAEP 4th-grade assessments. Students in the ECLS-K:2011 study who were also sampled for NAEP in 2015 were asked to complete a supplemental SES-related questionnaire at the conclusion of the NAEP administration. These student responses will be compared to responses provided by parents to similar SES-related questions. In addition, this study will make it possible to explore predictors of NAEP reading performance based on data collected from kindergarten to third grade as part of ECLS-K:2011.

- **2015 NAEP-TIMSS**: NCES plans on conducting the analysis for a national-level linking of the 2015 NAEP-TIMSS data.
Evaluation of NAEP Achievement Levels

Objective
To receive a brief informational update on the current status of the independent evaluation of NAEP achievement levels that is being performed by the National Center for Education Evaluation and Regional Assistance (NCEE), part of the Institute for Education Sciences (IES). Ongoing updates will be provided at each COSDAM meeting.

Background

The NAEP legislation states:

The achievement levels shall be used on a trial basis until the Commissioner for Education Statistics determines, as a result of an evaluation under subsection (f), that such levels are reasonable, valid, and informative to the public.

In providing further detail, the aforementioned subsection (f) outlines:

(1) REVIEW-

A. IN GENERAL- The Secretary shall provide for continuing review of any assessment authorized under this section, and student achievement levels, by one or more professional assessment evaluation organizations.

B. ISSUES ADDRESSED- Such continuing review shall address--

(i) whether any authorized assessment is properly administered, produces high quality data that are valid and reliable, is consistent with relevant widely accepted professional assessment standards, and produces data on student achievement that are not otherwise available to the State (other than data comparing participating States to each other and the Nation);

(ii) whether student achievement levels are reasonable, valid, reliable, and informative to the public;-

(iii) whether any authorized assessment is being administered as a random sample and is reporting the trends in academic achievement in a valid and reliable manner in the subject areas being assessed;

(iv) whether any of the test questions are biased, as described in section 302(e)(4); and
(v) whether the appropriate authorized assessments are measuring, consistent with this section, reading ability and mathematical knowledge.

(2) REPORT- The Secretary shall report to the Committee on Education and the Workforce of the House of Representatives and the Committee on Health, Education, Labor, and Pensions of the Senate, the President, and the Nation on the findings and recommendations of such reviews.

(3) USE OF FINDINGS AND RECOMMENDATIONS- The Commissioner for Education Statistics and the National Assessment Governing Board shall consider the findings and recommendations of such reviews in designing the competition to select the organization, or organizations, through which the Commissioner for Education Statistics carries out the National Assessment.

Evaluation of NAEP Achievement Levels Contract

The National Center for Education Evaluation and Regional Assistance (NCEE), part of the Institute for Education Sciences (IES), will administer the Evaluation of the NAEP Achievement Levels. On September 29, 2014, NCEE awarded a contract to The National Academy of Sciences to perform this work.

Objectives for the evaluation include the following:

- Determine how "reasonable, valid, reliable and informative to the public" will be operationalized in this study.
- Identify the kinds of objective data and research findings that will be examined.
- Review and analyze extant information related to the study's purpose.
- Gather other objective information from relevant experts and stakeholders, without creating burden for the public through new, large-scale data collection.
- Organize, summarize, and present the findings from the evaluation in a written report, including a summary that is accessible for nontechnical audiences, discussing the strengths/ weaknesses and gaps in knowledge in relation to the evaluation criteria.
- Provide, prior to release of the study report, for an independent external review of that report for comprehensiveness, objectivity, and freedom from bias.
- If the optional tasks are authorized by ED, plan and conduct dissemination events to communicate the conclusions of the final report to different audiences of stakeholders.
**Design:**

This study will focus on the achievement levels used in reporting NAEP results for the reading and mathematics assessments in grades 4, 8, and 12. Specifically, the study will review developments over the past decade in the ways achievement levels for NAEP are set and used and will evaluate whether the resulting achievement levels are "reasonable, valid, reliable, and informative to the public." The study will rely on an independent committee of experts with a broad range of expertise related to assessment, statistics, social science, and education policy. The project will receive oversight from the Board on Testing and Assessment (BOTA) and the Committee on National Statistics (CNSTAT) of the National Research Council.

Members of the interdisciplinary review committee were selected in early 2015 (see below), and the committee is expected to meet over the course of 2015. The report from the evaluation is expected to be released in 2016 and will be announced on [http://ies.ed.gov/ncee/](http://ies.ed.gov/ncee/).

<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
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<tbody>
<tr>
<td>Dr. Christopher F. Edley, Jr. (Chair)</td>
<td>University of California, Berkeley</td>
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<tr>
<td>Dr. Peter Afflerbach</td>
<td>University of Maryland, College Park</td>
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<tr>
<td>Dr. Sybilla Beckmann</td>
<td>University of Georgia</td>
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<tr>
<td>Dr. H. Russell Bernard</td>
<td>University of Florida</td>
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<tr>
<td>Dr. Karla Egan</td>
<td>National Center for the Improvement of Educational Assessment</td>
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<tr>
<td>Dr. David J. Francis</td>
<td>University of Houston</td>
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<tr>
<td>Dr. Margaret E. Goertz</td>
<td>University of Pennsylvania</td>
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<tr>
<td>Dr. Laura Hamilton</td>
<td>The RAND Corporation</td>
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<tr>
<td>Dr. Brian W. Junker</td>
<td>Carnegie Mellon University</td>
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<tr>
<td>Dr. Suzanne Lane</td>
<td>University of Pittsburgh</td>
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<tr>
<td>Ms. Sharon J. Lewis</td>
<td>Retired</td>
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<tr>
<td>Dr. Bernard L. Madison</td>
<td>University of Arkansas</td>
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<tr>
<td>Dr. Scott Norton</td>
<td>Council of Chief State School Officers</td>
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<tr>
<td>Dr. Sharon Vaughn</td>
<td>The University of Texas at Austin</td>
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<td>Dr. Laress L. Wise</td>
<td>HumRRO</td>
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Additional information about the Committee and project activities is available at: [http://www8.nationalacademies.org/cp/projectview.aspx?key=49677](http://www8.nationalacademies.org/cp/projectview.aspx?key=49677). The first Committee meeting took place in Washington, DC on February 19-20, 2015. Governing Board staff attended the open session and made a presentation to the Committee on the history of the NAEP achievement levels setting activities. The second meeting of the Committee took place in Washington, DC on May 27-28, 2015. Governing Board staff attended the open session on the afternoon of May 27th to listen to panel discussions about interpretations and uses of NAEP achievement levels. Five additional meetings were conducted in the latter half of 2015 in closed session. The final report is expected to be released in mid-2016.
PARTICIPANT ENGAGEMENT IN NAEP: CRITICAL REVIEW AND SYNTHESIS OF RESEARCH

BACKGROUND

In September 2015, the Governing Board awarded a contract to AnLar Incorporated, along with its subcontractors, Abt Associates and Minds Incorporated, to conduct a systematic literature review documented via an annotated bibliography and synthesis summary, addressing what the field knows about the extent to which sub-optimal engagement may affect NAEP student performance and NAEP test administration.

PROJECT MILESTONES

DESIGN DOCUMENT

Following initial project kick-off meetings, AnLar submitted a final Design Document and project plan on December 15, 2015. The Design Document articulates the methodology of the project, including search strategy, article selection, and coding process. This document also articulates the process for screening resources for inclusion or exclusion using four phases:

Phase 1: **Relevance:** For all collected resources, Phase 1 identifies if the resource is an empirical study and if it is relevant to the research questions, using information based on titles, abstracts, and key words.

Phase 2: **Methodological Rigor:** Applying methodological standards for observational, intervention, psychometric, and descriptive studies to all resources deemed relevant in Phase 1, Phase 2 records data such as statistical methodology, data reliability, and equivalence baseline differences. Studies that meet a minimum level of rigor against either the Osborne Framework\(^1\) or the What Works Clearinghouse\(^2\) will move on to Phase 3.

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Phase 3: **Full Coding of Eligible Studies:** Phase 3 collects more study details, including the study design, variables, findings, and limitations.

Phase 4: **Comprehensive Critical Analysis:** For a sub-set of the “most influential” eligible studies, Phase 4 engages deeper examination, including critiques of study methodologies, inferences, and conclusions. The primary factor in choosing which studies are most influential will be the number of times a study is cited.

CODE BOOK

As a result of the development of the Design Document and discussions regarding methodology with Board staff, AnLar developed a Code Book to specify information and data that will be collected for all resources included in the literature review. The Code Book aligns with the four phases delineated above, and is the basis for the questions in the online coding tool to be used by researchers in the coding process. These questions also reflect refinements prompted by the tool development and the Research Associate (RA) training process. The Research Associate responses in the online coding tool are gathered in a single spreadsheet enabling comparisons across multiple articles or codes.

RESEARCH ASSOCIATE (RA) TRAINING

AnLar conducted RA training in late December 2015 through early January 2016. The RA training period began with an orientation led by co-Project Director, Ariel Jacobs and Principal Researcher, Dr. Joseph Taylor. The orientation included an overview of the project, the search and coding process, and the RA training schedule. For the training, the two Research Associates, Amelia Barter and Allison LaFave, coded the same article using the online coding tool and the AnLar team convened weekly to review codes, address clarifying questions, and make necessary adjustments to the code book to ensure that data collection captured a sufficient level of detail.

RESOURCE SEARCH AND COLLECTION

Throughout December 2015 and January 2016, the Research Associates conducted searches of ERIC, Web of Science, Institute of Education Statistics (IES), and Teachers College Record using the search strings detailed in the Design Document. AnLar was also provided with a list of potentially relevant resources by the National Center for Education Statistics (NCES). All resources that appeared to be minimally relevant – 969 articles – were recorded in a Study Identifier Directory spreadsheet with a unique identifying number. Additionally, during the relevance screening (Phase 1), researchers harvested the references section of all relevant resources and added all applicable resources to the Study Directory. As of January 2016, the total number of resources screened in Phase 1 was 1,026. All resources processed through Phase 1 were duplicate-coded by both RAs. For items where there was disagreement or uncertainty, the Principal Researcher acted as the reconciler.

Based on preliminary screening, AnLar estimates that approximately ten (10) percent, or 100 studies, of the total resources screened will meet the project’s standards for relevance. Key
standards of relevance include: whether the resource addresses student motivation and/or engagement in NAEP; if the resource is an empirical study; if the examinee sample is within the range of interest (between 4th and 12th grade); and if the publication date is 1990 or later.

Operational coding of resources began on January 18, 2016, and all resources will proceed through Phase 1: Relevance screening of operational coding. AnLar is scheduled to submit a draft list of relevant resources and a draft Systematic Review Table to the Governing Board for review and discussion by mid-March 2016.

**TECHNICAL REVIEW AND BIBLIOGRAPHY**

The final list of relevant resources will proceed through Phases 2-4 and data from the coding process will be entered into a Systematic Review Table. If there are too many studies to duplicate-code in Phases 2 and 3, RAs will duplicate code 15-20% of the resources and independently code the remainder. The Principal Researcher will code a random sample of 20 resources and report inter-rater reliability coefficients. Relevant resources that meet the empirical evidentiary standards will be included in an annotated bibliography detailing methods, claims, findings, and conclusions. This technical review and annotated bibliography will be completed by May 2016.

**SYNTHESIS REPORT**

All study information captured in Phases 3 and 4 will be presented in a comprehensive synthesis report to summarize findings and overall conclusions most relevant to NAEP, while noting and explaining points of agreement and disagreement. As context, study information related to rigor (Phase 2) will be summarized. The synthesis report will also present recommendations for future research. The report will be submitted to the Governing Board by June 2016 and will be presented to COSDAM during the August 5, 2016 meeting.
# AGENDA

<table>
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<tr>
<th>Time</th>
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| 10:15 – 11:15 am | Joint Session with Committee on Standards, Design, and Methodology (COSDAM): Collaboration on Infographics and Communicating NAEP Findings  
  *Rebecca Gagnon, R&D Committee Chair  
  *Andrew Ho, COSDAM Chair* | Attachment A |
| 11:15 – 11:20 am | BREAK                                                                                                    |             |
| 11:20 – 11:25 am | Introduction of New Committee Member:  
  Ken Wagner, Rhode Island Commissioner for Elementary and Secondary Education  
  *Rebecca Gagnon, R&D Chair* |             |
| 11:25 – 11:40 am | **ACTION:** Release Plan for The Nation’s Report Card:  
  2014 Technology and Engineering Literacy (TEL)  
  *Stephaan Harris, Public Affairs Specialist* | Attachment B |
| 11:40 – 11:55 am | Update on Implementation of Communications Plan  
  *Stephaan Harris  
  Laura LoGerfo, Assistant Director for Reporting and Analysis* | Attachment C |
| 11:55 am – 12:05 pm | Revisiting the Board’s Reporting Policy and Guidelines  
  *Stephaan Harris and Laura LoGerfo* | Attachment D |
| 12:05 – 12:35 pm | **CLOSED SESSION**  
  Review 2015 Grade 12 Reading and Mathematics Report  
  *Stephaan Harris and Laura LoGerfo* |             |
| 12:35 – 12:40 pm | **ACTION:** Release Plan for The Nation’s Report Card:  
  2015 Grade 12 Reading and Mathematics  
  *Stephaan Harris* | Attachment E |
| 12:40 – 12:45 pm | Information Items:  
  - Progress on Procurements  
  - Projected Schedule of NAEP Releases | Attachment F |
Joint Session of the
Reporting and Dissemination Committee & the Committee on Standards,
Design and Methodology:
Collaboration on Infographics and Communicating NAEP Findings

Initial drafts of the Governing Board’s Strategic Plan and the Communications Plan adopted by the Governing Board in 2014 emphasize the need for compelling and comprehensible ways to report NAEP findings. NAEP reporting should appeal to a diverse range of stakeholders in education, from the general public and parents through administrators and policymakers at state and local levels. An essential element of the Board’s Communications Plan is connecting with these target audiences through:

“sharing relevant messages, content, stories… to identify and highlight hidden gems of NAEP data, connecting the dots between data and practice and leveraging resources to reach specific audiences to deliver important messages in a meaningful and memorable way.” (Communications Plan, p.3)

At the same time, any dissemination of NAEP findings—e.g., infographics, panel discussions, briefs—must be technically sound and help these audiences accurately interpret the meaning, impact, and implications of the findings. The Governing Board’s Reporting and Dissemination Committee (R&D) is responsible for pursuing this effort to expand the content, frequency, and presentation of disseminating NAEP findings while providing these audiences with enough information to understand the magnitude and meaning of the results accurately.

To this end, the R&D Committee has invited members of the Committee on Standards, Design and Methodology (COSDAM) to engage in a conversation about implementing the Governing Board’s Communications Plan. The more inward-focused expertise of COSDAM in NAEP design and methodology neatly complements the more outward-focused expertise of R&D in disseminating NAEP findings. The joint meeting’s discussion should center on COSDAM’s collective thoughts on how to consider the statistical and technical implications of extending NAEP’s message.

Examples of infographics to extend the message are included with your Board materials, as is the Board’s Communications Plan. To guide the discussion, please review these materials and consider the following questions:

1. What questions do the diverse audiences for NAEP have of the Governing Board’s efforts to disseminate NAEP results?
   a. What information would help anticipate and address these questions?
b. How can the Governing Board strike the appropriate balance between making reporting accessible and helping audiences interpret findings accurately?

2. What types of data presentations best extend the reach of NAEP after the initial release of findings?

3. How can the Governing Board best disseminate and promote materials featuring the findings of contextual variables without unintentionally implying “cause and effect”?
NATIONAL ASSESSMENT GOVERNING BOARD
2014 STRATEGIC COMMUNICATIONS PLAN

Approved August 2, 2014

In 2014 and beyond, the National Assessment Governing Board seeks to focus its communication efforts strategically and cost effectively to "Make Data Matter" for various target audiences. The Board is well-positioned to increase the impact of its outreach, but it must prioritize its audiences and identify its objectives for each, while integrating innovative strategies to elevate the Board’s work—and NAEP—as a thought leader in education.

Reingold proposes three goals the Board can pursue to amplify its outreach efforts.

I. Make a Connection With Target Audiences
II. Engage Audiences Between Report Card Releases
III. Maximize Impact Through Innovation

Reingold’s assumption in developing strategic priorities for the Board is that reporting and dissemination activities must support a vision to make an impact in education through engagement with NAEP that will enable the use, discussion, and sharing of NAEP data and information. A time-phased action plan, including specific outreach tactics and metrics, will be developed with Governing Board staff on the Board’s approval of this strategic communications plan.

The members of the Reporting and Dissemination Committee have identified three key audiences it believes the Board should focus on—parents; teachers and administrators; and policymakers—as each of these audiences is in a position to make an impact through NAEP data. Working with staff, we will identify the Board’s goals and expectations of each audience and the key messages needed to engage each one effectively.

Potential outcomes of the audience-focused outreach are listed below:

Parents
- Understand the value of NAEP and its implication for parents.
- Ask informed questions about their child’s education and the school system.
- Use NAEP to consider out-of-school factors that might affect their child’s education.
- Share NAEP information and messages with their parent peers.

Teachers and Administrators
- Understand the value of NAEP and its implication for teachers and administrators.
- Use NAEP to influence change within their classroom or school system.
- Educate parents about NAEP data and resources.
- Share and distribute NAEP information to their peers.
Policymakers

- Understand the value of NAEP and its implication for education policy.
- Use and cite NAEP data in policy decisions, public statements, and white papers.
- Distribute NAEP information and messages to constituents and peers to help advocate for change.

It is important to remember that messages and calls to action are intended to move the Board’s priority audiences along an engagement continuum, from awareness and education to trial, buy-in, and, ultimately, action. But creating the right messages is only the beginning. It is critical to know which information to deliver first, which should follow, and who are the most credible messengers. We will lay out a cohesive, practical, comprehensive roadmap for reaching the Board’s target audiences that identifies how to take advantage of existing opportunities, what new strategies to develop, and optimal methods of dissemination. The action plan will include a variety of opportunities to connect with each audience to maximize the reach and frequency of each message. The proposed strategies involve cultivating and leveraging partnerships that will include stakeholders or champions. There will also be collaboration with the National Center for Education Statistics (NCES) to ensure efforts are not duplicated, with Board and NCES staff coordinating on roles, responsibilities, and resources on various strategies as needed.

To illustrate the strategies identified above, below we discuss what the execution of each one could involve for the Board’s three priority audiences.

I. Make a Connection With Target Audiences

The goal is personal and powerful: “Communicate the Value of NAEP.” This means goin beyond the distribution of NAEP data to highlighting, developing, and sharing relevant messages, content, stories, and calls to action for key audiences. Communicating the “So what?” and “Why should we care?” can help the Board move beyond the scores and headlines to clarify the value of NAEP and its important role as an indicator of student achievement.

- **Develop key messages and calls to action for priority audiences.** The Governing Board’s audience is widely diverse—in their knowledge of and experience with NAEP, in their intended uses and consumption of data and information, and in their communications networks, favored channels, and approaches. With these differences in mind, it is imperative that the Governing Board tailor messages for each of its audiences to inspire deeper engagement with NAEP data. Instead of a one-size-fits-all approach, we will define and continually test and adjust the messages that are the most relevant to each audience.

  **Example of the strategy in action for parents:** Include the tailored messages and calls to action on the website’s “Information For” parent pages. The parent landing page could have calls to action including “Learn about NAEP,” “Download NAEP resources,” or “Test yourself on NAEP questions.” The page could also have a section devoted to the Board’s assessment literacy efforts (including resources, information and questions to ask) once outreach strategies from the work group are finalized.
Example of the strategy in action for teachers and administrators: The American Federation of Teachers and National Education Association could include a NAEP toolkit with messages for teachers on its website in a resources section.

Example of the strategy in action for policymakers: Minneapolis Board of Education and Governing Board member Rebecca Gagnon could use and reference data from *Science in Action: Hands-On and Interactive Computer Tasks From the 2009 Science Assessment* in a discussion with the Minnesota Department of Education and the Minnesota Education Technology Task Force about the importance of science computer labs.

Impact metrics: The number of downloads of materials such as a PowerPoint or frequently asked questions PDF; number of clicks on links for calls to action (e.g., “Test yourself on NAEP questions”); number of champions—that is, advocates—who commit to using or distributing the NAEP messaging and toolkit.

- Expand communications beyond reporting on the scores. We need to get beyond the typical report presentations of the data and find meaningful ways to elevate the data (and their implications) through materials, messaging, and outreach activities. We will identify and highlight hidden gems of NAEP data, connecting the dots between data and practice and leveraging resources to reach specific audiences to deliver important messages in a meaningful and memorable way. The Governing Board must be a storyteller that educates its audiences about the relevancy of NAEP data and resources in a way that resonates with its audiences’ interests and needs in an actionable manner.

Example of the strategy in action for parents: Develop a parent leader discussion guide to assist parent leaders in using NAEP and other assessment data in their conversations with school administrators about improving student achievement for all children.

Example of the strategy in action for teachers and administrators: Develop an interactive Prezi presentation (a visually animated storytelling tool for presenting ideas and messages) on NAEP achievement gap data from the recent *2013 Mathematics and Reading, Grade 12* report card for New Leaders, a national nonprofit organization that develops transformational school leaders and designs effective leadership policies and practices for school systems across the country.

Example of the strategy in action for policymakers: Governing Board member Anitere Flores could host a Florida Senate session on parent involvement in education to highlight NAEP contextual variables data in reading from the *2013 Mathematics and Reading, Grade 12* report card. For example, when asked whether students discussed what they read, students who reported discussing their reading every day or almost every day had higher reading scores.
**Impact metrics:** The number of guides distributed at stakeholder conferences or downloaded from the website; number of groups posting the guide on their websites; number of Prezi and data downloads; parent-submitted testimonials and feedback on using the guide to speak with school and district leaders.

- **Tell the NAEP story through user testimonials.** NAEP data become more impactful when stakeholders learn how others use the data to fulfill their missions and advance their educational goals. Working through key groups, we will collect and disseminate real-life testimonials from the priority audiences to become an authentic author of the NAEP story.

  **Example of the strategy in action for parents:** Collaborate with National PTA to solicit testimonials from parents about how they use NAEP and other assessment data, and then promote the testimonials through the Board’s and PTA’s online networks. These testimonials and other NAEP information could also be featured on the websites of other national education groups, encouraging parents to learn about different assessments their children might take and how the data can be used.

  **Example of the strategy in action for teachers and administrators:** Coordinate with elementary school principal and Board member Doris Hicks and future Board member chosen for the secondary school principal slot to collaborate with the National Association of Elementary School Principals and the National Association of Secondary School Principals to solicit testimonials from principals and teachers within their districts about how they use NAEP and the importance of at-home and out-of-school activities that enhance learning, then promote testimonials through the school communication channels.

  **Example of the strategy in action for policymakers:** Collaborate with the National Association of State Boards of Education to collect testimonials from state board members on how data, including NAEP data, are used to inform policy-level decisions and improvements.

  **Impact metrics:** The number of NAEP user testimonials received; number of testimonial views online; number of social media shares and engagement; quality of the engagements and comments about parents using data.

  ➢ **Potential action taken by key audiences under this goal:** Using NAEP materials and resources on organization websites to inform questions of school and education leaders about school curriculum and district progress; downloading NAEP sample questions to test student knowledge or supplement classroom lessons;

**II. Engage Audiences Between Report Card Releases**

The goal is ongoing and impactful: “Continual Engagement.” This means building tangible connections—outside of report card release events—between NAEP and its stakeholders, and equipping them with the insight, information, and tools to make a difference in educational quality and student achievement. This important strategy cannot be executed by staff alone, and will require the contributions of Board members and the partnership of stakeholder groups and other NAEP champions, including former Board members.
Expand the report card release life cycle. There is great opportunity for the Governing Board to enliven data and engage target audiences by taking a comprehensive, reimagined view of releasing and reporting on NAEP results that goes beyond the one-day release event. The entire life cycle of an assessment—from developing the framework to fielding assessments to disseminating results—offers content and commentary that, if shared more strategically, will powerfully support the NAEP brand and use of NAEP by target audiences. The Board can both enhance the report card releases and extend the life cycle to make meaningful connections with target audiences by developing pre- and post-release content, and recording and sharing video or audio which tease out and illuminate NAEP data.

Example of the strategy in action for parents: For each report card release develop a highlight reel with panelist quotes, select data points, and facts on reading, mathematics, and science contextual variables to send to parent stakeholder groups to distribute to their networks and on the Web.

Example of the strategy in action for teachers and administrators: Governing Board member Terry Mazany could host a meeting with the executive director of the Chicago Principals & Administrators Association to discuss the value of NAEP state and TUDA achievement data.

Example of the strategy in action for policymakers: Host a briefing with the California State Board of Education on the performance of fourth-grade students in the NAEP 2012 Writing Grade 4 Pilot with a diverse panel to include California fourth-grade teacher and Governing Board member Shannon Garrison, the executive director of the National Writing Project, and authors Carol Bedard and Charles Fuhrken.

Impact metrics: The numbers of video views and shares; number of groups posting the video; quality of comments and conversations under the video; feedback from stakeholder groups about the impact of the video and parent engagement with the content; number of participants at the meeting or briefing.

Leverage partnerships with stakeholder organizations and champions. As a trusted messenger of information to key audiences, the Governing Board needs to mobilize its existing networks, engaging stakeholder groups and champions to share and shape future outreach. Stakeholders and champions are diverse and can be from education associations or news outlets like NBC News. They could also be politicians, celebrities, athletes, or prominent individuals like First Lady Michelle Obama. We will help the Board identify key partnership opportunities for its priority audiences and develop specific recommendations for engagement, to put their distinct capabilities to work in promoting NAEP and extending the Governing Board’s reach. For example, we could keep working with the Alliance for Excellent Education to produce and promote post-release webinars, provide data infographics to the National Council of Teachers of Mathematics, and collaborate with the National Council of La Raza in sponsoring Facebook chats in addition to consistently pursuing new opportunities with key stakeholder organizations.
Example of the strategy in action for parents: Collaborate with NBC News’ Education Nation and Pearson on their Parent Toolkit (www.parenttoolkit.com) including NAEP materials, graphics, and downloadable resources on the website that position the Governing Board as an authoritative source of information on student assessment data.

Example of the strategy in action for teachers and administrators: Collaborate with Danica McKellar, actress, author, and STEM education advocate, to submit an article to the National Science Teachers Association’s NSTA Express newsletter on the importance of STEM education and girls’ involvement in STEM, and include data from NAEP’s Technology and Engineering Literacy assessment.

Example of the strategy in action for policymakers: Arrange for James Geringer and/or Ronnie Musgrove, Board members and former governors, to present at the annual National Governors Association conference on an important policy issue affecting states in which NAEP data and contextual variables are relevant. Additionally, the Board and he governors can collaborate with the Center on Education Policy to include NAEP reading data and contextual variables (such as frequency of discussing what they read or finding reading enjoyable) in their research papers, publications and annual progress report.

Impact metrics: The number of clicks on the NAEP content; number of downloads of NAEP materials; use of presented NAEP data by governors and state policy leaders in media citations, state websites and other materials; volume of referral traffic from the Parent Toolkit site back to the Governing Board’s website; Education Nation engagement that identifies stories of the Toolkit in action; number of newsletter opens and clicks; number of research report downloads.

- Equip, empower, and display thought leadership. The Governing Board and NCES are well-positioned as thought leaders among researchers and many national policymakers but could expand their influence with other audiences, such as parents, local policymakers, and education practitioners. Governing Board members and staff should be seen by media representatives and stakeholders as valued spokespersons on educational assessment and achievement, including specific topics such as computerized assessments, achievement gap trends, 12th-grade academic preparedness, and the importance of technology, engineering, and literacy. The Board can also continually secure speaking engagements at a variety of events such as the International Reading Association’s annual conference or local PTA chapter meetings, or pitch quotes for inclusion in news articles and op-eds on relevant topics.

Example of the strategy in action for parents: Work with Board member and parent Tonya Miles and develop and pitch op-eds that connect NAEP data with important year-round education events, emphasizing the role parents can play in raising student achievement. During Black History Month, pitch a piece to HuffPost Parents that spotlights achievement gap success stories, or pitch a piece about technology and engineering skill-building beyond the classroom to Sacramento Parent magazine.
Example of the strategy in action for teachers and administrators: Co-host a webinar discussion on NAEP state achievement trends with the American Federation of School Administrators, with members weighing in on state-level changes and education initiatives that are aimed at increasing achievement.

Example of the strategy in action for policymakers: Submit a proposal to the National School Board Association’s annual conference for a Board member and NCES to co-host a breakout session to share and discuss the recent 2013 Mathematics and Reading, Grade 12 report card, academic preparedness data, and recent graduation rate research.

Impact metrics: The numbers of op-ed placements, shares, and comments; quality of user engagements and comments; number of follow-up questions from readers; number of new emails collected (from a “Subscribe to the Governing Board” call to action); number of webinar and conference participants and follow-up requests.

Potential action taken by key audiences under this goal: Inspired by op-ed on racial achievement gaps, exploring gaps in their own districts and talking with school leaders about parity of resources; noting performance trends in subjects by state and/or urban district and then using that knowledge to inform state, local, or school district-level decisions regarding academic programs.

III. Maximize Impact Through Innovation

The goal is proactive and cutting-edge: “Lead the Way.” This means reaching and making meaningful connections with priority audiences, customizing events, fostering and driving online conversations, and creating tech-savvy materials with compelling content.

- Customize release event formats. Report cards are not one-size-fits-all; innovative release event strategies are needed to achieve the specific goals of each release. Each release event strategy should have distinct goals, audiences messages, materials, strategies, and tactics to Make Data Matter. The Governing Board has expanded the report card release event structure from physical events for every release to include webinars and live-streaming during events, a post-release social media Facebook chat, and an online town hall event. We will continue to refine this approach to customizing every release to maximize the immediate release impact and create a sustained conversation that continues to reach and engage key audiences.

Example of the strategy in action for parents: Host a Google Hangout for parents after a NAEP release that can feature panelists from the National Council of La Raza talking about the importance of parent involvement in education, and encourage parent participants to share how they use data to help their students achieve.
**Example of the strategy in action for teachers and administrators:** Develop a Twitter town hall guide (NAEP data points, question-and-answer content, best-practice tips, and facilitation instructions) for teachers and school administrators to host their own facilitated chats with parents and the school district on state-level NAEP data and areas for application.

**Example of the strategy in action for policymakers:** Host an in-person round-table discussion with members of the Massachusetts Mayors’ Association on the latest state-level NAEP reading and mathematics results and their state-based implications.

**Impact metrics:** The number of promotions of the online events and shares of the URL; numbers of event participants and total users viewing them or reached; numbers of comments or participants sharing their testimonials; number of follow-up testimonials received for inclusion in materials or on the website.

- **Engage in the online conversation.** It is important to be aware of the conversations on important education issues, but to influence and help shape public understanding and perceptions the Governing Board needs to participate in the conversation with key messages. We will help the Governing Board foster conversations through real-time engagement on social media platforms, develop content such as an article written by a Governing Board member to post on NAEP’s upcoming blog coordinated by NCES, and create a strategy to join or host online chat events, sponsor Q&A sessions, or solicit feedback. Champions are key to the success of this effort, providing greater reach and often a more powerful story than the Governing Board can tell alone.

**Example of the strategy in action for parents:** Hold a webinar with the Governing Board’s Education Summit for Parent Leaders attendees and parent leader champions to review the NAEP website workshop tutorial and obtain feedback through a moderated chat on how they have used NAEP data since the event. Compile feedback to create a one-pager and share it with participants.

**Example of the strategy in action for teachers and administrators:** Collaborate with the National Council of Teachers of Mathematics (NCTM) on an online Q&A chat session based on the NAEP *Mathematics Curriculum Study* data, educating NCTM about the wide variance of content in mathematics courses and books with the same name. Board member and math teacher Dale Nowlin could be a participating panelist.

**Example of the strategy in action for policymakers:** Reach out to the National Governors Association (NGA) on Twitter and provide NGA with content and data about the 2013 *Mathematics and Reading, Grade 12* report card.

**Impact metrics:** Numbers of campaign participants and user submissions; numbers of engagements (“likes,” comments, shares, retweets, views) for the multimedia submissions; quality of comments on the multimedia submissions; growth in the Governing Board social media audience and number of engaged users discussing assessment data.
Create multimedia, digital content and materials. The Governing Board must present messages, graphics, and images that resonate with target audiences. A wealth of materials has been developed by the Governing Board and NCES, and the first step will be to audit and catalog resources that may be repurposed through outreach and promotional activities. For the materials gaps that are identified, it is imperative to develop interactive, multimedia content and materials that deliver key messages to target priority audiences and include a call to action. Examples include infographics that embellish key report card findings to facilitate understanding and encourage engagement with NAEP data among nonexperts; videos, Prezi, and other presentation tools allowing exploration of the relationships between ideas and numbers and visual presentations of NAEP; and an email newsletter with new content and specific calls to action.

Example of the strategy in action for parents: Create a “NAEP for Parents” email newsletter with information on the latest report card data and trends, multimedia content such as video clips or NAEP data user testimonials, and links to other resource or news content and the interactive data maps on the Board’s parent Web pages, to be distributed bimonthly or consistently throughout the year.

Example of the strategy in action for teachers and administrators: Create an infographic with “hidden data” gems from the NAEP Grade 8 Black Male Students report and accompanying language to share with the National Alliance of Black School Educators to post on social media.

Example of the strategy in action for policymakers: Work with Board member Terry Holliday to create an interactive presentation at CCSSO’s annual large-scale assessment conference on NAEP computer-based assessments, or work with Board member Tom Luna to distribute the dynamic 12th-grade preparedness video highlighting the new college preparedness data to Chiefs for Change members.

Impact metrics: Email open rate; numbers of email shares, clicks from email to website, and new email subscribers; number of release participants who list the email as their referral source; numbers of email replies or responses with inquiries about NAEP or acquiring NAEP materials and resources; number of video and infographic views and shares.

Potential action taken by key audiences under this goal: Using contextual data to influence out-of-school factors that have been shown to correlate with achievement; using curriculum study findings to investigate course rigor and influence change for exposure to challenging subject matter.

By pursuing these three fundamental communication goals and identifying priority strategies and tactics, the Governing Board can more effectively reach its target audiences to Make Data Matter and, ultimately, make an impact.
Understanding Testing in America

Educational tests measure many different skills and are used for different purposes.

**Instructional Guidance**

Teachers can use classroom assessments to continually adjust instruction to help each student learn.
- Quizzes and tests
- Written reports and oral queries
- Student presentations

**Individual Achievement**

Schools, districts, or states may administer tests to assess student learning or preparedness for the next step in their education.
- Final course exams
- State tests
- High school exit exams

**Accountability**

Assessments may evaluate the progress of a particular school, educational program, teacher, or district toward statewide standards.
- State-mandated standardized tests

**Nationwide Achievement**

A nationally representative assessment can be given to a sample of students and provide a snapshot of achievement across subjects, demographic groups, and regions by nation, state, and large urban district.
- The National Assessment of Educational Progress (NAEP)

**Placement and Admissions**

Assessments can help determine whether a student is prepared for a particular course, course level, or educational program. Advanced Placement (AP) and International Baccalaureate (IB) tests can be used to earn college credit.
- Placement tests—AP & IB
- College admission exams—SAT & ACT

**What Makes NAEP Unique: An Objective, Valuable Measure of Student Achievement**

NAEP—the Nation’s Report Card—is the country’s most respected continuing, independent, and nationally representative measure of student achievement in about a dozen subjects by nation, selected subjects by state, and selected large urban districts. NAEP is a congressionally authorized project of the National Center for Education Statistics (NCES) within the U.S. Department of Education. The National Assessment Governing Board sets policy for NAEP.

- Gathers and reports nationally representative data on all states and for 21 large urban districts
- Shows comprehensive trends in student achievement for more than 40 years
- Provides parents, educators, and policymakers with important information to understand achievement and promote learning
- Identifies gaps in achievement among different demographic groups of students nationwide
- Collects information from students, teachers, and schools on factors related to student achievement including student study habits, classroom practices, and school resources.
- Ensures students randomly selected to participate in NEAP represent the nation’s geographical, racial, ethnic, and socioeconomic diversity. Each student only takes a portion of NAEP, reducing the burden on schools and on participants. It does not result in scores for individual students or schools and cannot be used for placement or teacher evaluation purposes.

To learn more about the Nation’s Report Card, visit www.nagb.gov.
Student Race/Ethnicity and Teacher Experience Level, Grade 8 Mathematics

From the National Assessment of Educational Progress (NAEP), 2015

Experience level of math teachers varies with race/ethnicity of 8th-grade students surveyed on NAEP.

Teacher’s Experience*

- 21 or more years
- 11-20 years
- 6-10 years
- 3-5 years
- 2 years or less

* Teacher-reported question: “Excluding student teaching, how many years have you taught mathematics in grades 6 through 12, counting this year?” Original responses that were collapsed for this graphic: Less than 1 year, 1-2 years, 3-5 years, 6-10 years, 11-20 years, or 21 or more years.


The 2014 National Assessment of Educational Progress (NAEP) Technology and Engineering Literacy (TEL) Report Card will be released to the general public through a series of in-person events in May 2016. Following a review and approval of the report’s results, three events will be arranged in Detroit.

The first event, to be simultaneously webcast for a national audience, will involve the initial release of report results at the Michigan Science Center and would include a data presentation by the Acting Commissioner of the National Center for Education Statistics (NCES); moderation and comments by Governing Board member Tonya Matthews and Chair Terry Mazany; and comments from other panelists as well as from a select group of students who will take part of the assessment and describe their experience performing the scenario-based tasks designed to solve real-world problems. The event, slated to be 60-90 minutes, will also include a conversational Q&A session that would include questions submitted via livestream. Full accompanying data will be posted on the Internet at the scheduled time of release.

The second event, also to be held at the Michigan Science Center and simultaneously webcast for a national audience shortly after the first event, will feature a panel from various industries discussing TEL in the context of the workplace. The event, also slated to be about 60-90 minutes, will entail a conversational Q&A session that would include questions submitted via livestream. An archived version of the webcasts of these two events, with closed captioning, will be posted on the Governing Board website at www.nagb.gov.

The third event will be held at Wayne State University and feature assessment and subject field experts, led by Board member Cary Sneider, who will discuss TEL contextual variables and other related trends and issues for a primarily educator, research, and assessment audience. The event would feature robust discussions and interaction by attendees and would be scheduled for about 3 hours.

The 2014 TEL Report Card will present findings from a representative sample of about 21,500 8th-graders nationwide. Results, which will be presented in terms of scale scores, percentiles, and NAEP achievement levels, will be for the nation only. Data will be presented for all students and by demographic and socioeconomic groups, such as race/ethnicity and gender. Contextual information (i.e., student and school survey data) with findings of interest will also be reported.
DATE AND LOCATION

The release event will occur in May 2016. The release date will be determined by the Chair of the Reporting and Dissemination Committee, in accordance with Governing Board policy, following acceptance of the final report.

ACTIVITIES BEFORE RELEASE

In the weeks and months before the release events, the Governing Board will work to inform various audiences and stakeholder groups about the TEL assessment to provide important context and information before results are public. The efforts could include production and distribution of materials such as one-pagers and infographics, presentations, social media campaigns, webinars, and online chats.

In the days preceding the release, the Governing Board and NCES will offer in-person briefings to U.S. Congressional staff in Washington, DC; a conference call for appropriate media as defined by the Governing Board’s Embargo Policy; and an embargoed data website available to Congressional staff, approved senior representatives of the National Governors Association and the Council of Chief State School Officers, and approved media. The goal of these activities is to provide these stakeholders with a comprehensive overview of findings and data to help ensure accurate reporting to the public and deeper understanding of results.

REPORT RELEASE

The Acting Commissioner of Education Statistics will publicly release the report at the NAEP website—http://nationsreportcard.gov—and at the scheduled time of the release event. An online copy of the report, along with data tools, questions, and other resources, will also be available at the time of release on the NAEP site. An interactive version of the release with panelists’ statements, a Governing Board press release, the TEL Framework, and related materials will be posted on the Board’s web site at www.nagb.gov. The site will also feature links to social networking sites and audio and/or video material related to the event.

ACTIVITIES AFTER THE RELEASE

The Governing Board’s communications contractor will work with Board staff to coordinate additional post-release communications efforts—which could include such strategies as an online chat, major presentation, webinar, or social media campaign—that would target communities and audiences with an interest in STEM. The goal of these activities is to further extend the life of the results and provide value and relevance to stakeholders with an interest in student achievement and assessment in these areas.
# National Assessment Governing Board: Communications Activities

<table>
<thead>
<tr>
<th>AN OVERVIEW OF 2015 ACTIVITIES</th>
<th>COMMUNICATIONS GOALS</th>
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<tbody>
<tr>
<td>Developed Governing Board Member and Stakeholder Engagement Plan</td>
<td>Make a Connection With Target Audiences</td>
</tr>
<tr>
<td>Developed Assessment Literacy Strategic Communications Plan, including prototype materials</td>
<td>Engage Audiences Between Report Card Releases</td>
</tr>
<tr>
<td>Conducted audit of the Governing Board’s Strategic Communications Plan, Assessment Literacy Communications Plan, and the Strategic Planning Framework</td>
<td>Maximize Impact Through Innovation</td>
</tr>
<tr>
<td>Developed and implemented strategic plans, including pre- and post-release activities, for all Report Card releases (listed below)</td>
<td></td>
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<tr>
<td>Hosted Google Hangouts, including “Using Education Data to Encourage Achievement” and “Why History Matters”</td>
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<tr>
<td>Maintained strong social media engagement with stakeholders regularly on Governing Board platforms (Facebook, Twitter)</td>
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<tr>
<td>Partnered with Smithsonian and National History Day to execute a social media campaign based on the results of The Nation’s Report Card: 2014 U.S. History, Geography, and Civics</td>
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<tr>
<td>Created the NAEP 101 animated video</td>
<td></td>
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<tr>
<td>Developed and promoted four infographics featuring contextual variables based on the results of The Nation’s Report Card: 2015 Mathematics and Reading</td>
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<tr>
<td>Hosted the first media roundtable to engage reporters and developed informational one pager</td>
<td></td>
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<tr>
<td>Monitored media coverage and engaged with reporters</td>
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<tr>
<td>Launched the inaugural quarterly Governing Board e-newsletter and subsequent editions</td>
<td></td>
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<tr>
<td>Developed and designed a NAEP 101 one pager and “Testing in America” infographic</td>
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<tr>
<td>Developed and implemented the strategic outreach plan and created a suite of custom graphics for social media outreach for the 2016 Governing Board nominations cycle</td>
<td>86 nominations received, 29% increase in website activity, 265 social shares from the microsite</td>
</tr>
<tr>
<td>Developed Board Member testimonial videos</td>
<td></td>
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<tr>
<td>Released the results (English and Spanish) of the 2013 Mathematics Assessment in Puerto Rico</td>
<td></td>
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<tr>
<td>Distributed a news release for the Vocabulary Results From the 2013 NAEP Reading Assessment</td>
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<tr>
<td>Released the results of The Nation’s Report Card: 2014 U.S. History, Geography, and Civics</td>
<td></td>
</tr>
<tr>
<td>Released the results of The Nation’s Report Card: 2015 Mathematics and Reading</td>
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## A LOOK AHEAD AT 2016 ACTIVITIES

<table>
<thead>
<tr>
<th>STRATEGIC PLANNING</th>
<th>COMMUNICATIONS GOALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop and execute the 2016 Governing Board Action Plan</td>
<td>★</td>
</tr>
<tr>
<td>Develop and implement strategic plans, including pre- and post-release activities, for all upcoming Report Card releases (listed below)</td>
<td>★</td>
</tr>
<tr>
<td>Conduct and provide an audit of assessment literacy landscape</td>
<td>★</td>
</tr>
<tr>
<td>Survey Governing Board members and use data about their preferences and existing networks to target stakeholder outreach</td>
<td>★</td>
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<thead>
<tr>
<th>ONLINE, SOCIAL MEDIA, MULTIMEDIA</th>
<th>COMMUNICATIONS GOALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintain strong social media engagement with stakeholders regularly on Governing Board platforms (Facebook, Twitter)</td>
<td>★</td>
</tr>
<tr>
<td>Launch “mini campaigns” focused on priority topics and audiences</td>
<td>★</td>
</tr>
<tr>
<td>Develop infographics and other materials and host web-based events (e.g., Twitter chats) to support mini campaigns and releases</td>
<td>★</td>
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<table>
<thead>
<tr>
<th>MEDIA</th>
<th>COMMUNICATIONS GOALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post follow-up media roundtable to continue to engage reporters</td>
<td>★</td>
</tr>
<tr>
<td>Monitor media coverage and engage with reporters</td>
<td>★</td>
</tr>
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<tr>
<th>STAKEHOLDER OUTREACH</th>
<th>COMMUNICATIONS GOALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop and maintain key stakeholder relationships through events and collaborative activities</td>
<td>★</td>
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<table>
<thead>
<tr>
<th>PUBLICATIONS</th>
<th>COMMUNICATIONS GOALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop and disseminate infographics and one-pagers</td>
<td>★</td>
</tr>
<tr>
<td>Develop and distribute quarterly Governing Board e-newsletter</td>
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<tr>
<th>NOMINATIONS</th>
<th>COMMUNICATIONS GOALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop and implement the strategic outreach plan for the 2017 Governing Board nominations cycle</td>
<td>★</td>
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<tr>
<th>REPORT CARD RELEASES</th>
<th>COMMUNICATIONS GOALS</th>
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</thead>
<tbody>
<tr>
<td>Conduct The Nation’s Report Card: 2015 Mathematics and Reading post-release activities</td>
<td>★</td>
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</table>

### 2016 Communications Priorities
- Encourage and facilitate Board member engagement
- Identify and engage in partnerships/collaborations
- Continue engagement with media
- Expand social media presence
- Develop and refine online content

### 2016 Priority Topics
- Education trends
- Demographic shifts of student populations and other contextual variables
- Improving testing through assessment technology and design
- Academic preparedness
- Use of data to drive academic achievement and inform audiences that influence instruction and policy

### 2016 Priority Audiences
- Educators
- Policymakers
- Parents/parent leaders
- School administrators
- Media
- Advocacy groups
- Business leaders
Updating Governing Board Guidelines for Releasing NAEP Results

Background
In August 2006, the Governing Board produced a Policy Statement on the Reporting, Release, and Dissemination of NAEP Results, which was accompanied by specific guidance on releasing NAEP results, entitled Guidelines for the Initial Release of The Nation’s Report Card. The Policy Statement delineates the responsibilities for the NAEP program held by the National Center for Education Statistics and by the National Assessment Governing Board. This statement also covers principles that drive the preparation, content, release, and dissemination of The Nation’s Report Card.

The Guidelines for the Initial Release of The Nation’s Report Card outline the procedures for releasing NAEP data and the elements necessary for inclusion in an initial release of NAEP results. Part A of these guidelines refers to the layout and design of printed reports, along with critical elements that must be included within the pages of these reports. Part B refers to the specifications for preparing reports for the “World Wide Web.” Both the Policy Statement and the accompanying Guidelines are included with the briefing materials for your review.

In the ten years since this policy and the guidelines were adopted, the NAEP program has shifted to online reporting only. Such a shift means that the first part of the guidance for printed reports may be unnecessary or irrelevant, and the second part of this guidance should be revisited to account for lessons learned from the Board’s and NCES’ experiences in online reporting.

Given this evolution over the last decade, the time seems appropriate to review the policy, update the guidelines, and make any revisions the R&D Committee and the Board deem prudent as the Governing Board contemplates future reporting, especially in the context of the Strategic Planning Initiative.

Timeline
At the November 2015 Reporting and Dissemination Committee meeting, Board members discussed the idea of creating a template to guide NAEP reporting online. With thoughtful revision, these guidelines should reflect the ideas the template intended to capture.

Before the R&D Committee convenes at the March 2016 Board Meeting, we request that you review the attached policy. At the March 2016 R&D meeting, we will discuss changes you suggest based on this review. The Governing Board staff then will incorporate these suggested revisions, amendments, and updates into a draft that will be first shared with NCES, then reviewed by R&D Committee Chair Gagnon and Vice Chair O’Keefe, and presented for discussion at the May 2016 R&D meeting.

Once the R&D Committee members approve the updated Policy Statement and Guidelines—in May 2016, or if more time is needed for discussion and revision, August 2016—the R&D
Committee Chair will offer both the Policy Statement and Guidelines to the full Governing Board for deliberation and revision. At the next subsequent quarterly meeting, the R&D Committee will present an action to approve and adopt the policy officially. Ideally, this process would move apace for a full Board action at the August 2016 Board meeting, which occurs exactly ten years after the current policy was approved and enacted.

Discussion Questions for the March 2016 R&D Committee Meeting

- What elements of the current policy remain critical to retain? What new elements are needed?

- Are there elements of the policy which should be eliminated? Downgraded in priority?

- What parts of the Board’s Strategic Planning Initiative bear relevance to revising the Policy Statement and/or these guidelines?

- What additions and/or amendments are of utmost importance to incorporate into updated policy guidance?
National Assessment Governing Board

Reporting, Release, and Dissemination of NAEP Results

Policy Statement

The Nation’s Report Card™ informs the public about the academic achievement of elementary and secondary students in the United States. Report cards communicate the findings of the National Assessment of Educational Progress (NAEP), the only continuing and nationally representative measure of achievement in various subjects over time. The Nation’s Report Card compares performance among states, urban districts, public and private schools, and student demographic groups.

Introduction

NAEP collects data through representative-sample surveys and reports fair and accurate information on academic achievement to the American public. By law (P.L. 107-110, as amended by P.L. 107-279), NAEP is administered by the Commissioner of the National Center for Education Statistics (NCES) under policy set by the National Assessment Governing Board (“the Governing Board”), a bipartisan, independent policymaking body.

According to the statute, the Governing Board shall exercise “independent judgment, free from inappropriate influences and special interests” and in the exercise of its responsibilities, “shall be independent of the Secretary and the other offices and officers of the Department [of Education].” Among the responsibilities specifically delegated to the Governing Board are: (1) “develop guidelines for reporting and disseminating [NAEP] results”; (2) “take appropriate actions needed to improve the form, content, use, and reporting of [NAEP] results”; and (3) “plan and execute the initial public release of [NAEP] reports.”

To carry out these responsibilities, the Governing Board hereby adopts policy principles and guidelines for the reporting, release, and dissemination of The Nation’s Report Card.
As outlined in the appendix, this policy defines *The Nation’s Report Card* as, and applies to, the initial reporting of NAEP results from national, state, and trial urban district assessments (TUDA), and to other special reports or studies authorized by the Governing Board, including printed reports and the initial release Web site.

**Delineation of NAEP Reporting, Release, and Dissemination Responsibilities**

The NCES Commissioner, under Governing Board policy guidance, is responsible for administering the assessment, ensuring the technical soundness and accuracy of all released data, preparing NAEP reports, and presenting NAEP results.

In addition to setting policy, the Governing Board is responsible for ensuring policy compliance of Governing Board-authorized NAEP reports, determining their respective dates of release, and planning and executing the initial public release of NAEP results.

**Part I: Report Preparation and Content**

**Policy Principles**


2. The primary audience for *The Nation’s Report Card* is the American public.

   a. All reports shall be written in language appropriate for an audience of the interested general public, the majority of whom are unlikely to have a technical understanding of education statistics or assessment.

3. *The Nation’s Report Card* shall report data objectively, accurately, clearly, and fairly, in accordance with NCES data quality standards. Results shall be insulated from ideological and other special interests.

   a. *The Nation’s Report Card* shall include straightforward presentations of data. Reports may suggest correlations, but should not conclude cause-and-effect relationships. Any interpretation of results must be strongly supported by NAEP data.

   b. *The Nation’s Report Card* and its Web site may include references and links to the Governing Board Web site, NCES Web site, and the NAEP Validity Studies Panel. Non-NAEP materials and links to non-NAEP resources shall not be included in initial release documents, with the exception of relevant federal and state government information, such as NCES surveys and other district, state, national, or international testing programs.
c. To improve public understanding of results, The Nation’s Report Card should contain information about Governing Board-approved NAEP contextual variables and subject-specific background information—as outlined in the Background Information Framework for the National Assessment of Educational Progress (adopted by the Governing Board, 8/1/03)—when available and reliable. Reports may also contain other contextual information from trustworthy sources outside of the NAEP program, such as expenditures per pupil, student/teacher ratios, and student enrollment.

4. In accordance with the law, The Nation’s Report Card shall include results for the nation; states and school districts, when collected in conjunction with specific NAEP programs, respectively; and school types, disaggregated by subgroup whenever reliable. Subgroup results shall be prominently positioned to facilitate public review but shall not be used to adjust findings.

   a. Disaggregated subgroup data should be accompanied by information about demographic changes in the student population assessed.
   b. Results for states and school districts may be presented in alphabetical or rank order, accompanied by appropriate language to make the public aware of any data comparison limitations.
   c. Data shall be publicly released on inclusion and accommodation rates for all NAEP samples, including national, state, district, and school type. Results for students with disabilities and English language learners shall be presented separately.

5. The Nation’s Report Card shall report results by Governing Board-adopted achievement levels, average scale scores, and percentile distributions. Trend information shall be an important part of reports unless comparable and reliable data are not available.

   a. Reports shall contain clear explanations of achievement levels, including item maps and sample test questions and answers to illustrate what students in each grade assessed should know and be able to do at each achievement level.

6. All NAEP data determined by the NCES Commissioner to be valid and reliable shall be made available on the World Wide Web at the time of initial public release, except for data from limited special purpose samples and pilot studies. A separate, dedicated Web site aimed at a broad public audience – http://nationsreportcard.gov – shall be utilized for initial public releases.

   a. All released NAEP data shall be subject to NCES quality control procedures to ensure accuracy and completeness.
   b. At least one block of released NAEP questions shall be posted on the World Wide Web for each subject and grade for which results have been collected.
c. Concise information on test content, methodology, performance standards, and scoring shall be included in all NAEP reports. More extensive material on these topics should be readily accessible on the World Wide Web.

7. Results of special studies authorized by the Governing Board will be reported after careful review of information quality and statistical validity. These shall be treated as initial public releases of The Nation’s Report Card, and shall be subject to NCES quality control procedures and Governing Board policies.

8. The Governing Board shall adopt general guidelines to inform the development of The Nation’s Report Card and its Web site, and may set additional specifications for particular reports.

9. The Governing Board shall review the format and content of initial releases, including Web pages, to ensure compliance with Governing Board policy.

   a. The Nation’s Report Card shall contain a description of the policymaking roles and responsibilities of the Governing Board, including a list of current Governing Board members, their affiliations, and regional locations.

Part II: Public Release of NAEP Results

Policy Principles

1. Release activities shall be planned and executed by the Governing Board. The Governing Board shall determine the release date, time, embargo policies, and manner of release for The Nation’s Report Card, as covered by this policy.

   a. After the Governing Board has approved the final draft of The Nation’s Report Card, including the pages that will be made available through the initial release Web site, the Chairman of the Reporting and Dissemination Committee, on behalf of the Governing Board, shall determine the date of the initial public release, in consultation with the Chairman and Executive Director of the Governing Board and the NCES Commissioner.

   b. The initial release shall be completed within 30 days of approval of the final draft of The Nation’s Report Card. In setting that release date, attention will be paid to balancing the priorities of an expeditious release with provision for adequate planning time, given the scheduling circumstances of the various parties involved.

   c. Prior to the initial public release, NAEP results may be provided on an embargoed basis to federal, state, and TUDA-district officials and members of the press.
2. The Governing Board shall be responsible for organizing and conducting the release event and related activities.

   a. A release plan shall be adopted by the Governing Board for each report. Elements of the plan may include issuance of a press release, a press conference and/or Web-based announcement, distribution of summary findings and graphics, time period for the initial public release phase of http://nationsreportcard.gov, and other related activities.

   b. The official press release announcing NAEP results shall be issued by the Governing Board. Accompanying statements from the Governing Board’s Executive Director or Governing Board members may also be issued.

   c. At the press conference or other event for release of NAEP results, the NCES Commissioner or his/her designee shall present major data findings, accompanied by a written statement. The Governing Board shall select members to provide individual commentary on the meaning of results. In addition, the Governing Board may invite other officials or experts to comment on the significance of the results in accordance with the approved release plan.

   d. At press conferences, questions from the audience shall be limited to accredited members of the media. At other public release events, the Governing Board shall determine who may attend and ask questions or comment.

3. *The Nation’s Report Card* shall seek to encourage wide public attention to NAEP results and clear understanding of their meaning and significance.

   a. Video materials may be prepared to accompany the release. These shall be clearly identified as having been provided by the Governing Board or NCES of the U.S. Department of Education. The video materials may only contain sound bites, background footage, and other information for journalists to develop their own stories.

4. Release procedures shall underscore the credibility of *The Nation’s Report Card* and encourage the participation of schools, school districts, and states in NAEP.

   a. NAEP data in statements distributed at *The Nation’s Report Card* initial public release events shall be checked for accuracy by NCES.

5. *The Nation’s Report Card* releases shall be clearly separated from any ideological or other special interests.

   a. Activities related to the initial public release of *The Nation’s Report Card* shall not be used to disseminate any materials unrelated to NAEP.
No materials of any kind may be distributed at an initial release event without the prior approval of the Governing Board.

6. The Governing Board will cooperate with the NCES Commissioner in the release of technical reports, working papers, and secondary analyses not covered by the policy.

7. The Governing Board will develop a reporting schedule each year for upcoming NAEP assessments based on data review and report production plans that are provided and updated by NCES.

Part III: Dissemination and Outreach

Policy Principles

1. Information from The Nation’s Report Card shall be disseminated through the media, the World Wide Web, and special publications and materials. Efforts shall be made to develop widespread public awareness of NAEP data and their meaning and of the value of The Nation’s Report Card to the nation and participating jurisdictions.

   a. NAEP results shall be available in both printed and electronic form, including on The Nation's Report Card Web site, at the scheduled time of release and in the permanent record.
   b. To build public awareness of The Nation's Report Card, the homepage of the initial release Web site shall remain online and include links to previous releases. This homepage shall link to respective pages found on the NAEP Web site.

2. To build understanding of The Nation's Report Card and the data it reports, other information about NAEP may be disseminated at the time of the initial release and on a continuing basis.

   a. Informational materials accompanying results shall explain the mission and value of The Nation’s Report Card in clear and compelling terms.

3. The Nation’s Report Card and supplementary NAEP materials shall be made available through a wide network of education, business, labor, civic, and other interested groups and to policymakers and practitioners at all levels of education and government.

   a. The Nation’s Report Card shall be distributed promptly to governors and chief state school officers, as well as to superintendents of TUDA districts. The reports shall be posted on the World Wide Web.
immediately at the time of initial release, with printed copies available to the public upon request.
b. Notification of upcoming releases shall be widely disseminated. Schools and school districts participating in NAEP samples shall be provided with information on how to access reports electronically and obtain printed copies upon release.
c. NCES and Governing Board staff shall encourage national and state organizations that are interested in education to disseminate NAEP results to their members.
d. The NCES Commissioner and staff, Governing Board members and staff, and NAEP State Coordinators are encouraged to increase awareness and understanding of NAEP among the public, educators, and government officials. They are encouraged to speak about the NAEP program to a variety of audiences; at meetings and conferences of national, state, and local organizations; on radio and television; and to writers for magazines and newspapers and other members of the media.
e. Talking points on key data findings shall be developed for each release and distributed to Governing Board members.

4. A variety of materials shall be developed, appropriate to various audiences, to carry out NAEP dissemination. Key audiences for these materials shall include the interested general public, policymakers, teachers, administrators, and parents.

5. Detailed data on cognitive results, Governing Board-approved contextual variables, and subject-specific background information (as outlined in Part I, Policy Principle 3, Item C) shall be made readily available through the World Wide Web to all those wishing to analyze NAEP findings, subject to privacy restrictions. Additional restricted data shall be available for scholarly research, subject to NCES licensing procedures.

a. The limitations on interpretations, conclusions, and recommendations in official NAEP reports (as outlined in Part I, Policy Principle 3) shall apply fully to any materials disseminated as part of the NAEP program by NCES and the Governing Board.
b. Researchers receiving secondary analysis grants from NCES may analyze data and provide commentary. Their reports may be disseminated by NCES if they meet NCES standards.
Appendix

NAEP Initial Release Reporting Covered by this Policy

*The Nation’s Report Card™*

The primary means for the initial public release of NAEP results shall be a summary report in each subject, known as *The Nation’s Report Card™* and intended for the interested general public. The reports shall be made available in both print and electronic (Web-based) form. These reports shall present key findings and composite and disaggregated results. The printed reports shall be relatively brief, and written in a clear, jargon-free style with charts, tables, and graphics that are understandable and attractive. Data tables may be included in an appendix, either bound into the report or printed separately. This format shall be used to report key results for the nation and the states and of NAEP Trial Urban District Assessments.

A separate, dedicated Web site for the initial release of NAEP results shall be focused on a broad public audience, including less sophisticated users of the technology. The URL—*http://nationsreportcard.gov*—should be readily located via Internet search engines. Key NAEP findings will be available, clearly organized, and prioritized. World Wide Web pages shall provide key findings, including composite and disaggregated results, as well as access to more extensive data sets.

**Individual State and School District Reports**

Relatively brief reports of key results shall be prepared for individual states, as well as for TUDA-participating school districts. All reports shall contain composite and disaggregated data, and may include an appendix with data tables.

**Special Studies and Reports**

Special studies and reports authorized by the Governing Board and based on NAEP data collections will focus on specific topics of public interest and educational significance. They are aimed at policymakers and interested members of the public. They may include newly released data as well as data previously released that are analyzed to address issues identified by the Governing Board.
National Assessment Governing Board

Guidelines for the Initial Release of The Nation’s Report Card™

The following guidelines are provided as an addendum to Governing Board reporting policy principles for the initial public release of The Nation’s Report Card™ results. Developed to offer additional direction for the content and organization of the initial release of NAEP results in print and on the World Wide Web, these guidelines were adopted by the Governing Board with the understanding that the design and structure of NAEP initial release reports should be steered primarily by the important stories found within the data gathered.

A. Printed Reports

Purpose

The Nation’s Report Card™ shall be designed as a highlights report for an audience of the interested general public, providing a picture of both current student achievement in America and, as appropriate, trends in performance over time. In addition, it will present details of achievement by state and school district (when collected for public reporting in conjunction with specific NAEP programs) and by specific student subgroups, selected contextual factors, information about what NAEP is and why the study is conducted, and background information about the assessment design and methodology.

Overall Structure and Approach

1. The Nation’s Report Card will be organized with an Executive Summary section with key findings up front, followed by presentations of each category of findings. Those categories include national, state and district, when collected, and student subgroup results by achievement level, scale score, and percentile distribution.

2. The Executive Summary should be limited to two pages or less, presenting the most important and newsworthy findings in text and graphic form.
3. Brief descriptions of achievement levels, scale scores, and percentile distributions should accompany the initial presentation of those respective results, providing basic understanding of the types of scores to the average reader. More detailed descriptions of these reporting areas will be found later in the report.

Navigation

1. The navigation model—how information is accessed within the document—must be clear and consistently applied, while providing for the most used forms of navigation.

2. A categorical table of contents should be provided to help readers move quickly through the document. This should be organized in useful categories for users. These may include, for example:
   - Executive summary
   - National results
   - State results
   - Grade-level results
   - Subgroup results
   - Sample questions and how they relate to achievement levels
   - Contextual variables and subject-specific background information
   - NAEP history and methodology
   - Frequently asked questions (FAQs)
   - Detailed national-state data tables

3. Some users may want to move quickly between the charts and graphs to understand the information. A consistent structure will facilitate such activity.

4. *The Nation’s Report Card* should incorporate visual and editorial signs that confirm where the reader is within the document. This includes the obvious such as page numbers but can also feature color-coding, section labels, and a common layout to information design within a page.

5. As appropriate, summary information provided in the report should point readers to the Web site—www.nationsreportcard.gov—or additional resources for more information.

Information Design

1. Navigational aids and information will be placed consistently to serve as confirming labels and to orient users to the document.
2. Each reporting section should include an initial explanation of the type of information the section provides.

3. Background information (on NAEP history, methodology, sampling) and technical explanations shall be kept to the necessary minimum, and presented in consistent ways throughout the report—as secondary information to key findings and critical section definitions.

4. Charts, figures, and tables will be prominently featured, and legend information will be attached or in close proximity to the graphic.

5. The major charts and tables in the summary sections of the document will feature a common labeling system denoting common information. The goal is to make it easy for users to browse graphics and quickly understand the focus of each.

6. The report may feature “key findings” sections offering some explanation of the data. This will help users learn how to “read” the data available.

**Presentation of Results**

1. Each category of results should include (1) a description of the type of results presented; (2) a summary of key findings; and (3) one-to-two data graphics with a “quick read” guide to aid understanding of the chart, figure, or table.

2. As needed, the introductory description will explain why collecting and presenting data for each particular category is important.

3. Data graphics should provide a clear summary or depict meaningful improvements, declines, and/or gaps.

4. Efforts should be made to minimize repetition of technical explanations, such as the use of accommodations or the definition of statistically significant.

5. Reports will not include lengthy footnotes, technical definitions, and extensive background information. These elements are discouraged in the key data sections to keep the presentation of key results simple and clear.

6. Reports should highlight information important to the audience, e.g., meaningful changes, gaps, and influencing conditions, when available and reliable.
Presentation of Factors Related to Student Achievement

1. Reports may include contextual variables and Governing Board-approved subject-specific background information, approved by the Governing Board, to improve public understanding of results. The reports may present patterns and trends of these variables known to have an independent relationship to academic achievement without including NAEP achievement data in the charts and text.

2. Contextual variables may be included, consistent with report space and operational limitations. Readers may be directed to the Web site for more information.

Presentation of Sample Questions to Illustrate Achievement Levels

1. An explanation of NAEP achievement levels will be illustrated by released sample questions and answers to help readers understand expected performance.

2. Multiple choice and constructed response questions will be included to show the range of methods used to measure student achievement.

3. An explanation of content strands should be included, where appropriate, to further illustrate how NAEP measures curricular areas and content at specific achievement levels.

4. The sample questions section should show, but not necessarily be limited to, Basic and Proficient performance.

Presentation of Data Tables

1. NAEP data tables that include, when collected, national, state, district, and student subgroup results by achievement levels, average scores, and percentile distribution shall be made available to the public at the time of release.

2. NAEP data tables will contain clear and simple titles and legends, keeping technical definitions and footnotes to a minimum.
Additional Design Considerations

1. *The Nation’s Report Card* will be designed and printed on standard 8½ x 11 inch paper for ease of filing and reproduction.

2. The length of the report should be determined by consideration of content essential to public understanding of the results. Every effort shall be made to keep page length to a minimum, with the expectation that access to all reportable data will be made available through the initial release Web site at the time of release.

3. *The Nation’s Report Card* may utilize 4-color process in design and layout. If full color is used in the report, text and graphics should be designed to take advantage of this tool.

4. While designed in color, every effort should be made to prepare charts, figures, tables, and other graphics that will reproduce well as black and white photocopies.

5. While a specific color may be used to denote a specific NAEP subject (Mathematics, Reading, Science, etc.), the consistent application of a color palette shall be used to aide comprehension of data and navigation through the report.

B. Web Site for Initial Release

Purpose

All reportable NAEP results shall be accessible through an initial release Web site, providing a simplified linear progression through the data. The Web site shall be designed to accommodate a general audience that may have limited expertise with technology. Similar to printed materials, the Web site will present (1) a summary of student performance in the most recent assessment, (2) a look at how results are changing over time, (3) details of achievement overall and by student subgroups, (4) information about what NAEP is and why it is conducted, and (5) background information about the assessment design and methodology. In addition, the Web site will offer hyperlinks between related or supporting information.

Site URL and Metadata

1. The initial release Web site is an easy-to-remember URL—http://nationsreportcard.gov. The data should also be found on the NAEP section of the NCES Web site.
2. Descriptive metadata* should be used for each page of the Web site to aid in searching and to allow search engines that use metadata to more easily index the site for inclusion in search results.

3. Page names should reflect the content and purpose of the page.

**Navigation**

1. A clear set of options for primary navigation will be developed and remain as a consistent element throughout the initial release Web site. Suggested primary navigation for the site may include:
   - Report Cards (At a glance, Mathematics 2003, Reading 2003, Other)
   - State Profiles (50 states, plus other jurisdictions)
   - Methodology (sampling, report questions, testing methodology)
   - Parents Information Center
   - Researchers Information Center
   - Educators Information Center
   - Media Room
   - Resources (downloadable reports, charts and graphs)
   - About NAEP
   - Create a Report (Link to data tool and the ability to create your own report by entering a list of parameters and getting data results for these parameters – i.e., which report, state, gender, grade, year, etc.)
   - Frequently Asked Questions (FAQs)

2. Site utility links—including Site Map, Contact Us, Glossary, Link to NCES site, Link to NAEP site, and Link to Ed.gov site—should be displayed as utilities rather than primary navigation.

3. Navigational aides, such as a breadcrumb trail, should be provided to users so that their position on the Web site can be seen at a glance and a user can easily navigate to higher or lower level pages.

4. The Web site should include a linear browsing option to each report to allow users interested in viewing the information step-by-step to progress through a report in a predefined order.

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* Metadata are keywords and descriptions that are often included in the programming code of Web pages to define the content available on the page and across the associated Web site. This content is frequently indexed by Web-based search engines, as well as used by other site analysis and searching software in order to define the content on a particular Web page and find pages through searching tools.
5. The Web site should include a clear table of contents and chapters to each report so a user can easily jump to any subsection of the results, progress linearly from that spot, or jump to another spot without losing the context of where they are in the report.

6. The Web site should utilize “Previous” and “Next” buttons so that users can quickly view a preceding page of the report to gain further context.

7. The Web site should feature supporting links and related information in the context of the report to provide an easy reference for users to gain further understanding of the reports. Some examples of features may include a glossary of terms, information on testing procedures, sample questions, or links to a different level of the same information being viewed (e.g., national, state, district).

8. All pages on the Web site should offer links to associated sponsoring Web sites such as [http://nces.ed.gov](http://nces.ed.gov), [www.nagb.org](http://www.nagb.org), and [www.ed.gov](http://www.ed.gov). However, these links should be provided in a central location and remain separated from primary and secondary navigation on the Web site.

**Homepage**

1. The Web site should use HTML instead of graphic text and remain static after the initial release period to aid in “searchability” for the Web site and improve listing on search engines.

2. The Web site should highlight the most commonly accessed information, such as:
   - Your State’s Profile
   - Major Findings
   - Information for Teachers
   - Information for Parents
   - Information for Researchers
   - Printer-Friendly Reports

3. Callout feature boxes should be used to offer quick and easy links to the most common interested user groups, including parents, researchers, educators, and news media.

4. Highlights from the report and key findings may also be highlighted on the homepage with links to more detailed information.

5. A sign-up field or link to NCES’ NewsFlash e-community or other e-communication tools may be provided.
Design and Layout

1. The Web site should be designed to ensure a consistently branded message with printed reports and other materials.

2. Pages with vast amounts of data presented in a long single page should be broken up into multiple pages with pagination as a potential solution to accommodate extensive content.

3. A clear headline should define each page of content and subheadings should be used to identify each subsequent area of content. Where images, graphics, and charts are used, they should fit contextually into the content of the page or be referenced separately at the end of a section.

4. All content should be laid out in a printable format. This requires a maximum design width of approximately 740 pixels in order for each page to fit on standard, letter size paper.

5. Heavy background colors and imagery should be avoided so that users can print pages easily without burning excess amounts of printer ink.

Accessibility

1. The Web site should be designed according to Section 508 guidelines for persons with disabilities.

2. The Web site should utilize a horizontal format for text for optimum enabling of screen reading software.

3. The Web site should use ALT tags for all images to aid screen readers in identifying the images.

4. Graphics should be avoided for primary or secondary navigation—insure all navigation is HTML text based.

5. Avoid the use or overuse of dropdown navigation.

6. Offer a text-only version of all reports available for download alongside the PDF print version.

7. Pages should be designed for a minimum standard 800 x 600 screen with minimal graphics to improve download times for users without high-speed Internet connections. Avoid large graphic files to minimize loading time for the user.
8. Offer a text-based description in the ALT text (or LONGDESC text if necessary) and also in any text-based versions of PDFs for all charts and graphs.

**Web Site Promotion**

1. The Web site should be promoted through media relations to encourage members of the news media to visit the Web site for authoritative data on the nation’s schools and the current state of K–12 education in America.

2. Developers should optimize the site for keywords-relevant searches.

3. NAEP should approach other Web sites with similar content to encourage linking and driving traffic to *The Nation’s Report Card* Web site.

4. NAEP should engage organizations that work with teachers to inform teachers nationwide about the Web site and data available.

5. NAEP should investigate placing a paid online promotion campaign to encourage visitors to the Web site and downloads of the printed reports.

6. NAEP should coordinate Web site promotion with the release of new and upcoming reports.
The 2015 U.S. Mathematics and Reading Report Card for Grade 12—to include estimates for academic preparedness—will be released to the general public during April 2016 as an online webinar, following a review and approval of the report’s results. The release event will include a data presentation by the Acting Commissioner of Education Statistics, with moderation and comments by at least one member of the National Assessment Governing Board and an additional panelist who has expertise in secondary education and/or academic preparedness. Full accompanying data will be posted on the Internet at the scheduled time of release.

The assessment features a national sample of 13,200 12th-grade students in mathematics, and 18,700 12th-grade students in reading. Results are at the national level; no state data were collected as part of this assessment. There will be trend comparisons to the previous assessment in 2013, and the first Grade 12 assessments for each subject (2005 for mathematics, 1992 for reading). Results will include average scores and percentages of students at the Basic, Proficient, and Advanced achievement levels. These results will be reported for students overall and for demographic and socioeconomic groups, such as gender and race/ethnicity. Contextual information (i.e., student, teacher, and school survey data) with findings of interest will also be reported.

The report will be in the form of interactive web pages, allowing the reader to explore each subject in detail, as well as move between subjects. There will be links to more detailed data, as well as to information about the frameworks and how the assessments were conducted. The report website will also contain an updated page on the estimated percentages of 12th grade students who are academically prepared for college based on results from the mathematics and reading assessments.

**DATE AND LOCATION**

The release event for the media and the public will occur in April 2016. The release date will be determined by the Chair of the Reporting and Dissemination Committee, in accordance with Governing Board policy, following acceptance of the final report.
EVENT FORMAT

Introductions and opening statement by a National Assessment Governing Board representative

• Data presentation by the Acting Commissioner of Education Statistics
• Comments by at least one Governing Board member
• Comments by at least one expert in the field of secondary education and/or academic preparedness
• Questions from the webinar audience
• Program will last approximately 75 minutes

Event will be broadcast live over the Internet, and viewers will be able to submit questions electronically for panelists. An archived version of the webinar, with closed captioning, will be posted on the Governing Board website at www.nagb.org along with other materials such as the press release and panelist statements.

REPORT RELEASE

The Commissioner of Education Statistics will publicly release the report at the NAEP website—http://nationsreportcard.gov—at the scheduled time of the release event. An online copy of the report, along with data tools, questions, and other resources, will also be available at the time of release on the NAEP site. An interactive version of the release with panelists’ statements, a Governing Board press release, subject frameworks, and related materials will be posted on the Board’s web site at www.nagb.org. The site will also feature links to social networking sites and audio and/or video material related to the event.

EMBARGOED ACTIVITIES BEFORE RELEASE

In the days preceding the release, the Governing Board and NCES will offer access to embargoed data via a special website to approved U.S. Congressional staff in Washington, DC; approved senior representatives of the National Governors Association and the Council of Chief State School Officers; and appropriate media as defined by the Governing Board’s Embargo Policy. A conference call for journalists who signed embargo agreements will be held to give a brief overview of findings and data and to answer questions from the media.

ACTIVITIES AFTER THE RELEASE

The Governing Board’s staff will work with its communications contractor to coordinate a post-event communications effort to extend the life of the results and provide value and relevance to stakeholders with an interest in grade 12 instruction and learning as well as academic preparedness. These efforts could include a webinar, social media campaign, seminar, or presentation at a large conference or other gathering.
### Upcoming NAEP Reports as of February 2016

<table>
<thead>
<tr>
<th>Report</th>
<th>Initial NAEP Releases</th>
<th>Expected Release Date</th>
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<tr>
<td><strong>2015 Mathematics and Reading TUDA (Additional TUDA Data Release)</strong></td>
<td>March 2016</td>
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<td><strong>2015 Grade 12 Mathematics and Reading National</strong></td>
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<td><strong>2014 Technology &amp; Engineering Literacy Report Card</strong></td>
<td>May 2016</td>
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<td><strong>2015 Science Report Card</strong></td>
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**Other NAEP Reports**

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<th>Report</th>
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<tr>
<td><strong>Focus on NAEP: Sampling</strong></td>
<td>February 2016</td>
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<tr>
<td><strong>From Algebra to Zoology: How Well Do Students Report Mathematics and Science Course Taking?</strong></td>
<td>February 2016</td>
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<tr>
<td><strong>Focus on NAEP 12th Grade Participation &amp; Engagement</strong></td>
<td>March 2016</td>
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<tr>
<td><strong>Focus on NAEP: Simpsons Paradox</strong></td>
<td>April 2016</td>
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<tr>
<td><strong>Digitally Based Assessments Transitions Lessons Learned: Focus on Mathematics</strong></td>
<td>August 2016</td>
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FrameWorks Institute: STEM Perspectives

Presenter Bio

Julie Sweetland is a sociolinguist and Vice President for Strategy and Innovation at the FrameWorks Institute where she leads efforts to diffuse the organization’s cutting-edge, evidence-based reframing recommendations throughout the nonprofit sector. Since joining FrameWorks in 2012, she has led the development of powerful learning experiences for nonprofit leaders, and has provided strategic communications guidance for advocates, policymakers, and scientists nationwide and internationally.

Prior to joining the Institute, Ms. Sweetland was actively involved in improving teaching and learning for over a decade, as a classroom teacher, instructional designer, and teacher educator. At the Center for Inspired Teaching, she served as Director of Teaching and Learning and helped to found a demonstration school with an embedded teacher residency. As Founding Director of the Center for Urban Education, she launched a graduate teacher preparation program for the University of the District of Columbia.

Ms. Sweetland's linguistic research has focused on the intersection of language and race; on the role of language variation and language attitudes on student learning; and on effective professional learning for teachers. Her work has appeared in publications such as Journal of Sociolinguistics, Educational Researcher, and Education Week, and she is the co-author of African American, Creole, and Other Vernacular Englishes in Education. She is a graduate of Georgetown University and lectures regularly at her alma mater. She completed her M.A. and Ph.D. in Linguistics at Stanford University.

Material Background

The mission of the FrameWorks Institute is to advance the nonprofit sector's communications capacity by identifying, translating and modeling relevant scholarly research for framing the public discourse about social problems. The following document is a FrameWorks MessageMemo, “The power of explanation: ReFraming STEM and informal learning.” Additional details relating to this MessageMemo can be found in the Appendices (not included but available in the full report here); the multi-media version includes videos of on-the-street interviews and interactive features.
The Power of Explanation:
Reframing STEM and Informal Learning

A FrameWorks MessageMemo
Supported by the Noyce Foundation
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I. Introduction

“I have always liked to be in the middle of a changing environment — there’s a real challenge in making that all work.” – Robert Noyce

In many ways, the case for Science, Technology, Engineering, and Math (STEM) education should be a no-brainer. Unlike other subjects where Americans — in this most pragmatic of cultures — struggle to see the benefits that education reform holds for the “real world,” everyday life surrounds us with obvious STEM applications. Many of our country’s most pressing problems — from addressing climate change to redesigning cities for sustainability to containing the spread of diseases — all depend visibly on STEM knowledge. Historical exemplars — from the launch of Sputnik to the birth of the Internet — easily come to mind. STEM careers routinely compensate well above other occupations, and the old stigma of STEM nerdiness has now been canonized as cool, in pop culture hits from “The Big Bang Theory” to “The Matrix,” as well as other elements of “hacker” culture. All of these factors would seemingly prompt widespread public support for reforms to improve STEM education in and out of school.

However, as research in the social and cognitive sciences has long demonstrated, what matters to implementation of meaningful policies is not necessarily how much people think about an issue, but how they think about an issue. As researchers found in studying Americans’ propensity for action on global warming, “The cultural models available to understand global warming lead to ineffective personal actions and support for ineffective policies, regardless of the level of personal commitment to environmental problems.”

Is STEM another issue in which the way that Americans think about what is needed undermines their support for effective solutions?

Clues to how well the “pictures in people’s heads” are driving meaningful change can be found in the practices currently in operation. Thus far, the documented salience of STEM appears to have yielded little fruit. “Today’s K-12 science classrooms generally reflect neither the calls for more fully developed inquiry experiences in national science standards nor the research evidence on how students learn science,” concludes the National Research Council of the National Academies in an early study. Similar deficiencies were noted for other STEM fields, including mathematics and engineering. Twenty-first century competencies in STEM subjects, they asserted, will require integration into broader education reforms that pay attention to the constraints on learning embedded in current educational structures. Now, a new study from the National Academy of Sciences finds even more reason to pay attention to STEM in informal environments, as “there is growing evidence that opportunities to learn STEM outside of school directly affect what is possible inside classrooms, just as what happens in classrooms affects out-of-school learning.”

This MessageMemo is directed toward creating an evidentiary base to identify the most effective ways of communicating about STEM education, with a particular focus on informal learning. The strategies detailed here have been tested for their ability to improve public understanding and increase support for key reforms in this domain. Here, we summarize an extensive body of empirical research that shows the...
power of a robust explanatory communication strategy in deepening public understanding about STEM in both informal and formal contexts. Indeed, this research strongly suggests that the key to advancing STEM on the nation’s policy agenda lies in part in strengthening the explanatory case for STEM learning. This research was conducted by the FrameWorks Institute and sponsored by the Noyce Foundation.

The following research base informs this MessageMemo:

1. 15 interviews with leading experts in the field of STEM education — a wide range of academic researchers, program managers, educators, and advocates — to document the key elements of effective STEM learning and, in particular, of informal STEM learning, that need to be communicated;^5

2. 20 interviews with Americans in four states — Tennessee, California, New Hampshire, and Pennsylvania — to document the implicit, but shared, assumptions and understandings in use on this topic;^6

3. 36 interviews with Americans to test the ability of frame elements — Metaphors and Values — from the Core Story of Education Project^7 to productively orient thinking about STEM education;

4. 56 interviews with Americans to test candidate Explanatory Metaphors on informal STEM learning;

5. Two experimental surveys conducted between January and March 2015 involving 6,200 Americans to test the impact of a variety of Value, Metaphor, Example, fact, and narrative frames on public understanding of informal STEM, and attitudes toward STEM and STEM-related policies;

6. Persistence Trials and Peer Discourse Sessions with 35 Americans to test the effectiveness and refine understanding of Explanatory Metaphors and Examples of out-of-school programs;

7. 238 articles analyzed to document the dominant frames at play in American news media;^8

8. 176 materials from 22 STEM organizations analyzed to identify frames in use in the field.9

All in all, more than 6,350 Americans were queried as part of this specific research, and over 400 articles and communication materials were analyzed. This body of work builds on a much larger body of work published at www.frameworksinstitute.org.

This MessageMemo, revised in July 2015 to include all research that informs this project, is not intended to take the place of the research reports that inform it;^10 indeed, FrameWorks strongly recommends that communicators avail themselves of these reports and challenge their own creativity to apply this learning. In addition to summarizing and synthesizing that body of work, this MessageMemo extends the research by providing another level of prescriptive interpretation in order to inform the work of policy advocates.
We have intentionally created this tool as a way to engage front-line communicators in this work, hence the emphasis on how to understand and use the research, as opposed to the nature of the evidence. This MessageMemo charts a course through the dominant patterns of reasoning employed by the American public, identifies the major challenges for communicating about STEM education both in the classroom and in informal learning environments, and recommends how communications may be redirected to improve public understanding. It is organized as follows:

- We first **Chart the Landscape** of public understanding by providing a description of the dominant patterns of thinking that are chronically accessible to Americans in reasoning about STEM education in classrooms and informal learning environments, and the communications implications of these dominant models.

- We then identify the **Gaps in Understanding** between experts and ordinary Americans in order to bring into relief the specific locations where translation is needed if expert knowledge is to become accessible to the public in reasoning about STEM education and, in particular, informal STEM.

- We then provide an outline of **Redirections**, research-based recommendations that represent promising routes for improving public understanding of STEM, and the changes in policy and practice that are needed to improve STEM learning.

- We end with a cautionary tale of the **Traps in Public Thinking** that must be avoided if reframing is to succeed.
II. Charting the Landscape: Default Patterns of Thinking

In this section, we discuss the most prevalent and highly shared paths, or “cultural models,” that ordinary Americans rely on when asked to think about what STEM is, why STEM learning matters, how STEM skills are learned, how informal STEM contributes to learning, and what can and should be done to improve STEM outcomes. These patterns in understanding, identified using techniques from cognitive anthropology, constitute the landscape that prescriptive reframing research must navigate. It is crucial that communicators who seek to build new understandings of STEM and informal learning become aware of, and familiar with, these default patterns of understanding in order to accurately anticipate what they are up against and what their communications must overcome.

What is STEM?

The STEM = Science model. FrameWorks’ research revealed that most people are unfamiliar with the term “STEM,” and, moreover, once it is introduced and explained, people have a strong tendency to equate STEM with science and see the two as synonymous. While some policymakers and thought leaders may be familiar with the term, it is lost on the public, and therefore results in a quick default to the more dominant understandings outlined below. In the absence of a coherent model of STEM as an integrated set of different knowledge and skill areas, people consistently reduce the domain to science and ignore the other STEM areas.

Alongside this dominant pattern of thinking, when asked specifically about the separate domains of STEM, Americans rely on the following models:

- **The Science Studies the World model.** Members of the public view science as the study of “how the natural world works.” This orientation toward the world outside the classroom, coupled with the implicit understanding that science is essentially a process of experimentation, leads people to value science and recognize the importance of hands-on, real-world experience in learning science.

- **The Math is Adding and Subtracting model.** In stark contrast to assumptions about science, Americans view math as a practical, but dry, subject that must be learned through traditional methods of blackboard instruction and rote memorization.

- **The Technology = Computers and Search Engines model.** Americans have a thin understanding of technology as a subject and, instead, understand technology as a set of objects — primarily computers and mobile phones. According to dominant cultural models, technology is viewed as a set of computational and communications devices, and not as a discipline that considers all types of human-made systems and tools designed to satisfy people’s needs.

- **The Engineering Is Specialized model.** People think of engineering as a complex, highly specialized subject and assume that it is thus neither important nor appropriate to teach to young children.
Why does STEM learning matter?

The Future Jobs and Global Competition models. Americans consistently tie STEM learning to economic success, viewing STEM skills as important for individual students to get good jobs and be financially successful. This thinking about goals or outcomes of STEM learning is strongly focused at the individual level. However, Americans also focus on the importance of STEM skills in assuring that the country can out-compete its global competitors. FrameWorks research has found that this focus on global competition elicits a powerful us-versus-them mentality, which ultimately sets up an unproductive perspective in thinking about domestic-level disparities in education.12

The Unequal Opportunity model. There is a sense, although not as top-of-mind, persistent, or consistent as many of the other models discussed here, that disparities in STEM learning outcomes are, in part, the product of inequalities in learning opportunities. This model is a productive one for STEM advocates, as it makes visible the role of systemic factors and access to resources in producing disparities in STEM learning outcomes.

How are STEM skills learned?

The Hands-On Learning model. The public views hands-on learning as the best way to learn STEM subjects and skills. According to this understanding, students learn STEM by doing, experimenting, observing, and modifying in order to understand how things work. This way of thinking is driven by the way that people understand science, and the fact that they equate STEM with “science.”

The Every Child is Different model. There is a widespread assumption that some children are naturally good at, and interested in, STEM subjects, and others are simply not. Children's different talents, interests, and learning styles are attributed to inborn or genetic characteristics and are seen as “natural” and “fixed.”

The Informal Learning = Freedom and Low Stakes model. In thinking about informal learning, Americans invoke a common set of core characteristics — freedom, flexibility, and lack of pressure — which they view as “good” for learning generally, and for science learning in particular.

The Informal Learning is Supplementary model. Although Americans commonly assume that informal learning opportunities are valuable, they also share a deeply held assumption that informal learning is nonessential, and merely supplements the essential learning that happens in the classroom. In short, in thinking about informal learning contexts, Americans imply a hierarchical relationship between formal and informal settings.

The Rechargeable Attention Battery model. Members of the public understand children's energy and motivation for learning as a limited resource; after a certain amount of time spent learning, children need “down time” — understood as time spent not learning — to recharge. Reasoning with this model, people worry that if children spend too much time learning outside of school — for example, engaged in informal learning activities — they will be drained and spent, leaving them without the energy they need for formal learning. This powerful zero-sum understanding of attention and motivation is evoked when people are
asked to reason about the relationship between in- and out-of-school learning, and particularly when they are asked about their support for informal learning.

How can STEM skills be improved?

**The Back to the Basics model.** Perhaps the deepest and most powerful model observed in the research was the assumption that education should be focused on learning “the basics” — typically identified as math and English, with the emphasis on basic computational, or “checkbook,” math. Americans consistently reason that the basics should be the primary focus of education, and must be taught before more complex subjects can be introduced. The model grounds skepticism about teaching “new” skills and subjects that lie outside the scope of traditional curricula, and shapes the understanding that time spent teaching subjects such as science and engineering comes at the expense of basic learning. Moreover, the Back to the Basics model challenges discussions of improving pedagogy by implicitly advantaging the idea that “old ways are the best ways,” and positioning people to question, or even resist, new, innovative approaches to teaching and learning.

**The Caring Teacher model.** When thinking about how STEM education might be improved, Americans consistently gravitate to a common solution and focus on the need for more caring teachers. While caring is, of course, an important aspect of teaching, reminding people of this familiar way of conceptualizing teaching tends to crowd out other considerations of what is required to support a teacher. When reasoning with this model, people are unable to see how education systems affect learning, or to consider how resources and supports influence teacher quality.

FrameWorks uses the heuristic of a “swamp” to convey the idea that these “spaces” in public thinking dominate and propagate opinions, and are predictably threatening or navigable, depending upon the communicator’s goal and degree of foresight and preparation. In this regard, the following diagram serves as a useful framing tool in its own right, helping communicators predict the responses that specific messages are likely to elicit. Using this diagram, communicators can be more strategic and proactive in creating messages that avoid the activation of unproductive understandings, and intentionally invigorate those that encourage more expansive and productive thinking about STEM and informal learning.
This conceptual map differs markedly from the way that experts think about STEM generally and informal STEM in particular. As a result of 15 interviews conducted with experts in the field, FrameWorks developed the following “untranslated” STEM story; this represents the gist of the perspective that STEM communicators believe is necessary for the public to understand in order to fully engage with the topic.
<table>
<thead>
<tr>
<th>What is STEM?</th>
<th>What are the Current Challenges in STEM Ed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• A group of subjects linked by a common approach</td>
<td>• Not enough teachers with advanced STEM training/experience</td>
</tr>
<tr>
<td>and focus on gathering and using evidence to</td>
<td>• Ineffective pedagogy</td>
</tr>
<tr>
<td>create knowledge</td>
<td>• Notion that STEM is “not for everyone”</td>
</tr>
<tr>
<td>• A somewhat problematic acronym...</td>
<td>• Disparities in STEM learning</td>
</tr>
<tr>
<td>• subjects not equally important</td>
<td></td>
</tr>
<tr>
<td>• different pedagogies</td>
<td></td>
</tr>
<tr>
<td>• lack of common definitions of constituent subjects</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Why is STEM Learning Important?</th>
<th>What are the Advantages of Informal STEM Learning?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Builds critical thinking and other transferable skills</td>
<td>• Flexible schedule and low stakes</td>
</tr>
<tr>
<td>• Facilitates civic participation and engagement</td>
<td>• Deeper student-centered engagement</td>
</tr>
<tr>
<td>• Important for the development of the future workforce of America and for individual career success</td>
<td>• Collaborative</td>
</tr>
<tr>
<td></td>
<td>• Mentorship</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What are the Best Ways to Teach STEM?</th>
<th>What is the Optimal Relationship Between Formal and Informal Learning?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Hands-on opportunities</td>
<td>• Bi-directional support, extension, and expansion</td>
</tr>
<tr>
<td>• Problem- and inquiry-based pedagogy</td>
<td></td>
</tr>
<tr>
<td>• Incorporating professionals</td>
<td></td>
</tr>
<tr>
<td>• Early</td>
<td></td>
</tr>
</tbody>
</table>
III. Gaps in Understanding

Gaps in understanding are those places where the cultural models employed by the public to think about an issue differ significantly from experts’ understanding of the same issue. As such, they represent strategic opportunities to use frames to bridge expert and lay understandings. Below, we enumerate the gaps in understanding on STEM education and informal learning. In the subsequent section, we assign specific frame elements — Values, Metaphors, etc. — to fill and address these communication challenges.

**Gap No. 1: STEM as Science, Technology, Engineering, and Math vs. STEM as Science.** While experts keep all four STEM subjects in view, members of the American public equate STEM with science, and focus on science education to the exclusion of the other STEM subjects.

**Gap No. 2: Relationship Between Disciplines: Common Foundation vs. Discrete Subjects.** Experts understand STEM subjects as grounded in a common, underlying methodological approach. Members of the public lack understanding of these linkages, largely viewing STEM subjects as separate domains.

**Gap No. 3: Timing: Early Exposure vs. Basics First.** In general, experts recommend that it is never too early to introduce children to all STEM subjects. Ordinary Americans, on the other hand, assume that basic math can be taught in elementary school, but that other STEM subjects, and especially engineering, should not be introduced until students have entered high school or beyond.

**Gap No. 4: Math: Inquiry-Based Learning vs. Traditional Blackboard Methods.** While experts view math as suited to the same hands-on, experiential approaches to learning that are appropriate for other STEM subjects, members of the public assume that math is, and should be, taught using traditional blackboard and rote methods. Relatedly, experts see math as a tool for understanding the world and the language of science and engineering, while the public tends to see it as a discrete, low-level skill needed for balancing a checkbook or calculating a tip.

**Gap No. 5: Technology: Societal Asset vs. Danger and Distraction.** For experts, technology is a vital subject area that considers all types of human-made systems and tools designed to satisfy people’s needs, and is comprised of knowledge and skills that are related to the other STEM subjects and important in their own right. Members of the public, on the other hand, worry that technology undermines social relationships, distracts students from what they should be learning, and threatens formal learning. The fact that Americans equate technology with consumer products and entertainment makes them skeptical about its place in schools, and resistant to attributing the same status to technology as they afford to math or science.

**Gap No. 6: Outcomes: High-Level Skills vs. Specific Knowledge.** While experts emphasize the role of STEM education in developing high-level critical-thinking skills, these skills are largely absent from public thinking, as ordinary Americans focus on the localized knowledge that students learn from specific subjects.
Gap No. 7: Civic Engagement: Core Purpose vs. Unconsidered Benefit. A central purpose of STEM education, according to experts, is enabling Americans to better understand social and scientific issues, yet members of the public rarely think of civic engagement and related collective benefits when discussing STEM education, and focus more squarely on the individual financial benefits of STEM learning. Thus, when considering the value of public investments, this tendency to think at the individual level about benefits undermines STEM’s identification as a societal good.

Gap No. 8: Teachers and Other Specialists: Qualifications and Expertise vs. Caring and Non-Essential. Experts stress the importance of qualifications and experience in promoting excellence in STEM teaching, and argue that working STEM professionals must be incorporated into STEM programs. Members of the public view teacher quality primarily in terms of teachers’ level of caring, and do not see the value of STEM specialists in enhancing STEM learning.

Gap No. 9: Who: Everyone vs. Certain “Kinds” of Students. Experts conceive of STEM programs as beneficial for all children. Members of the public, in contrast, think that programs that focus on STEM — especially science, technology, and engineering, but also advanced math — are suitable only for students with “natural” talents in these subjects, because they assume that the ability to learn STEM successfully is inborn or “cultural,” and thus largely unchangeable.

Gap No. 10: Disparities: Systemic Problem vs. Individual Issue. While experts trace disparities in STEM learning to structural differences and systemic inequalities, members of the public view these disparities primarily in terms of differences in an individual’s talents, drive, and cultural background.

Gap No. 11: Informal Learning: Vital Component vs. Inessential Supplement. Experts have a robust understanding of informal learning as an integral complement to formal learning, and offer specific proposals for integrating formal and informal programs to strengthen STEM learning. While members of the public appreciate that informal learning can be valuable, they treat it as an inessential add-on and place it on a lower rung of the learning hierarchy. Much of this is due to the fact that members of the public lack a clear vision of how formal and informal learning can be usefully integrated.
IV. Redirections

Building a more productive route along the public's cognitive map of STEM will require communicators to address those highly accessible, but unproductive, patterns of thinking that limit the public’s understanding of causes, mechanisms, and solutions. This will require the introduction of proven strategic frame elements that translate expert understanding by clarifying what STEM is, how it is learned in both formal and informal contexts, and how STEM education can be improved through programs and policies.

To identify effective reframing strategies, FrameWorks conducted extensive, multi-method research. In some cases, reframing strategies from the Core Story of Education Project were well suited to the “gaps” identified above. For example, research revealed that the Value of Collective Prosperity effectively oriented public thinking to STEM as a societal issue; similarly, the existing Explanatory Metaphor of Weaving Skill Ropes could easily be repurposed to broaden public understanding of the “can’t do one without the other” nature of skills, and how they develop and are applied in interrelated ways. In other cases, however, new tools needed to be developed to narrow the distance between expert and public thinking. These new tools were designed to translate the following features of informal STEM learning:

- **Self-directed learning.** Informal settings give students the freedom to make choices about their own learning, empowering them to pursue what interests them and to take responsibility for their learning. The pedagogical methods used in informal settings enable both individual self-direction and collaborative learning in student-led groups. Self-directed learning fosters intrinsic motivation and generates increased interest in STEM fields.

- **Greater opportunities for hands-on learning.** Informal settings allow opportunities for interaction with environments and materials that are not easily accessed in schools. Hands-on learning yields concrete, applied understanding of STEM content and helps with the development of STEM-specific skills.

- **Low-pressure environment.** The low-pressure environment of informal settings gives students the freedom to experiment, take risks, and make mistakes. By taking the pressure off, informal settings can encourage persistence.

- **Time to deepen and broaden STEM knowledge.** Informal settings give students the additional time needed to explore topics in more depth, or to engage with specific topics that lie outside of school curricula.

- **Opportunities to engage with real-world problems that are socially and culturally relevant.** Informal settings offer venues in which students can engage in real-world applications of STEM knowledge and skills.

- **Means of addressing disparities.** Informal STEM programs can reach students from populations traditionally underserved and underrepresented in STEM fields.
Exposure to STEM careers. Informal settings facilitate students’ exposure to a wide range of STEM careers, which not only broadens students’ understanding of STEM (and helps overcome misconceptions about STEM fields) but also helps students — including those who previously did not consider themselves to be math or science kids — see themselves as potential contributors to STEM fields.

The framing tools were designed and tested to help people see that, together, these features of informal STEM learning help to cultivate STEM knowledge and skills, and to promote interest in, and engagement with, STEM fields. The tools were also tested for their ability to build the understanding that informal settings are vital complements to formal STEM education.

In general, the research presented below demonstrates the power and importance of explanation when communicating about STEM, and in particular informal STEM learning. People already recognize that STEM education is important, but absent a clear grasp of what informal settings contribute, the public is inclined to treat out-of-school opportunities as optional, unnecessary supplements to formal schooling. The explanatory narrative outlined below helps people better understand why informal STEM learning is important, what it involves, and how it works, and in turn generates greater support for informal STEM learning initiatives. In addition, explaining how STEM learning happens in informal contexts broadens people’s attitudes towards STEM education generally. Explanation through narrative thus constitutes the heart of effective reframing of informal STEM learning, and of STEM education broadly.
A Story of STEM and Informal Learning

I. Why does STEM learning matter?

**Collective Prosperity**
Use the Value of *Collective Prosperity* to establish learning as a public issue and orient people toward collective benefits.

**Future Preparation**
Use the Value of *Future Preparation* to productively channel thinking about STEM’s role in workforce development.

II. How do STEM skills and knowledge develop?

**Weaving Skill Ropes**
Use *Weaving Skill Ropes* to explain how STEM learning develops transferable skills and knowledge that are broadly useful.

III. What does informal STEM learning involve and how does it work?

**Fluency**
Use STEM *Fluency* to explain the distinctive characteristics of STEM learning in informal environments.

**Ecosystem**
Use STEM *Ecosystem* to explain the complementary relationships between formal and informal learning.

**Activation**
Use the language of *Activation* to explain how informal STEM experiences generate interest in STEM.

IV. What threatens STEM learning outcomes?

**Fairness Between Places**
Use the lack of *Fairness Between Places* to explain systemic sources of inequity.

**Charging Stations**
Use the metaphor of spotty *Charging Stations* to explain how systemic factors produce disparities in outcomes.

V. How do we improve STEM learning and address disparities?

Use *Explanatory Examples* such as *Community Garden* to provide a concrete understanding of how informal STEM learning improves outcomes.
In the sections below, we explain how STEM communicators can replace the actors, plot lines, and solutions that we identified in the public’s dominant story with powerful alternatives that better align with experts’ and advocates’ perspectives. This requires creating a space in the narrative to explain how STEM learning happens in informal settings. FrameWorks relied on three key strategic frame elements to fill out this section of the story: Values, Explanatory Metaphors, and Examples. Matching tool to task, we used these frame elements to fill in important parts of the narrative by drawing upon what each element does best. This constitutes a message platform for STEM communicators — a storyline that should be used when opening a conversation about STEM and, in particular, informal STEM learning. This platform emerged from a process that tested a wide range of narratives and narrative components. What is outlined below is a set of strategies that emerged as most effective from this testing process. The platform has been shown to be highly effective in moving attitudes and support for a wide range of STEM issues. It is also important to keep in mind that the recommendations presented below represent but one “chapter” in a larger narrative about education — its purpose, its organization, and its needed reforms. Communicators are well advised to take advantage of the voluminous work conducted to create the Core Story of Education more generally, and the wider array of tools that address very specific aspects of public thinking about education.14

What is STEM? Spell it out.
FrameWorks’ descriptive research has shown that STEM is a meaningless acronym to members of the public. Communicators should list the disciplines included in the acronym whenever and wherever possible.

Why does STEM learning matter? Lead with Values to establish STEM learning as a public issue.
Communicators need to steer the public away from default individualistic understandings of STEM learning, which may serve to engage a parent in their own child’s education but will not serve to elevate societal investments in STEM for all kids. Values can powerfully orient audiences to the collective responsibility for, and collective benefits of, STEM education in general and informal STEM learning in particular.

Use the Value of Collective Prosperity to foster recognition of the importance of STEM learning for society as a whole.
While members of the public recognize the practical importance of STEM, their default view of STEM education is as a means to individual student success. To help people recognize the importance of improving STEM education in all communities and for all children and youth, the link between STEM education and prosperity must be broadened, and people must be oriented to see collective benefits. Below is a sample iteration of the Value of Collective Prosperity, which proved effective in shifting people from an individual to a collective orientation toward STEM learning. This iteration and others provided below are intended not as scripts but as examples of how the recommended reframing tools — Values, Explanatory Metaphors, etc. — can be executed.
**Collective Prosperity:** We need to ensure that our future leaders have the skills they need to participate in a prosperous economy for the information age. To do this, we must commit our nation’s resources to programs — both in and out of school — that help all children develop the knowledge and skills that derive from science, technology, engineering, and mathematics, or STEM. Supporting quality STEM education for all children and youth is vital to our country’s prosperity.

Experimental survey research shows that the Value of *Collective Prosperity* helps people perceive quality, universal STEM education as a collective good and responsibility. The Value, which outperformed other tested Values (see Figure 1), increases people’s belief that all children are capable of learning and should learn STEM; leads to the recognition that STEM education has civic benefits; and shifts attribution of responsibility for improving STEM education from individuals to society. This Value productively leverages the public’s recognition that STEM is important for the economy, while inoculating against the typical individualist focus that arises when discussing individual achievement.

![Figure 1: Effects of Values on Attitudes toward STEM Education](image)

**Use the Value of Future Preparation to productively channel thinking about STEM’s role in workforce development.**

In FrameWorks’ experimental research, the Value of *Future Preparation* has proven effective in advancing support for progressive education reform. This Value productively activates the public’s dominant focus on STEM in terms of career development, but inoculates against the individualist bent of this thinking.
through a strong evocation of the collective benefits of workforce development and an explicit emphasis on the societal level. The result is the ability to see STEM as a collective, rather than an individual, issue, and to recognize the broader benefits of improving STEM learning and outcomes. By bringing into view the collective benefits of a prepared workforce, the Value makes it possible to expand the focus beyond widely recognized economic benefits to less noticed civic benefits. The following is an example of how the Value might be executed.

**Future Preparation:** As we set out to improve learning, our most important goal should be to create citizens who are part of an agile and adaptable workforce, capable of performing the jobs of the future and contributing to our society as citizens. Preparing for the challenges and surprises that lie ahead requires helping all children develop the knowledge and skills that derive from science, technology, engineering, and mathematics, or STEM. We need to make sure every child in this generation develops the skills needed for the information age. If we fail to act with this goal in mind, our economy and our communities will suffer as we struggle to fill the needs of the future.

How do STEM skills develop? Use Weaving Skill Ropes to broaden public understanding of how skills develop, and the relevance and benefits of STEM learning.

Building public support for high-quality STEM education requires that communicators explain how STEM skills develop. The Weaving Skill Ropes Metaphor was adapted from the Education Core Story to explain how STEM learning develops transferable skills. Research confirmed the Metaphor’s effectiveness in explaining transferable skill development and in helping people appreciate the importance of universal STEM education for all children, not only those who want to go into STEM careers.

**Weaving Skill Ropes:** Developing STEM skills is an integral part of weaving strong skills. As we learn new skills, our brain weaves strands together into ropes, which we use to do things like solve problems, work with others, formulate and express our ideas, and learn new things. No single strand can do all the work of the rope. If the rope is going to be strong and useable, each strand needs to be strong and it needs to be woven tightly together with all the other strands. STEM skills are vital strands in many different kinds of skill ropes. Students need chances to learn how to weave and reweave these STEM strands, and to get practice using the resulting ropes. When kids have strong STEM strands, they can use them for many different tasks they need to be able to do — in school, but also more generally in life.

The Weaving Skill Ropes Metaphor moves people beyond thinking of STEM learning as directed toward developing subject-specific skills, and allows them to recognize how STEM skills can be transferred to a wide range of applications and uses. By generating a better understanding of the transferability of skills learned in STEM programs, the Weaving Metaphor produces appreciation of the need for high-quality, universal STEM learning. If STEM skills help all students navigate their everyday worlds and succeed in a wide range of endeavors, these subjects should not be the exclusive domain of “nerds” or the academically
exceptional. In addition, by using the active process of weaving as a model for STEM learning, the Metaphor deepens understanding of engaged, experiential learning.

**What does informal STEM learning involve? Use Explanatory Metaphors to deepen public understanding of informal STEM learning.**

Descriptive research found that the public lacks a clear grasp of what happens in informal settings, how these contexts improve STEM knowledge and skills, and, in turn, why informal STEM learning is important. Filling these cognitive holes requires that the public understand that high-quality, out-of-school STEM learning:

- Gives children and youth the **freedom to explore**. The **low-pressure environment** and open time of informal settings empower children and youth, and enable them to **deepen and broaden** their knowledge.

- Allows for applied, **hands-on** learning that connects to **real-world interests** and concerns, and **exposes children to STEM careers**.

- Has the potential to **generate interest** in STEM and **get all kids involved**, including young children, children from traditionally disadvantaged groups, and children who do not think of themselves as “math and science” kids.

- Is a **vital complement** to classroom learning, not a luxury or unnecessary supplement.

- Cultivates **broadly applicable skills** and has **civic benefits**.

FrameWorks developed more than 20 candidate Metaphors that could potentially address these communication tasks, and used qualitative research techniques to winnow this set down to four strong candidates: **STEM Fluency**, **The STEM Ecosystem**, **Constructing STEM Learning**, and **Mapping STEM**. All four Metaphors produced large knowledge gains (**Figure 2**). All Metaphors increased people’s understanding of the distinctive features of out-of-school STEM learning outlined above, and increased understanding of the importance of out-of-school programs. Gains averaged between 7.3 and 12 percentage points across knowledge scales.
The Metaphors were also generally effective in shifting people’s attitudes toward STEM education and, in particular, toward informal STEM. *Fluency* and *Ecosystem* performed best, producing average attitude gains of 4.3 and 4.2 percentage points, respectively. Both Metaphors generated statistically significant increases on scales measuring people’s support for out-of-school STEM programs, the recognition that children can and should learn all four STEM subjects at an early age, support for the idea that *all* children can learn STEM, recognition of the civic benefits of STEM education, and attribution of responsibility for STEM learning to society rather than individuals. *Ecosystem* was also effective in increasing support for measures to reduce disparities in STEM achievement.

While all four Metaphors tested in the experimental survey were generally effective, qualitative research revealed that the *Fluency* and *Ecosystem* Metaphors are particularly effective, and have complementary strengths. Below are specific recommendations about how and when to use these Metaphors to increase public understanding of informal STEM learning.

**Use STEM Fluency to explain the distinctive characteristics of STEM learning in informal environments.**

The *STEM Fluency* Metaphor helps people understand how learning happens in informal environments by comparing informal STEM learning to foreign language immersion. The idea that being “immersed” in out-of-school environments makes students “fluent” in STEM helps people better understand the distinctive strengths of informal learning. The following is an example of this Metaphor.
**STEM Fluency:** Out-of-school learning helps children and youth become fluent in science, technology, engineering, and math — what is called “STEM.” Just as people need to be immersed in real-world situations to learn a language, children need to explore STEM in their lives outside of the classroom to fully understand and become fluent in these subjects. Out-of-school opportunities like afterschool and summer programs immerse children in real-world STEM situations that are essential to deep and meaningful learning. These programs let children and youth learn STEM knowledge and skills by using STEM out in the world, dealing with real-life situations, and trying new things and seeing how they work. When young people are immersed in quality out-of-school learning opportunities, they become fluent in STEM.

Qualitative research found that Fluency is highly effective in relation to a number of the conceptual challenges of communicating about informal STEM learning. The Metaphor generates a strong grasp of the applied, exploratory character of informal STEM learning. The comparison with immersive language learning helps people understand that out-of-school settings offer the opportunity to learn by doing things in real-world contexts, and that such experiences are essential to deep learning. Moreover, people readily understand that, just as language is learned in real-world settings through free exploration rather than rote learning, the same is true of STEM learning in out-of-school programs. The conceptual association between “immersion” and “depth” helps people understand that informal settings give children the freedom and time to deepen their understanding of STEM. Furthermore, the comparison with language learning helps people see the importance and power of learning all four STEM subjects from an early age.

By helping people understand how informal STEM learning works and its essential features, the Fluency Metaphor inoculates against the Informal Learning is Supplementary model and promotes recognition that informal contexts are vital for effective STEM learning. Once people understand what high-quality informal STEM opportunities involve, they quickly see their importance and, in turn, are more supportive of informal STEM programs, policies, and opportunities.

To make full use of the Fluency Metaphor’s explanatory power, communicators should:

- **Emphasize both fluency and immersion.** The Metaphor’s explanatory power stems from the connection between these concepts, so it is important to feature both in messages.

- **Direct attention to specific features of informal STEM.** Because the Metaphor drives thinking in many productive directions, communicators should highlight the aspect of informal STEM with which they are specifically concerned.

**Use STEM Ecosystem to explain the complementarity of and relationship between formal and informal learning.**

The Ecosystem Metaphor is already in wide use by informal STEM advocates and experts. By testing the Metaphor through multi-method research, FrameWorks has validated the Metaphor’s effectiveness while also identifying the uses for which it is particularly well suited and the ways in which it can be best used.
**The STEM Ecosystem:** Out-of-school learning is an essential part of the ecosystem of education for science, technology, engineering, and math — what is called “STEM.” Just as an ecosystem depends on all the plants and animals that make up the system playing their role, STEM education depends on in-school and out-of-school learning playing their roles and being connected. Out-of-school environments like afterschool and summer programs are pollination points within the learning ecosystem — essential locations that children need to grow STEM knowledge and skills. Quality out-of-school STEM programs are part of a thriving learning ecosystem for all young people.

The Ecosystem Metaphor helps people understand that formal and informal environments play complementary roles in a broader system of STEM education. By placing informal environments alongside formal environments as essential parts of the system, the Metaphor leads people to recognize that informal environments are vital components of STEM learning, and thus inoculates against the Informal Learning is Supplementary model. Moreover, the widespread understanding of ecosystems as interconnected networks supports reasoning about the integration of formal and informal learning, and the spatial sense of the Metaphor supports productive thinking about disparities as differences in opportunities for STEM learning between places.

Qualitative analysis of open-ended survey responses indicates that the Ecosystem Metaphor is susceptible to literal interpretation. A small minority of people misinterpret the Metaphor as a call to teach children about ecosystems. To ensure that the Metaphor is properly received and has maximal effectiveness, communicators should:

- **Be explicit about the parts of the ecosystem.** In order to ensure that people have informal settings in mind, it is important to clearly identify the different components of the STEM ecosystem.

- **Use the language of “pollination.”** In the above iteration, we have borrowed language from a similar Metaphor that was previously tested as part of the Core Story of Education Project and recommended for talking about informal STEM learning — Pollination Points, or the idea that learning is like pollination with ideas. Learners need access to a lot of pollination points in order to engage their attention and grow their motivation. The concept of pollination is less susceptible to literal interpretation, and use of this concept should help to prevent misunderstanding.

**Use the Metaphorical language of Activation to cultivate understanding of how informal STEM experiences generate interest in STEM.**

In initial exploratory qualitative testing, FrameWorks tested a Metaphor that compared effective informal learning to the way catalysts activate chemical reactions. Analysis revealed that the language of “activation” was highly sticky, and opened up a set of conceptual associations that supported productive reasoning about informal STEM. However, research showed that the full analogy with chemical reactions consistently dropped out of people’s talk.

In response to these initial findings, FrameWorks tested Activating as a Metaphor kernel — a very brief
message that used language from the Metaphorical domain of experimentation and catalysts, but that did not spell out the chemical-reaction part of the analogy. The following is an example of the Activating Metaphor:

**Activating STEM Learning:** Out-of-school programs activate learning in science, technology, engineering, and math — what is called “STEM.” Out-of-school programs like afterschool and summer programs spark learning by letting children and youth experiment with STEM ideas in real-world situations.

Activating was highly effective in our survey experiment. Remarkably, this short, two-sentence message produced an average increase of 9.2 percentage points on knowledge scales, and 5.1 percentage points on attitude scales. Increases were statistically significant on all scales.

Qualitative research suggests that the Activating Metaphor kernel prompts productive thinking about how out-of-school settings generate interest in STEM by “sparking” or “fueling” learning. This repertoire of concepts enables people to readily recognize that informal learning can excite children and youth and motivate them to pursue STEM further and, in turn, increases their perception of its importance.

In using the Metaphor kernel, communicators should:

- **Weave the language of Activation into messages about informal STEM learning.** Communicators can generate understanding of the power of out-of-school programs to generate interest among
children and youth by weaving several terms from this Metaphorical domain (e.g., “activating,” “sparking,” “inciting,” “experimenting”) into their messages.

- **Be brief.** Unlike the Metaphors recommended above, whose power can be amplified by fleshing out the Metaphorical comparison, Activating is best left as an implicit Metaphor. Fleshing out the Metaphor through an explicit analogy to chemical reactions and catalysts is neither necessary nor effective.

How do informal settings improve STEM learning? Use Explanatory Examples of out-of-school STEM programs to give people a concrete understanding of how informal STEM learning improves outcomes.

Explanatory Examples of out-of-school STEM programs give people a concrete understanding of what happens in informal contexts. The public’s default assumption that out-of-school STEM learning is not essential is grounded in a vague and incomplete understanding of what learning involves in informal settings. Examples of out-of-school STEM programs increase people’s understanding of the distinctive features of informal STEM learning and of its importance, and, in turn, increase support for such programs. In addition, by helping people understand what quality STEM learning involves, the Examples displace unproductive assumptions about STEM education more generally, and shift broader attitudes about how STEM learning works and why it matters.

Examples’ effectiveness is closely tied to what they are examples of, and to how the examples are presented. The Examples that proved effective in empirical research are Examples of *out-of-school programs* that explain how features of the program lead to outcomes. They are *not* examples of individual student success, or brief mentions or lists of programs; extensive research across the social sciences warns against such examples because they individualize and exceptionalize public issues. Below is a sample Explanatory Example of an out-of-school STEM program. It is vital to note that the types of Examples that were demonstrated to be effective are different from the episodic and descriptive examples that the field is currently using.

**Community Garden:** One example of out-of-school opportunities that improve learning in science, technology, engineering, and math, or STEM, is afterschool programs where elementary- and middle-school children learn in community gardens. In these programs, children from all backgrounds learn STEM by growing their own fruits and vegetables. In doing this, children learn environmental science and plant biology, and develop critical-thinking skills. These programs give children the opportunity to work with STEM professionals from local universities and botanic gardens. Working in teams under the supervision of these STEM experts, children develop growing strategies, solving problems and adjusting their approach when things don’t go as expected. These programs help all kids excel at STEM, including children who don’t think of themselves as math and science kids. The fruits and vegetables that the children grow are used in preparing school lunches, so young people can see the real-world benefits of STEM skills and knowledge.
This iteration reflects the necessarily short form used for testing. Building on this, STEM communicators should expand its explanatory power by helping people see how a garden project might teach about photosynthesis, crop yields, or appropriate space for various plants.

Another strong Example was of an afterschool program on computer programming.

**Computer Programming:** One example of out-of-school opportunities that improve learning in science, technology, engineering, and math, or STEM, is afterschool programs where elementary- and middle-school children learn computer programming. In these programs, children from all backgrounds learn STEM by developing and creating their own apps. In doing this, children learn computer programming, use advanced math, and develop problem-solving skills. These programs give children the opportunity to work with STEM professionals — computer scientists from local universities and companies. Working in teams under the supervision of these STEM experts, children design their own apps, solving problems and adjusting their approach when things don’t go as expected. These programs help all kids excel at STEM, including children who don't think of themselves as math and science kids. By the end of the year, children have developed apps that they and their friends can use, so young people can see the real-world benefits of STEM skills and knowledge.

Experimental survey results show the remarkable power of Explanatory Examples to increase knowledge and shift attitudes. The survey tested six Examples of out-of-school STEM programs: **Computer Programming, Doctor Shadowing, Community Garden, Weather Forecasting, Digital Music Production,** and **Robotics** (see Appendix B for these treatments). The highest-performing Examples produced large gains on both knowledge and attitude measures, generating average knowledge gains of over 10 percentage points and average attitude gains of around 5 percentage points (see Figure 4). **Computer Programming** was statistically significant on all scales, and the other top performers — **Community Garden, Doctor Shadowing,** and **Weather Forecasting** — were statistically significant across the large majority of scales (see Figure 4).
These results again speak to the power and importance of explanation as the cornerstone of effective reframing of STEM and informal STEM learning. Giving people a clearer sense of what quality out-of-school STEM programs look like and how they work to improve outcomes not only increases their understanding of how informal learning works but also increases support for informal STEM programs and shifts attitudes toward STEM education more broadly in productive directions.

Even though Examples were generally effective, results from the experiment indicate that some Examples tested are more effective than others. To refine our understanding of what kinds of Examples are most effective and why, FrameWorks conducted further qualitative research and analysis to arrive at finer-grained recommendations about how to use Examples most effectively in framing efforts.

Analysis of responses to open-ended survey questions suggests that the lower performance of Robotics and Digital Music Production is tied to the perception that these programs are not appropriate for all children. Among respondents, 13 percent who received the Robotics Example and 14 percent who received the Digital Music Production Example described these programs as highly specialized, expensive, or advanced — features that make a program appear to be poorly suited to some children or communities and thus too niche to serve as an essential part of STEM education. By contrast, only 1 percent of respondents exposed to the Community Garden Example described the program in these terms. These results indicate that Examples of programs that seem suitable and feasible for all children are more effective than Examples of programs that seem like niche activities for specific groups.
FrameWorks’ research shows that Examples are uniquely capable of achieving certain tasks and have distinctive strengths. First, Examples help people understand, in a more grounded way, how learning happens in informal contexts. Second, by illustrating different routes by which children and youth can become involved in STEM learning, Examples generate understanding of how informal programs engage all children and cultivate STEM learning and future involvement with STEM. Third, Examples broaden people’s perceptions of the benefits of STEM education beyond individual financial success by helping people understand how informal learning fosters broadly applicable skills and generates the STEM literacy necessary for engaged citizenship.

In selecting Examples, communicators should:

- Avoid Examples of programs that do not seem appropriate for all children and communities. *Programs that seem suitable for all types of kids*, and that can be broadly implemented, are most effective.

- Choose Examples of programs with close links to STEM careers when explaining the real-world relevance of informal STEM. Research found, for example, that the close link between the Computer Programming and Doctor Shadowing Examples and specific careers supports productive thinking about how informal opportunities can expose children to STEM careers and prepare them to make STEM contributions of their own. Do not, however, frame exposure to careers in terms of individual achievement or financial success.

- Choose Examples of programs that extend beyond prototypical “nerdy” activities when explaining how informal STEM can get all kids involved in STEM. The Community Garden Example, which locates STEM in a non-prototypical environment, helps people understand how kids who do not think of themselves as math or science kids can become involved and interested in STEM.

To take full advantage of Examples’ explanatory and persuasive power, Examples must be used in the right ways. In using Examples, communicators should emphasize these design features that were built into those that emerged successful:

- **Explain** how programs accomplish specific outcomes. Because people lack a concrete grasp of informal learning, it is important to be specific about how an Example program works and to connect activities in the program to changes in outcomes.

- Feature non-economic benefits. To move people beyond the default recognition of the economic importance of STEM, communicators should mention economic benefits but should always go beyond such benefits to explain how informal learning teaches transferable skills and has civic benefits.
• **Stress inclusiveness.** Emphasize that *all kids* — from all backgrounds and of all “types” (not just “math and science” kids) — can participate in the program. This is important for overcoming the default understanding that STEM is only for certain kids.

• Explain how out-of-school programs *teach math through hands-on activities*. The public thinks of math as a dry subject that must be taught through boring methods. Communicators can use Explanatory Examples to help the public understand that math, like science, can be taught through hands-on, experiential learning.

• **Feature younger children.** Because the public assumes that STEM (especially engineering and technology) involves advanced subjects that are only appropriate for older youth, communicators should highlight programs for elementary and middle-school children. FrameWorks’ research suggests that much of the public’s inability to see STEM as being appropriate for younger children results from their lack of familiarity with what such involvement looks like, how it works, and what the outcomes are. Focusing Explanatory Examples on young age groups gives people a concrete way of seeing how STEM opportunities work for younger children and how early engagement in these subjects benefits children.

FrameWorks’ research points to the power of both Metaphors and Examples to achieve the explanatory work that is paramount in efforts to effectively reframe STEM learning. However, the research shows that these tools accomplish different functions, and are most powerful when deployed in combination. Metaphors are highly effective in opening up space for people to think in new ways about the importance of informal contexts in STEM learning — in helping people see how informal STEM experiences might lead to more effective learning. Examples provide concreteness to this understanding, supplying people with the ability to see what these programs look like and how they lead to better outcomes. In short, Metaphors open up a productive channel for thinking about informal STEM learning, while Examples fill in this channel with specific and memorable information that provides structure to this new way of thinking. Below is an example of how Explanatory Metaphors and Explanatory Examples can be used in combination:

*Community garden programs are important opportunities for children and youth to become fluent in science, technology, engineering, and math — what is called “STEM.” When children grow their own plants and vegetables, they immerse themselves in environmental science and plant biology. And they can see the real-world implications of their learning when they use what they grow to prepare school lunches. Just as mastery of a language requires lots of real-world practice, out-of-school learning opportunities like community garden programs are an important way that all students can become fluent in STEM.*
What threatens STEM learning outcomes? Use Values and Metaphors to communicate about equity in STEM learning.

Disparities in STEM learning along socioeconomic, gender, and racial and ethnic lines are a major concern for advocates and experts, yet talking about these issues can be challenging. The wrong messages can easily trigger unproductive cultural models of group difference and competition over limited resources that push thinking in the wrong directions. FrameWorks focused on exploring which strategies work and which do not, in the interest of developing more effective ways to communicate about this aspect of the STEM agenda.

Use lack of *Fairness Between Places* to explain systemic sources of inequity in STEM learning.

*Fairness Between Places* has, in past research, proven effective in productively orienting people's thinking about issues involving inequalities and disparities. We therefore tested the Value in On-the-Street Interviews, which confirmed the anticipated effectiveness of the Value in structuring systems-level thinking about disparities in STEM learning. Below is an example of how the Value can be applied to talk about STEM learning.

*Lack of Fairness Between Places*: No matter where children live, they should have opportunities to access quality learning environments. This includes making sure all schools have teachers and programs that can teach students science, technology, engineering, and math — or what we call “STEM” — skills. And all communities should have places like museums, afterschool programs, or science centers, where students can practice these skills outside of classrooms. We need to devote more resources to those areas that have low-quality learning opportunities, so that all children — regardless of where they live — have a fair chance to reach their potential and contribute to society.

*Fairness Between Places* is effective in shifting people's attention from individual to systemic causes of disparities in STEM learning. In addition, it generates a sense of collective responsibility for outcomes, creating support for policy-level solutions to address systemic factors that undergird disparities in STEM outcomes.

Use spotty *Charging Stations* to help people understand how systemic factors produce disparities in STEM learning.

The *Charging Stations* Metaphor was designed as part of the Core Story of Education Project to explain how structural differences in opportunities lead to disparities in learning and outcomes. We adapted the Metaphor to talk about STEM opportunities in particular, with a focus on informal settings, and tested the Metaphor in On-the-Street Interviews, which confirmed its effectiveness. The following is an example of the Metaphor.

*Spotty Charging Stations*: STEM learning opportunities are like charging stations that power up kids' learning. Some students are in charging systems with lots of opportunities to charge up STEM learning. Everywhere they go, there are powerful charging stations such as
great libraries, museums, science centers, and afterschool programs. But other students are in charging dead zones — places where there just aren’t many high-quality learning opportunities to plug into. Our current system is patchy — it’s built in a way that provides fewer charging opportunities for some of our nation’s children than for others. This is especially true of STEM learning, which requires multiple opportunities to interact with content. When we have an effective charging system across the country, all students, no matter where they are, will have high-quality opportunities to engage with STEM subjects and charge up their learning.

The Charging Stations Metaphor enables people to connect differences in access to formal and informal institutions to differences in learning prospects and outcomes. The Metaphor suppresses the individualistic assumptions that usually dominate American thinking about differences in educational outcomes (that differences in outcomes are exclusively the product of differences in the drive and determination of individual students), moving people away from focusing on individual teachers and students in favor of focusing on systems-level factors. In addition, the Metaphor deepens people’s appreciation of informal learning programs. People frequently draw on the Metaphor’s electrical language to suggest that informal programs “energize” students and, by generating interest and engagement, promote learning.

How do we address disparities? Use Examples of out-of-school programs to help people understand how quality educational opportunities can address educational inequality, but do not lead with discussions of disparities between specific groups.

As Figure 4 above indicates, effective Explanatory Examples of out-of-school programs increase people’s support for measures to address disparities in STEM achievement. The Examples’ effectiveness on disparities issues stems from their capacity to help people understand how broad-based learning opportunities can get all children and youth involved in quality STEM learning.

Given these results, FrameWorks conducted a second survey experiment exploring the Examples and explicit messages about disparities between specific groups. The experiment compared the Community Garden Example with messages that also included the Example, but that emphasized efforts to include specific groups and coupled the Example with facts about disparities between these groups and other students. The experiment included descriptions of the program that varied by focusing on inclusion of Latinos and African Americans, girls, and children in poverty. The experiment also tested each of the facts on its own.
The experiment found that messages about the Community Garden program that were explicitly focused on how this program addresses disparities actually reduced message effectiveness on all attitude scales, including, most notably, its effectiveness on disparities issues (see Figure 5).

In other words, the Example was more effective when it did not explicitly point to disparities between specific groups.

Why does the disparities frame decrease the effectiveness of Examples? Qualitative research from this project, as well as from previous FrameWorks research on education disparities, suggests that presenting out-of-school programs as targeted toward particular groups triggers unproductive thinking about group difference and resources. In short, explicit messages about differences between specific groups set up a zero-sum mentality, wherein more resources for “that” group means fewer for “my” group. Such a mentality depresses support for public policies generally. In addition, research suggests that targeted programs may be interpreted by the targeted group as patronizing (notably, women responded less favorably than men to the gender-targeted version of Community Garden).

Presenting the facts on their own was also ineffective (see Figure 5). Simply providing people with facts about disparities did not generate increases in people’s support for policies and programs designed to address disparities, nor did it productively shift attitudes on other outcome measures.

It is vital to interpret these findings carefully in order to contextualize what they suggest and do not suggest for communications practice. The results do not suggest that advocates and experts should avoid
all of talk of disparities. Instead, they point to the importance of order, and the fact that disparities
discussions must be carefully framed so as to assure that people are primed to think most productively
about this important issue. *Fairness Between Places* and *Charging Stations* are proven tools that allow
advocates to take on disparities issues in productive ways. While the effects are less pronounced on the
disparities policies than on other policies, *Figure 4* makes clear that using *Examples of out-of-school
programs* is, in fact, another important part of the strategy to establish productive ways of engaging the
public on issues of STEM learning disparities.

Together, the above tools can be used to create an effective narrative that explains why disparities are a
collective problem (*Fairness Between Places*), what causes disparities and what kinds of solutions are
needed (*Charging Stations*), and how learning opportunities can reduce disparities in STEM learning
(*Explanatory Examples*). In using these tools, communicators should:

- **Use the tools in combination.** Narrative theory suggests that when people lack the whole story,
ye fill in narrative components with default, and often unproductive, models. For example,
when *Fairness Between Places* is presented on its own, its effectiveness is sometimes blunted by
lack of concrete understanding of the ways in which systems and contexts shape outcomes.
*Charging Stations* helps to fill in this gap and prevent people from falling back on the
individualistic default cultural models that they are otherwise inclined to draw on.

- **When using Charging Stations, avoid using examples that involve computers.** Qualitative
research revealed that the reference to “charging” in the Metaphor can lead people to narrowly
focus on the role of computers in learning — which activates the unproductive areas of the swamp
related to technology discussed above. To avoid this, communicators should give examples of
charging stations that do not involve explicit reference to computers, such as libraries, science
centers, and museums.

- **When using Examples, emphasize inclusion of children from all backgrounds.** Communicators
should stress that programs are open to children from all backgrounds, in order to help people see
how these programs can, and should, involve all children in quality STEM learning.
Communicators should avoid describing the programs as targeted toward particular groups.

We argue that the tools recommended above to talk about STEM and informal learning — *Values,*
*Explanatory Metaphors,* *Explanatory Examples,* and others — should be integrated into effective stories
rather than used in isolation. This is essential in assuring the optimum effectiveness of these reframing
tools. STEM communicators must always address the question of why STEM matters, explain how STEM
learning works, clarify the problem to address, carefully frame discussions of disparities, and connect the
dots between programs and improved outcomes with *Examples.* In short, STEM communicators should
leverage the recommendations outlined above to create narratives with the power to explain STEM
education and informal STEM learning and to generate public support for the reforms that will improve
STEM learning for all young people.
In answering these questions, the STEM “story” derives important advantages from the Core Story of Education, and brings important assets to that same Core Story. By exploring the “pivot points” between the two narratives, education reform communicators can use the explanatory power of STEM and its uncontested importance to drive home important lessons about skill development, transferable skills, student-centered learning, and the interconnections between formal and informal learning, among other topics. STEM offers not only a new chapter to the Core Story of Education, but also a set of advantages that accrue to education reform from this particular domain of learning.


V. Traps in Public Thinking

In the following section, we lay out aspects of thinking about STEM that trigger models that may be “easy to think,” but trap public thinking in unproductive evaluations and judgments. We focus here specifically on traps that are common in STEM communications, as these tend to represent unexamined hypotheses about effective communications.

The Global Competition Trap. Advocates and policymakers frequently use the Value of Global Competition to frame STEM education, suggesting that we need to prioritize STEM if we want to keep up with the rest of the world. FrameWorks’ research has demonstrated that this is an ineffective strategy. Talking about global competition can trigger unproductive us-versus-them thinking that can attach to differences within the United States. It can cue American exceptionalism and the assumption that American economic dominance is a fait accompli. Alternatively, it can trigger a sense of fatalism about the American inability to remain dominant in the changing global economy. None of these outcomes is productive. Instead, communicators should use an inclusive model of the Collective Prosperity Value enumerated above, avoiding competition and us-versus-them thinking.

The Exception Proves the Rule Trap. Telling individual stories that highlight successes and failures in STEM teaching and learning is a particularly strong tendency in media accounts of STEM and informal STEM programs. These accounts tend to offer vivid examples of extremely talented students engaging in seemingly impossible scientific feats, or creative and engaged teachers who have developed ingenious methods of encouraging student interest in STEM subjects. The social science literature, as well as FrameWorks’ research, demonstrate that these individual-level, episodic framing strategies often have the unintended impact of casting outcomes as the product of individual drive and motivation, creating contextual blindness, and decreasing support for public-level solutions. This strategy is especially dangerous when STEM experts and advocates are trying to tell bigger-picture stories and promote the value of universal STEM education. It is important that STEM communicators not confuse the recommendation to use Examples as a call to use individual-level examples and, instead, focus on the advantages of Explanatory Examples of programs as enumerated in this MessageMemo.

The Dysfunctional Comparison Trap. Making the case for informal learning sites through negative comparison with public schools is another trap that is particularly prominent in media discussions of informal STEM learning. Journalists make the case for out-of-school STEM programs by showing how traditional public schools are “failing” students. In this context, out-of-school programs offer the only (remedial) opportunity for engaging STEM learning opportunities, particularly for students from under-resourced communities. Informal STEM programs are there to “pick up the slack” for an education system in disrepair. In this light, informal STEM programs are represented as not only valuable, but critical for training future STEM workers. However, this strategy is likely to heighten documented public pessimism for education reform. Communicators who employ this strategy run the risk of this skepticism seeping into public thinking about our ability to improve learning in general, and depressing support for all STEM initiatives, both formal and informal.
The Individual Success Trap. Advocates rightfully want to highlight the low numbers of women, African Americans, and Hispanics who are entering STEM careers, and to explain the benefits of educational programs that encourage young women to study STEM. However, FrameWorks’ research shows that communicators are talking about these benefits primarily as a way to increase women’s earning potential — that is, they are emphasizing that the young girls who enter STEM programs will have greater access to high-paying jobs. What is not evident in advocacy materials is how all members of the public benefit from a workforce that includes more women in STEM fields. This tendency, therefore, further contributes to the powerful individualism that characterizes public thinking about the outcomes of STEM learning.

The Missing Values Trap. Values tend to be peripheral in the narratives that advocates employ to explain the more pressing issues facing STEM education in the United States, including a shortage of qualified teachers and the lack of racial and ethnic diversity in STEM fields. The inconsistent use of Values creates a hole in the advocacy narrative around questions of why STEM learning matters. The cognitive sciences show us that this hole will not remain open, but, rather, that people will fill it in by using their dominant understandings. Without a framing strategy that consistently reminds the public of the collective benefits of STEM education — such as the Collective Prosperity Value — the public is likely to fill in advocates’ stories with assumptions that view STEM through the lens of private concern and individual gain.

The Missing Process Trap. Advocates are clear that STEM education in formal and informal contexts has real-world applications. Maybe the most significant tool that communicators can offer is to provide the public with a robust understanding of many of the science-based social problems of the 21st century. Quality STEM education is a critical pillar of 21st-century citizenship. Advocates, however, are not explaining the process by which these skills are developed across education contexts, and the means through which they transfer across life domains. The public, then, understands the broader applications of STEM learning, but is not given the tools to connect the dots to truly understand how those skills are developed in specific contexts. This affects their ability to recognize effective STEM programs and reason about solutions. The explanatory strategy outlined in this Memo is a productive way to avoid this trap.

The Essentializing Trap. In discussions of disparities, STEM advocates tend to focus on one group — such as Latinos, women, or students in rural areas — that is not adequately represented in higher levels of STEM education or STEM careers. This allows the public to fall back on its characterization of STEM as only appropriate for certain groups, and to thus write off notions of STEM education for all students. FrameWorks’ research has consistently shown across issue areas that when people are presented with discussions of place-based, instead of group-based, disparities, they are more likely to support policies designed to address disparities. The Value of Fairness Between Places thus affords particular utility in overcoming this trap.
VI. Conclusion

The research conducted by FrameWorks for the Noyce Foundation helps experts and advocates appreciate the “swampy thinking” — or strong, entrenched patterns in mind — that attaches to discussions of STEM education and informal learning, offering important insights into the relationship between the discourse we need and the discourse we’ve got. At the top of this document, we hypothesized that the discourse around STEM might be stuck because of unproductive cultural models that are “getting in the way” of policies and programs that could improve education. Over the course of this MessageMemo, we have identified these cultural models and demonstrated how they undermine productive thinking. We have presented a set of empirically tested reframes that hold promise for addressing specific gaps between expert and lay understanding. Finally, we explained why many of the traditional ways of addressing public misperceptions turn out to be traps, not trumps.

The research presented here provides a narrative structure that communicators can use to deepen public understanding of informal STEM learning. But it was also designed as a strategic “subplot” that synergistically fits within the larger Core Story of Education, which provides a shared communications foundation for a range of advocates who are working on progressive education reform. This means that STEM advocates can tell a story based on the same narrative foundations as those being put forward by their colleagues focused on student-centered learning, 21st-century skills, broadening assessment, or championing Common Core standards. Telling common stories that navigate the fundamental cultural models that impede public thinking across all of these education sub-issues will help build broad-based support for informal STEM. And, by joining their colleagues across the education reform agenda, STEM advocates can simultaneously amplify the effect of frames, expand the public discussion on education reform, and improve educational outcomes for all children and youth.
About FrameWorks Institute

The FrameWorks Institute is a national nonprofit think tank devoted to framing public issues to bridge the divide between public and expert understandings. Its work is based on Strategic Frame Analysis®, a multi-method, multi-disciplinary approach to empirical research. FrameWorks designs, commissions, publishes, explains, and applies communications research to prepare nonprofit organizations to expand their constituency base, to build public will, and to further public understanding of specific social issues — the environment, government, race, children's issues, and health care, among others. Its work is unique in its breadth — from qualitative, quantitative, and experimental research to applied communications toolkits, eWorkshops, advertising campaigns, FrameChecks®, and Framing Study Circles. See www.frameworksinstitute.org.

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Briefing and Discussion with Hill Staff

*Jacque Chevalier, Senior Education Policy Advisor*
*U.S. House Education and the Workforce Committee*
*(Ranking Minority Member Bobby Scott, D-VA03)*

Jacque Chevalier serves as the lead K-12 education and disability policy advisor for the Democratic staff of the U.S. House of Representatives Committee on Education and the Workforce under the leadership of the Honorable Robert C. “Bobby” Scott (D-VA03). Her portfolio includes the Elementary and Secondary Education Act, disability and civil rights in education, career and technical education, and disability employment policy. In her role with the Committee, Ms. Chevalier served as the lead negotiator for reauthorization of the Workforce Investment Act and, most recently, reauthorization of the Elementary and Secondary Education Act. Prior to joining the committee, Ms. Chevalier served as the senior policy strategist for the National PTA, where she led the association’s federal policy efforts pertaining to early childhood education, reauthorization of the Elementary and Secondary Education Act, and federal budget and appropriations. Previously, she worked for United Way Worldwide, where, as the manager of public policy, she developed and implemented the organization’s first federal policy agenda focusing on early and K12 education. Ms. Chevalier is a Washington, DC native and holds a Bachelor of Arts from the University of Virginia.

*Lindsay Fryer, Senior Education Policy Advisor*
*U.S. Senate Health, Education, Labor and Pensions Committee*
*(Chairman Lamar Alexander, R-TN)*

Lindsay Fryer is a Senior Education Policy Advisor for Chairman Lamar Alexander (R-TN) on the Senate Health, Education, Labor, & Pensions (HELP) Committee. On HELP, she leads the K-12 and education research teams, and handles several other policy matters. Most recently, she served as the principal negotiator for the Chairman on S. 1177, the *Every Student Succeeds Act* (Public Law 114-95). Previously, Ms. Fryer served as a Professional Staff Member on the House Committee on Education & the Workforce. She handled a portfolio for Chairman Kline (R-MN) including topics related to K-12 and higher education, education research, and human services issues such as juvenile justice, runaway and homeless youth, missing and exploited children, and child abuse prevention. Ms. Fryer has a strong education background. She previously worked at the American Institutes for Research on two large contracts. Her work focused on high school dropout prevention, literacy programs, and online math opportunities. She has authored several reports on these topics. Ms. Fryer holds a bachelor's degree from Boston College and a master’s degree from Harvard University in Education Policy and Management.
National Assessment Governing Board
Nominations Committee

March 5, 2016
7:30 – 8:15 am

AGENDA

Closed Session  7:30 – 8:15 am

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>7:30 – 7:35 am</td>
<td>Welcome, Introductions, and Agenda Overview</td>
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<td><em>Tonya Miles, Chair</em></td>
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<tr>
<td>7:35 – 8:15 am</td>
<td><strong>ACTION</strong></td>
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<td></td>
<td>Discussion of Finalists for Terms Beginning on October 1, 2016</td>
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<td><em>Committee Members</em></td>
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The National Assessment Governing Board’s Strategic Planning Initiative

The Governing Board has embarked on a Strategic Planning Initiative to identify opportunities to advance the Governing Board’s statutory mandate as set forth in P.L. 107-279 and ensure that the Governing Board continues to play an important role in informing policymakers, educators, and the public about student achievement in our nation. Information about the Governing Board’s Strategic Planning Initiative can be found at: https://www.nagb.org/content/nagb/assets/documents/what-we-do/quarterly-board-meeting-materials/2015-11/14-strategic-planning-initiative-update.pdf. The Governing Board intends to finalize its Strategic Plan at the August 2016 Board meeting; this plan will be implemented through the year 2020.

External Input for the Governing Board’s Consideration

Previous Governing Board discussions noted the valued of receiving input from external education stakeholders prior to finalizing its drafts Strategic Plan. To provide this external perspective to the Board for this meeting, the Governing Board hired a consultant to conduct conversations with 22 individuals identified by the staff who are respected education leaders, familiar with NAEP, and represent a diverse range of perspectives to generate ideas for the Strategic Plan. The individuals who participated in this effort generously volunteered their time and spoke with the promise of confidentiality regarding their individual comments. The following document is the final summary report produced by the consultant, Jim Kohlmoos of EDGE Consulting Partners (who will be in attendance during the Strategic Planning Initiative plenary session to answer questions).

The Governing Board staff discussed the Governing Board’s priorities and Draft Strategic Plan Activities document with the Policy Task Force hosted jointly with the Council of Chief State School Officers. A summary of the feedback provided by the Policy Task Force is included in these materials.

These materials are provided to inform the Governing Board’s discussion on the scope and direction of the draft Strategic Plan.
The National Assessment Governing Board’s Strategic Planning Initiative

Report on Feedback from External Stakeholders

Submitted by
James Kohlmoos, Partner
Ruth Goltzer, Partner
EDGE Consulting, LLC
February 20, 2016

Report prepared under contract to the National Assessment Governing Board.
Overview
The National Assessment Governing Board (Governing Board) is in the process of developing a Strategic Plan to guide its work on the National Assessment of Educational Progress (NAEP) for the next five years. As a part of that development process, the Board contracted with us at EDGE Consulting, LLC to collect input from a diverse group of education stakeholders and experts representing different parts of the education policy community who are familiar with NAEP and its various uses and components. The Governing Board sets policy for NAEP and the National Center for Education Statistics (NCES) administers the NAEP program. The advice collected from these stakeholders about NAEP did not always account for the distinctions between Governing Board and NCES responsibilities for the NAEP program. Using a set of general “trigger” questions relating to NAEP, we conducted one-on-one telephone conversations with 22 stakeholders over a three week period in January and February of 2016.

In this report of the conversations, we provided a summary of the common themes and noteworthy individual comments that emerged from five sets of questions about different aspects of NAEP. In the conclusion, we summarized the feedback gathered through these conversations to offer ideas for the Board’s consideration.

Participating Stakeholders
- Jack Buckley, former NCES Commissioner, Senior Vice President for Research, The College Board
- Michael Casserly, Executive Director, Council of the Great City Schools
- Matthew Chingos, Senior Fellow, Urban Institute
- Michael Feuer, Dean of the Graduate School of Education and Human Development, George Washington University
- Checker Finn, former Board Chair, Distinguished Senior Fellow and President Emeritus, Thomas B. Fordham Institute
- Kati Haycock, President, The Education Trust
- Freeman Hrabowski, III, President of University of Maryland, Baltimore County; Chair of President’s Advisory Commission on Educational Excellence for African Americans
- Jack Jennings, retired Executive Director, Center for Education Policy
- Richard Laine, Director of Education, National Governors Association
- Dane Linn, Vice President, Business Roundtable
- Sarah Theule Lubienski, Professor of Mathematics Education, University of Illinois at Urbana-Champaign
- Margaret McCloud, Deputy Vice President, National Council of La Raza
- Joe McTighe, Executive Director, Council for American Private Education
- Chris Minnich, Executive Director, Council of Chief State School Officers
- Mark Musick, former Board Chair, President Emeritus, Southern Regional Education Board
- Michael Petrilli, President, Thomas B. Fordham Institute
- Delia Pompa, Senior Fellow, Migrant Policy Institute
- Roberto Rodriguez, Deputy Assistant to the President for Education, White House
- Eric Rodriguez, Vice President, National Council of La Raza
- Andrew Rotherham, Co-Founder and Partner, Bellwether Education Partners
- Greg Toppo, Education Writer, USA Today
- Robert Wise, President, Alliance for Excellent Education
Approach

We employed an exploratory research approach to gather feedback about a predetermined set of basic “trigger” questions about the various components of NAEP and the Governing Board’s preliminary priorities. Best suited for the earlier stages of planning, this approach allowed us to focus on the discovery of ideas and insights as opposed to conducting a formal survey. It is commonly used for further defining issues, identifying and prioritizing areas for potential action and considering alternative courses of action. Our goal was to create an open and informal conversational telephone “atmosphere” for eliciting candid and informed observations and opinions about the key issues thus far identified for the strategic planning process. Specific components of our approach included:

Participants: Pre-selected by the Governing Board staff, the participants reflected a sampling from eight pre-arranged categories of different, yet overlapping perspectives (policy, think tank, research, teacher/parent, non-public education, business, media, and Governing Board alumni). Special considerations were also made to ensure gender and racial/ethnic diversity. The stakeholders voluntarily agreed to the conversations and were made fully aware that, while their participation in the conversations would be made known to the Board, the content of the conversations would be confidential with no comments directly attributable to any one participant.

Discussions: All of the discussions were conducted via the telephone at pre-scheduled times. The conversations lasted on average 40 minutes. We used a number of “trigger” questions initially drafted by the Governing Board staff to facilitate open-ended conversations regarding different aspects of NAEP. It should be noted that we orally shared the Governing Board’s four preliminary priorities with the participants but did not provide any draft materials created by the staff. To further create a candid conversational “atmosphere” over the telephone, we chose to use our own manual notetaking system for documenting responses rather than using an audio recording device during the telephone discussions. Using this conversational approach, we found that stakeholders provided rich descriptive responses to the various prompts.

Analysis: Using an online spreadsheet program, we were able to cross-tabulate our notes from all of the conversations into topical categories. This allowed us to more readily identify common themes that emerged from the comments, as well as unique and noteworthy individual observations and considerations. The summary of the feedback in this report is organized in this fashion.

Summary of Feedback

We asked each stakeholder a standard set of questions covering four core topic areas: greatest value, usefulness, key components, proposed priorities. For each category, we asked more specific sub-questions when appropriate, as well as cross-cutting questions relating to missing features and new ideas.

Greatest Value

We began our conversations with an open-ended question about the greatest value of NAEP in today’s educational landscape. The answers were quite consistent across all stakeholders with some important individual observations.
COMMON THEMES ABOUT VALUE

- **A barometer at its best**: There was near unanimous agreement among the stakeholders that NAEP’s greatest value to the education landscape is in the way it provides a national snapshot of performance at a particular time and tracks national trends in achievement over time. This core value was expressed in a variety of different ways using nouns such as “barometer”, “benchmark”, “yardstick”, “rubric”, “marker of progress”, “indicator”, “validator”, and “gold standard”. Each of these connotes a different nuanced meaning but it was clear that the core measurement factor was viewed as highly valuable.

- **Highly positive adjectives**: Almost all of the stakeholders used very positive adjectives to further describe the value of NAEP. The comments fell into two different but interrelated groups. The first group of descriptors related to NAEP’s independence (e.g., “independent”, “free of political distortion” “respected”, “third party”), while the second grouping was focused on the methodological integrity and stability (e.g., “reliable”, “unimpeachable”, “consistent”, “ongoing”, “realistic”, “trustworthy”, “Rock of Gibraltar”). One stakeholder went so far as to call NAEP a “national treasure” emphasizing that the trove of data and information is of jewel-like value to the country.

- **A catalyst for policy**: Most stakeholders commented on the value of NAEP as a catalyst for policymaking by raising awareness about strengths and weaknesses in performance. There was general acknowledgement that the Governing Board does not provide solutions but rather spotlights problems and challenges requiring further action. In this way, NAEP was generally viewed as an attention-focusing tool for policymaking without taking sides. One stakeholder described NAEP as a “clarion call”.

NOTEWORTHY INDIVIDUAL OBSERVATIONS ABOUT VALUE

- **Elevating education research**: NAEP has elevated the credibility of education research as a field. NAEP results over the past 40 years have helped the education research community establish a role in the policymaking arena even though evidence is still not used frequently or well by policymakers.

- **Comparisons of rigor**: The value of NAEP has increased as the challenges to the Common Core State Standards have intensified and increased. The stakeholder based the comments on a perceived fundamental need in education policymaking for state comparisons about the relative rigor of various states’ standards, as well as actual results about student performance within the states.

- **De facto national standards**: Two stakeholders stated that NAEP is the penultimate measure of student achievement and suggested that NAEP serves as a de facto set of national standards and therein lays its greatest value.

- **International comparisons**: A number of stakeholders believe that one of NAEP’s greatest values is the data that can eventually be used to make international comparisons about student performance. One stakeholder in particular suggested embedding a number of questions from Programme for International Student Assessment (PISA) and Trends in International Mathematics and Science Study (TIMSS) in NAEP assessments.
• **Causality or not:** Several stakeholders mentioned that many policymakers are tempted to use NAEP to make causal claims about a particular policy or intervention even though NAEP program experts advise against doing so. These stakeholders also observed that policymakers who use NAEP properly to comment on correlations and general tendencies while avoiding issues of causality tend to value NAEP very highly.

• **Questions not answers:** Several stakeholders emphasized that NAEP is and should remain fundamentally a stimulus for asking the right questions rather than answering them. As a credible source of data about performance, NAEP serves as the critical reference point for further research and development work in identifying root causes and generating potential solutions.

**Usefulness**

We asked the stakeholders to comment on the relative usefulness of NAEP to six different audience groups (i.e. policymakers, researchers, administrators, teachers, parents, students). In order to allow for a broad range of answers, we purposely used general descriptions of each audience. We also encouraged the stakeholders to share their perceptions of how each audience group currently uses NAEP and how it should be used in the future.

**COMMON THEMES ABOUT USEFULNESS**

• **The big challenge about utilization:** Awareness and understanding of what NAEP is and what it offers goes hand in hand with its utility among the various potential audiences. Most stakeholders commented that there is confusion about NAEP and how it compares with and relates to PISA, TIMSS and state assessments. Some stakeholders admitted that even they lacked a full understanding about the differences, including the differences between what one stakeholder referred to as “old NAEP and new NAEP”, presumably relating to the Long-Term Trend and Main NAEP assessments.

• **Very useful to some federal and state policymakers:** There was near unanimous belief among the stakeholders that NAEP is most useful to federal and state policymakers by informing their decision making about education. But many stakeholders also indicated that policymakers tend to use NAEP in ways that best suit their individual interests at a particular point in time during the policymaking process. While these interests vary widely by circumstance and timing, they fall into three general categories: 1) to bring attention to a particular educational problem or issue; 2) to help formulate a policy or one’s own position within a policy area; 3) to justify or legitimize already-established beliefs. Stakeholders also cautioned that many policymakers tend to do superficial, less-nuanced analyses of NAEP data which can lead to misinterpretations and misuse particularly in terms of causation. Many stakeholders mentioned that, while the Governing Board cannot control how others use the NAEP data within the policy arena, the Governing Board should continue to provide and improve upon user guidelines and tools for what NAEP can and cannot tell us. Focusing additional attention on helping policymakers make meaning of NAEP results was urged by most stakeholders.

• **Highly useful to certain types of researchers:** Stakeholders also indicated that, similar to policymakers, NAEP can and should be highly useful to researchers,
particular those who are conducting descriptive research, identifying problem areas for additional research or using the contextual data to draw correlational relationships. Several stakeholders noted the significant differences between researchers involved in advocacy and those engaged in knowledge-building and problem solving. The latter group tends to clearly acknowledge the limitations of what NAEP can tell us in terms of causality and variation. On a somewhat contrary point, several stakeholders commented that, while NAEP is and should be highly useful to researchers, it is still underutilized by researchers for a variety reasons, including insufficient training in using and analyzing NAEP data.

- **Very mixed views about administrators’ use:** According to most stakeholders, the majority of local administrators do not find NAEP data useful for improvement or decision-making purposes primarily because of the lack of data specific to their particular systems. When NAEP data are used, it is usually for the purpose of setting a general national or state context for understanding more specific issues related to a school district. The exceptions to this are those administrators from Trial Urban District Assessment (TUDA) districts. Most stakeholders viewed TUDA as an exemplary initiative for how NAEP data can be translated into strategies for instructional improvement. But, when pressed for specifics, the stakeholders tended not to be fully aware of specific examples for how this is done by the TUDA districts beyond recognizing general patterns in broad areas. Several stakeholders were concerned that both state and TUDA data are used to make “horse race” judgements about states or districts without a full understanding of contextual factors.

- **Not so relevant for most teachers, students, parents:** The vast majority of stakeholders believed that NAEP is minimally useful to teachers, students and parents because the data do not give them meaningful information about individual student performance. While national, state and TUDA results could provide some useful contextual information about systemic issues affecting individual performance, most stakeholders felt this was not commonly done by these audiences. One stakeholder mentioned that in a meeting with state Teachers of the Year most were not aware of NAEP findings. Several stakeholders did mention, however, that teachers and parents, as well as students who are involved in some form of advocacy, are potential big users of NAEP. Three stakeholders who are deeply involved in advocacy felt that NAEP data can and should be used to stimulate a sense of urgency and scale among parents and teachers for taking action and engaging in advocacy activities. With more simplified, user-friendly access to data, advocacy-oriented students, parents and teachers could be significant users of NAEP.

**NOTEWORTHY INDIVIDUAL OBSERVATIONS ABOUT USEFULNESS**

- **Not quite causality:** One research-oriented policy-focused stakeholder wrestled with the natural instinct of policymakers to use NAEP to make causal claims. The individual suggested that it is legitimate for policymakers to “reach some broad inferences about how we are doing and why and look at trends with confidence in the data to understand variation...” but expressed deep concern about those policymakers who inappropriately draw causal inferences about their favorite or least favorite policies.

- **Common Core issues:** Several stakeholders raised concerns about the perceptions of policymakers and the general public about the recently released 2015 NAEP results in reading and mathematics for grades four and eight, and how these results
might be related to or affected by the move to the Common Core State Standards. These concerns were rooted in questions about alignment and whether or not this is the appropriate time for NAEP to be adjusted to reflect changes in state standards. One of the stakeholders mentioned that the controversies surrounding the Common Core have actually elevated NAEP’s use as a credible way to compare the rigor of state standards and state proficiency levels.

- **Evidence-free zones**: A stakeholder who is involved in policy and research observed that policymaking at the federal and state levels is equivalent to an evidence-free zone where empirical evidence is minimally used to formulate policy. But this person was hopeful that NAEP could be used to trigger higher levels of interest among policymakers in the use of evidence and evidence-informed policymaking.

- **Access to test items**: One stakeholder strongly advocated for providing teachers and students (and perhaps parents) with access to a sample of test items. This stakeholder did not know that released NAEP test items are on the NAEP website, and suggested that test item access would promote greater use of NAEP by not only contributing to improvements in instructional practice as a formative assessment tool but also stimulating greater public interest in and support of NAEP.

**Key Components**

*We asked the stakeholders to comment freely about seven key aspects of the NAEP program (national, state, TUDA, subjects, grade levels, context, achievement gaps) and what should be preserved, changed or discarded. Here is what they had to say:*

**COMMON THEMES ABOUT KEY COMPONENTS**

- **National data**: There was unanimous agreement among stakeholders that the concept of the Nation’s Report Card is at the core of NAEP's value and utility both for its snapshot of achievement levels and its measurement of progress over time. But many stakeholders expressed some concerns about this national picture including: confusion in the field between “old and new” NAEP; NAEP’s relative value and meaning compared to TIMSS and PISA; its relevance to local and state policymaking; and, media's tendency to oversimplify findings in creating a narrative about the overall quality of US education. Most stakeholders suggested that many of these concerns could be mitigated by improved communications and public engagement strategies rather than through substantive changes to the assessments themselves.

- **State data**: Most stakeholders rated the importance of the state data equal to or slightly less than the national data. There were some clear concerns about how state data prompted a “race horse” interpretation of the data without taking into account critical contextual factors. But, stakeholders were generally pleased by the multiple purposes of these data including: the value of having comparisons across states for descriptive analysis; a means to compare state-administered assessment scores; a benchmark for state standards; a means of promoting transparency about the relative rigor of state standards and proficiency levels; a basis for understanding variance among states; and, a national reminder of the de-centralization, fragmentation and diversity within the American education system.
• **TUDA:** The stakeholders universally viewed TUDA as an exemplar for using NAEP data to drive improvement in instructional programs, to provide meaningful and transparent information to the public, and to advance the use of powerful empirical evidence for improvement. Many expressed appreciation for the leadership (and courage) of local administrators and the Council of the Great City Schools for subjecting themselves voluntarily to this type of results-oriented scrutiny.

Several stakeholders speculated that TUDA will become even more valuable as state participation in Partnership for Assessment of Readiness for College and Career (PARCC) and Smarter Balanced (SBAC) assessments wanes. But one somewhat skeptical stakeholder questioned whether TUDA has led to any significant insights or major changes in these large systems over the past 15 years. Most every stakeholder recommended expansion of TUDA to more locations. Two stakeholders suggested that the Governing Board consider piloting an adaptation of TUDA for rural districts around the country.

• **Grade levels assessed:** There was general agreement that the 4th and 8th grade assessments were appropriate and useful and should be maintained. Several stakeholders offered some “light” considerations for several alternatives including moving to age-defined groupings, similar to PISA, and switching from fourth grade to third grade assessments.

Many stakeholders also shared the belief that 12th grade data were problematic --- less useful, reliable or credible. Much of the concern suggested a lack of awareness among stakeholders of the NAEP research concluding that 12th grade NAEP results are not adversely affected by student motivation issues, as some posited, and can serve as an indicator for college readiness. The stakeholders floated a wide range of suggestions for how best to improve the usefulness of NAEP at the secondary level including: eliminate the assessment altogether; substitute NAEP with ACT and SAT to address what was perceived as a misalignment issue with Common Core State Standards; shift to 11th grade assessments to deal with perceived motivational problems in the 12th grade; or move to post-12th grade measures to better measure college/career readiness. We note the disconnect between the research and perceptions regarding the utility of grade 12 NAEP for the Governing Board’s examination.

• **Breadth of subjects assessed:** Most stakeholders perceive NAEP as a standard bearer for what is important in American education. Thus, the subjects to be assessed, as well as the frequency of the assessments, send a message to policymakers about priorities. Stakeholders all agreed that the core subjects of math and reading are an essential part of NAEP and should be maintained at least at their current level of frequency. This is directly linked to the stakeholders’ overall agreement that longitudinal trend data holds NAEP’s greatest value. It also is connected to the perceived predictive power of math and reading for achievement in other subjects. A number of the stakeholders resonated with this point.

There was less agreement among stakeholders about the frequency of the assessments of other subjects. Science was most frequently mentioned as a viable candidate for expansion in line with the rollout of the Next Generation Science Standards and the growing acceptance of the role of Science Technology
Engineering and Mathematics (STEM) education in workforce development. Two stakeholders also mentioned the social studies assessments, especially civics, as possibilities for more frequency but with somewhat less enthusiasm for the potential political fights. In general, most stakeholders did not favor expanding science or other subjects at the expense of the core subjects of reading and mathematics.

- **Contextual and achievement gap data:** Most stakeholders agreed that contextual data and data about achievement gaps were extremely important for cross tabulations, correlations and providing baseline insights into variations in performance. But many stakeholders expressed concerns that the data are underutilized and not well understood. A number of serious challenges were identified by stakeholders including: the complexity and nuance of correlations between scores and contextual data, the frequent misuse in drawing causal inferences, the lack of reliability in self-reporting about demographic information, inconsistent definitions across states about certain subgroups (e.g., English language learner (ELL) and special education), the need for what one advocacy-oriented stakeholder called the “oversampling” of some subgroups, and lack of longitudinal information. There was general agreement that developing more user-friendly tools for collecting, mining and analyzing these data should be a priority for the Governing Board moving forward.

**NOTEWORTHY INDIVIDUAL OBSERVATIONS ABOUT KEY COMPONENTS**

- **Measuring hard-to-measure competencies:** Several stakeholders advised that because NAEP is organized around subjects and grade levels, it does not adequately capture the use of interdisciplinary knowledge or deeper learning/21st Century competencies. These stakeholders did not have specific recommendations for changing NAEP but did express the general concern that NAEP needs to adjust to the changes in what students need to know and be able to do in order to succeed in the 21st Century marketplace. Taking a cue from the Gordon Commission on the Future of Assessment in Education, one of the stakeholders surmised that NAEP’s future relevance will depend upon how well it adapts to changing conditions, learning needs and new technologies.

- **Getting ready for college and career readiness:** Related to the hard-to-measure competencies, several stakeholders commented that NAEP is not an adequate barometer for assessing college and career readiness due to misalignment with Common Core State Standards. Given the perceived problems with the 12th grade assessments, these stakeholders suggested that a special effort should be undertaken to overhaul this whole domain.

- **Understanding variation:** One stakeholder who was particularly outspoken against the misuse of NAEP data for making causal claims was nonetheless sanguine about how NAEP data can be used for better understanding variations in state performance over time. This person noted that most of the changes in state scores are frequently misinterpreted by the media by focusing on the incremental changes from the previous results rather than the trend over time. It is sustained change of performance over many years that is most important for making general assertions about possible systemic strengths and weaknesses that contribute to performance.
• **Promoting NAEP-based research:** One stakeholder suggested an idea for promoting research that uses and applies NAEP data. The individual suggested that the Governing Board create panels of scholars to identify and review research that uses NAEP data. This would not only provide case studies for professional development on how researchers can and should use NAEP but also provide an honest assessment of how NAEP is actually used. The stakeholder suggested that the Governing Board needs to take greater advantage of the expertise in the research community to help promote utilization. Another stakeholder suggested reestablishing a NAEP secondary analysis grants program for researchers to do deep-dive analyses of different data sets and create a rich set of recommendations for future action.

• **Speed:** A number of advocacy-oriented stakeholders stressed the importance of accelerating the speed by which NAEP data are released. Given the fast-paced changes in the education landscape, the two-year lag time on NAEP restricted use data is too slow for taking meaningful action.

• **Linking available administrative data:** One stakeholder made a strong case for expanding the richness of NAEP by linking NAEP data to existing administrative databases. This person surmised that, if technical and privacy issues could be adequately addressed, administrative data would provide deeper insights into the many contextual variables that are currently done by what the stakeholder perceived to be unreliable self-reporting surveys.

• **Definitions of proficiency:** In line with the comments about the Common Core, college and career readiness, and 21st Century competencies, one stakeholder urged that the Governing Board help redefine what proficiency means as it relates to what was termed “workforce development”. The stakeholder was specifically concerned about linking the education pipeline to economic opportunity and saw a role for the Governing Board in building that link through more research on what proficiency means in terms of performance.

Priorities

*We asked the stakeholders to provide feedback about each of the four preliminary priorities that the Governing Board has recently developed for the next five years. The stakeholders commented on the relative importance and value of each priority and provided additional feedback.*

**COMMON THEMES ABOUT PRIORITIES**

• **A range of opinions about messaging:** There was widespread agreement among stakeholders that building a deeper understanding of and appreciation for NAEP and its various components is essential not only for expanding its use with more audiences but also for preserving the reputation and credibility of its brand. But stakeholders were split into two groups about the specific focus on messaging strategies. Some believed that messaging as a public relations tool deserves much attention in this dynamic political environment and could clear up the confusion over the differences in various assessments, like old and new NAEP, TIMSS, PISA and state assessments. Others felt the most serious needs run far deeper than messaging strategies and should be focused...
on useable tools for facilitating utilization, interpreting results, and understanding scale scores. A number of stakeholders also raised questions about the need for communications strategies to parents, students and teachers when NAEP does not provide them with useable individualized information. Building targeted communications strategies for specific high priority audience groups, such as federal and state policymakers and the trade media, was advocated by several stakeholders.

- **Efficiency and cost effectiveness as a special focus?** Most stakeholders questioned why a seemingly inward-facing management issue would be a priority for the Governing Board’s special attention. They acknowledged that the Governing Board, like any other governmental agency, constantly needs to explore new and better ways to efficiently and effectively use limited resources, particularly in this current political environment. It is important to send Congress a strong message that this effort is indeed a high priority concern. But, on the other hand, many stakeholders suggested that this should be an ongoing effort to be embedded into the management structure and performance systems of the NAEP program. Several stakeholders suggested that the Governing Board could convert this priority into a cross-cutting theme in the strategic plan and identify one or more other problem areas for high priority attention over the next five years.

- **Split opinions about innovation:** Most stakeholders agreed that innovation and research and development are the lifeblood of most any high performance government agency and should be a high priority focus for the Governing Board in the next five years. Some indicated that one of the reasons for the Governing Board’s stellar reputation has been its on-going quest to improve and anticipate the changing dynamics in teaching and learning in the education marketplace. Several stakeholders echoed the Gordon Commission on the Future of Assessment in Education’s suggestion to adjust assessments to changing times. At the same time, most stakeholders voiced serious cautions about tinkering with one of NAEP’s greatest values in tracking national and state trends over time. Some stakeholders suggested that NAEP’s first priority is to “stick to its knitting” (an adage used independently by several stakeholders) and innovate very judiciously. The stakeholders held strong differences of opinion about the role and scope of innovation in the NAEP program.

- **Multiple benefits of external partnerships:** Citing TUDA as an exemplar, most stakeholders agreed with the high priority attention that the Governing Board should give to building external partnerships. Several stakeholders surmised that external partnerships could help address some of the communications challenges that the Governing Board has in messaging and reaching certain audiences. Thus, many felt that building external partnerships should be merged with the messaging priority and create some synergy for improving public awareness, generating additional public support for NAEP and encouraging more widespread use among its primary audiences. A blended approach to messaging and partnerships was strongly favored by stakeholders from advocacy organizations who represent underserved populations. These stakeholders were particularly concerned about the need for special accommodations and more consistent definitions of subgroups relating to ELL and special education students. A number of stakeholders who gave high praise to the TUDA initiative similarly suggested that the design of external partnerships should run deeper than just a communications outlet a few days a year and should focus on ongoing substantive analyses and application for advocacy, policy development and improvement purposes.
NOTEWORTHY INDIVIDUAL SUGGESTIONS ABOUT PRIORITIES

- **Addressing anti-testing sentiments:** Several stakeholders were deeply concerned about the potential for NAEP to be swept into the campaigns against standardized testing, the Common Core or even the Administration’s own efforts to reduce over-testing. The anti-testing sentiment is palpable in the field and could negatively affect the participation of student test takers, diminish NAEP’s public reputation and erode Congressional support. The messaging and partnership priorities will need to focus considerable attention on this serious public relations challenge.

- **Fixing college/career readiness/12 grade:** Several stakeholders advocated for high priority strategic attention by the Governing Board on fixing the aforementioned perceived problems with the 12th grade assessment and the need for better ways to measure college and career readiness. One stakeholder suggested that civic readiness be included. Another stakeholder suggested that the Governing Board might consider using its innovation priority to address this issue before taking on loftier innovative ideas and consider new frameworks for measuring these constructs.

- **Elevating utilization:** While all four of the proposed priorities could contribute to the expanded use of NAEP among different audiences, a number of stakeholders suggested that utilization be explicitly elevated to the top tier of priorities. Recognizing there is a limit to the Governing Board’s role in facilitating use, third parties, such as think tanks, research centers and advocacy organizations which are closer to the field than the Governing Board could be deployed and/or commissioned to provide the kind of analysis that is useful to their constituencies. In this regard, providing more user friendly analytics is essential to expanded and effective use.

- **Keeping up with changing times:** Several stakeholders were worried about NAEP’s continuing relevance and the perception that assessments in general are not keeping up with higher levels of learning now demanded in the workplace. The stakeholders warned not to let NAEP become the lowest common denominator for learning. By making measurement innovation a high priority, the Governing Board could provide more assertive leadership in sustaining NAEP as an essential benchmark, which will be needed all the more by states during the implementation of Every Student Succeeds Act (ESSA). As the Common Core brand continues to face serious opposition, ESSA will stimulate greater demand for NAEP and the Governing Board should be prepared to address it.
**Conclusion:**

**Considerations for the Governing Board**

*During the course of the interviews, we heard many implicit and explicit pieces of advice for the Governing Board’s role and the NAEP program moving forward. After reviewing the conversations in total, we offer the following curated ideas for the Governing Board’s consideration. Please note that this list of considerations was not reviewed or approved by the participating stakeholders.*

**Developing a new potential role for the Governing Board:** We heard a wide spectrum of opinions from stakeholders about the Governing Board’s future role in presenting findings and promoting use. Some urged the Governing Board to play more than a referee’s role and become a more active participant in the analysis and application of findings. Others advocated just as urgently that the Governing Board maintain a transcendent position as a provider of data only. But, rather than pick sides, we suggest that the Governing Board could find a middle ground. By focusing significant attention on the external partnership priority, the Governing Board could build strong collaborative relationships with a large number of responsible intermediaries who subscribe to a set of guiding principles about appropriate uses and effective analysis. The Governing Board could thus put into place an expanded network of external partners who could serve as the translators and interpreters for target audiences. As the hub of this network of partners, the Governing Board could assume a brokering role for sharing NAEP-informed knowledge and facilitate collaborations among the partners and their respective constituencies.

**Bridging the gap between supply and demand:** NAEP provides data that require nuanced and complex analyses in order to be appropriately and effectively used for a variety of purposes among a diversity of audiences. Most of those audiences, particularly policymakers, seek what NAEP cannot give them on first blush: simple, understandable and useable answers to big complex questions. As the Governing Board has learned over many years, matching supply with demand in this case is immensely challenging. As suggested above, external partners that are equipped with effective tools of analysis and communication could provide the needed link between supply and demand in an emerging evidence-based marketplace in education.

**Striking a balance for innovation:** The above-mentioned feedback about the Governing Board’s innovation priority reveals the inherent tension that many forward-thinking organizations encounter between sustaining and scaling current successes and developing and testing future-oriented innovations. This tension does not suggest an either/or solution. Our sense is that, in the case of the Governing Board, this tension between innovations and “sticking to the knitting” should be considered an on-going management issue that is regularly revisited by the Board to ensure proper situational balance and operational adjustments as needed.

**Focusing on “low hanging fruit”:** As the Board ponders its strategic directions and priorities for the next five years, it will be critical to also address what might be construed as smaller tactical and technical issues related to NAEP collections and dissemination. During our conversations with stakeholders, we picked up an array of specific problems that may need to be addressed, such as recruitment challenges for private schools, inconsistent guidelines and definitions for ELL and special education populations, the slow pace of releases of restricted use data, difficult-to-navigate features of some websites, and the lack of awareness regarding released NAEP questions. A new priority NAEP may want to consider is how best to rapidly and systematically fix “low hanging fruit” problems that, if left unattended, could cause disruptions later.
Combining messaging with partnerships to facilitate engagement: Numerous stakeholders suggested blending the Governing Board’s priorities for messaging and external partnerships. Rather than pushing out information through a traditional one-way dissemination process, knowledge transfer (and eventually utilization) demands two-way interactions between intended users and knowledge producers. The Governing Board itself would be hard pressed to directly manage such two-way engagement activities. However, through the blend of effective messaging strategies and strong partnership arrangements the Governing Board could be positioned to help facilitate a dynamic engagement process. This process could not only better inform intended audiences of relevant findings but also inform the Governing Board of user needs, interests and capabilities.

Sustaining an evidence-based culture for improvement: During our many conversations, we frequently heard high praise for the dedication and wisdom of the Board members and the staff. This may be partly due to the unique structure and governance system established by Congress for the Governing Board. But we also believe it is a credit to the culture of evidence and improvement that pervades the agency. These values inspired the Governing Board to seek feedback from stakeholders to inform its development and implementation of the Strategic Plan over the next half decade. In this regard, it is also important not to underestimate the vital role that skilled and knowledgeable leaders and managers play in managing this highly valued and challenging national treasure.
At its February 9, 2016 meeting, NAGB-CCSSO Policy Task Force members engaged in a discussion on the Governing Board’s Strategic Planning Initiative. The Task Force received an overview of the initiative and the Board’s draft Strategic Plan Activities document to inform their discussion. Task Force members were asked to reflect on what efforts the Governing Board could take on to enhance the use of NAEP at the state level.

The comments provided by the Policy Task Force were consistent with the recommendations presented to the Governing Board at its November 2015 Board meeting by the Task Force’s Vice Chair, Shelley Loving-Ryder. The Task Force was generally supportive of the Governing Board’s vision, and their discussion points included the following.

Considering current and prospective Board activities, the Task Force expressed:

- Support for the suggestion at the November 2015 Governing Board meeting to convene NAEP State Coordinators to discuss how states have used NAEP data for initiatives.
- Support for maintaining the Long-Term Trend NAEP assessment to provide the public with the long-view of educational progress and decline for the nation, and support for NAEP trend results generally.
- Support for maintaining periodic assessment of a broad range of subjects beyond reading and mathematics, given that NAEP is the only nationally representative measure in these subject areas.
- Acknowledgement that NAEP assessments with state-by-state comparisons are more useful for state-level initiatives.
- Caution regarding expanding communications to parents and teachers because such communications may stretch beyond the primary purpose of NAEP, e.g., resulting in the possible misinterpretation that teachers should be teaching to the NAEP assessment.

Considering possible new activities, the Task Force suggested that the Governing Board:

- Expand efforts to communicate what NAEP results mean, e.g., having a gallery of infographics and informational videos on how NAEP can be helpful.
- Produce infographics presenting alignment information on how NAEP relates to other assessments.
- Provide a high school measure that is useful for states, e.g., a NAEP benchmark aligned to college and career readiness or an assessment administered before grade 12.
- Create more NAEP materials that states could use in their own communications to emphasize the importance of NAEP as an external reference and to explain why NAEP and state assessments may differ in what they measure.
- Link international assessments with NAEP to assure the continued relevance of the NAEP program and to provide states with additional useful benchmarks.

The discussion session concluded with Policy Task Force members requesting an update on NCES’s Future of NAEP initiative at an upcoming Task Force meeting.
National Assessment Governing Board
Strategic Plan Activities – DRAFT

OVERVIEW:
The National Assessment Governing Board unanimously approved the Strategic Planning Framework document at its August 2015 meeting. In the Framework, the Governing Board identified the following overarching goals, representing the values to be upheld throughout the development and implementation of its Strategic Plan:

- Keep NAEP a Trusted Brand;
- Be a Good Steward of NAEP’s Assets;
- Assess a Broad Range of Subjects;
- Continue Innovating for NAEP;
- Improve Collaboration with NCES;
- Be a Voice in the National Conversation Surrounding Education and Assessment; and
- Engage Key Constituencies Especially Parents, Educators, and Policy Makers.

The Framework included the following four priorities to guide the Board’s development of a Strategic Plan:

1. Develop Messaging Strategies to Improve Understanding of NAEP within the Context of High-Quality Assessments Generally;
2. Increase Efficiencies to Effectively Use NAEP Funds;
3. Innovate Assessment Design to Keep NAEP on the Forefront of Measuring Student Achievement; and
4. Strengthen External Partnerships to Promote and Support the Resources NAEP Offers.

To accomplish these priorities, the Board discussed the value of identifying a select few activities to be integrated into the Board’s work. In the drafting these activities, the Governing Board will take into account NCES’ Future of NAEP Initiative and the distinct responsibilities of the Governing Board as an independent policy-setting body and of NCES as a statistical agency. At its November 2015 meeting, the Board will use this draft document as the starting point for considering what new activities the Governing Board should initiate or current activities it should expand. Details such as timelines for activities and the specific metrics to evaluate success will emerge as the details supporting each possible activity are clarified. The process of defining and refining the Strategic Plan will occur over the next year, with the goal of finalizing a Strategic Plan document at the August 2016 Board meeting.

Discussion Questions

- Are these the right activities for the Board to be focused on for the next 3-5 years?
- Who do you consider to be the primary audiences for these activities; which target audiences should the Board prioritize?
- Do these priorities, strategies, and activities provide sufficient guidelines to decide whether or not to embark on additional projects that may be proposed during the Strategic Plan’s implementation phase?
National Assessment Governing Board
Strategic Plan Activities – DRAFT

Priority #1: Develop Messaging Strategies to Improve Understanding of NAEP within the Context of High-Quality Assessments Generally

**Strategy A – Advance New Reporting Strategies**

Emphasize continuous (rather than episodic) reporting strategies that focus on high expectations for students, highlight where progress is being made, and utilize social media to encourage greater use of NAEP data by providing target audiences with interesting, informative, and understandable information on an ongoing basis.

<table>
<thead>
<tr>
<th>Actions to Accomplish</th>
<th>Target Audiences</th>
<th>Metrics</th>
<th>Timeline</th>
<th>Implemented by</th>
<th>NAGB Committee</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.</td>
<td>Policymakers</td>
<td>Materials created</td>
<td>TBD</td>
<td>NAGB staff &amp; DCG contract</td>
<td>R&amp;D</td>
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<tr>
<td></td>
<td>Educators</td>
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<td>Parents &amp; Students</td>
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<td></td>
<td>i. Create infographics to promote greater awareness and use of NAEP results beyond what is traditionally included in initial result releases (including spotlighting contextual variables and student subgroup performance.)</td>
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<td></td>
<td>ii. Develop and implement a communications campaign that promotes the use of NAEP information to strategic external partners (see Strategic Plan priority #4.A.iii), including greater focus on social media.</td>
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<td></td>
<td>iii. Host a series of seminar/webinar events to highlight secondary uses of NAEP data that inform research/policy/practice following Report Card releases.</td>
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<td></td>
<td>Policymakers</td>
<td>Communications Plan metrics</td>
<td>TBD</td>
<td>NAGB staff &amp; DCG contract</td>
<td>R&amp;D</td>
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<td></td>
<td>Researchers</td>
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<td>Educators</td>
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<tr>
<td></td>
<td>Policymakers</td>
<td>Seminars/webinars hosted</td>
<td>TBD</td>
<td>NAGB staff &amp; contract TBD</td>
<td>R&amp;D</td>
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<tr>
<td></td>
<td>Researchers</td>
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November 2015 DRAFT
Priority #1: Develop Messaging Strategies to Improve Understanding of NAEP within the Context of High-Quality Assessments Generally

### Strategy B – Increase Understanding of Appropriate Uses of NAEP Information

Develop and promote communications materials that increase the understanding of key stakeholders regarding the purpose and appropriate uses of NAEP to reduce inappropriate uses of NAEP and spotlight notable uses of the information.

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<th>Actions to Accomplish</th>
<th>Target Audiences</th>
<th>Metrics</th>
<th>Timeline</th>
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<th>NAGB Committee</th>
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<tbody>
<tr>
<td>i. Synthesize secondary uses of NAEP data to identify the most common uses and evaluate the extent to which these uses are appropriate or desirable to inform content needs for target audiences.</td>
<td>Policymakers Educators Parents &amp; Students Media Researchers</td>
<td>Analysis completed</td>
<td>TBD</td>
<td>NAGB staff &amp; Focused Reporting contract COSDAM</td>
<td>R&amp;D COSDAM</td>
</tr>
<tr>
<td>ii. Develop communications materials that explain what NAEP is and address common misuses/misconceptions. Tailor materials and messages for each target audience. <em>(To be distributed via communications campaign in Priority 1.A.iii.)</em></td>
<td>Policymakers Educators Parents &amp; Students</td>
<td>Materials created</td>
<td>TBD</td>
<td>NAGB staff &amp; DCG contract</td>
<td>R&amp;D COSDAM</td>
</tr>
<tr>
<td>iii. Promote case studies/testimonials of impactful uses of NAEP data <em>(created via Strategic Plan priority #4).</em></td>
<td>Policymakers Researchers</td>
<td>Communications Plan metrics</td>
<td>TBD</td>
<td>NAGB staff &amp; DCG contract</td>
<td>R&amp;D</td>
</tr>
</tbody>
</table>
### Priority #2: Increase Efficiencies to Effectively Use NAEP Funds

#### Strategy A – Increase NAGB and NCES Staff Collaboration

Increase the collaboration among NAGB and NCES staff on specific policy-related activities to improve the efficiency and effectiveness of decisions with significant impact on the NAEP program.

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<th>Actions to Accomplish</th>
<th>Target Audiences</th>
<th>Metrics</th>
<th>Timeline</th>
<th>Implemented by</th>
<th>NAGB Committee</th>
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</thead>
<tbody>
<tr>
<td>i. Provide input to NCES on the proposal development for the next competition of NAEP alliance contracts and the review of proposals received to support alignment between NAEP contract structures and the Board’s policy priorities.</td>
<td>NAGB NCES</td>
<td>TBD</td>
<td>TBD</td>
<td>NAGB Staff NCES</td>
<td>Full Board</td>
</tr>
<tr>
<td>ii. Develop a process to estimate marginal cost impacts of new policies being considered by Board, to inform the cost and benefit analysis of policy decisions.</td>
<td>NAGB NCES</td>
<td>TBD</td>
<td>TBD</td>
<td>NAGB Staff NCES</td>
<td>Full Board</td>
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</tbody>
</table>
## Strategy A – Support Innovation in NAEP’s Design

Identify opportunities for NAGB to support innovative NAEP assessment design.

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<tr>
<th>Actions to Accomplish</th>
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<th>NAGB Committee</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Ensure alignment of NAGB’s Strategic Planning Initiative with NCES’ <em>Future of NAEP</em> effort by increasing information sharing and collaboration between NAGB and NCES on the two initiatives and avoiding duplication of efforts to implement mutual goals.</td>
<td>NAGB, NCES</td>
<td>Periodic briefings</td>
<td>TBD</td>
<td>NAGB, NCES</td>
<td>Full Board</td>
</tr>
<tr>
<td>ii. Continue updating and improving NAEP contextual variables to enhance reporting and analysis opportunities.</td>
<td>NAGB, NCES</td>
<td>Analysis conducted Actions on policies <em>(if needed)</em></td>
<td>TBD</td>
<td>R&amp;D, NAGB staff, NCES</td>
<td>R&amp;D ADC</td>
</tr>
<tr>
<td>iii. Explore the design options to conduct the Long Term Trend through other NAEP assessments.</td>
<td>NAGB, NCES</td>
<td>Analysis conducted Actions on policies <em>(if needed)</em></td>
<td>TBD</td>
<td>COSDAM, NAGB Staff, NCES</td>
<td>COSDAM</td>
</tr>
</tbody>
</table>
Priority #3: Innovate Assessment Design to Keep NAEP on the Forefront of Measuring Student Achievement

**Strategy B – Enhance NAEP’s Implementation of Digital-Based Assessments**

Explore the opportunities provided by digital-based assessments (DBA) generally to identify potential innovative pursuits for NAEP assessments to be even more engaging, precise, and inclusive.

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<tr>
<th>Actions to Accomplish</th>
<th>Target Audiences</th>
<th>Metrics</th>
<th>Timeline</th>
<th>Implemented by</th>
<th>NAGB Committee</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Develop Board policy on DBA to inform NAEP’s assessment design with consideration for a variety of interrelated factors.</td>
<td>NAGB NCES</td>
<td>Policy developed</td>
<td>TBD</td>
<td>COSDAM</td>
<td>COSDAM</td>
</tr>
<tr>
<td>ii. Increase awareness of NAEP’s Scenario-Based Task design amongst the broader assessment community to support innovation in high quality digital-based education assessments.</td>
<td>Assessment Experts</td>
<td>Conference sessions</td>
<td>TBD</td>
<td>TBD</td>
<td>COSDAM</td>
</tr>
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November 2015 DRAFT
Priority #4: Strengthen External Partnerships to Promote and Support the Resources NAEP Offers

**Strategy A – Leverage Social Media and External Partnerships to Promote NAEP’s Resources to Stakeholder Groups**

Identify ways to communicate more effectively to stakeholder groups to increase their use of NAEP.

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<tr>
<th>Actions to Accomplish</th>
<th>Target Audiences</th>
<th>Metrics</th>
<th>Timeline</th>
<th>Implemented by</th>
<th>NAGB Committee</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Gather feedback from external groups on the NAEP information and presentation needs for NAEP for stakeholder groups.</td>
<td>Policymakers Educators Parents &amp; Students Researchers Media</td>
<td>Interviews, meetings, focus groups conducted and analyzed</td>
<td>TBD</td>
<td>NAGB staff</td>
<td>Full Board</td>
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<td></td>
<td></td>
<td></td>
<td>NAGB members NAGB staff</td>
<td>Full Board</td>
</tr>
<tr>
<td>ii. Identify strategic external partners (existing and desired).</td>
<td>NAGB</td>
<td>Partners identified</td>
<td>TBD</td>
<td>NAGB members NAGB staff</td>
<td>Full Board</td>
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<td></td>
<td>NAGB staff &amp; DCG contract</td>
<td>Full Board</td>
</tr>
<tr>
<td>iii. Strengthen external partnerships and leverage partners to expand the reach of NAEP’s messaging to stakeholder groups.</td>
<td>Policymakers Educators Parents &amp; Students Researchers</td>
<td>Communications Plan metrics</td>
<td>TBD</td>
<td>NAGB Members NAGB staff &amp; DCG contract</td>
<td>Full Board</td>
</tr>
<tr>
<td>iv. Develop infographics and tailored messaging to stakeholder groups, to be distributed via the communications campaign (see Priority #1.A.ii) and through Governing Board members’ networks.</td>
<td></td>
<td>Communications Plan metrics</td>
<td>TBD</td>
<td>NAGB members NAGB staff &amp; DCG contract</td>
<td>Full Board</td>
</tr>
<tr>
<td>v. Connect with relevant national education events to promote and extend the coverage of NAEP releases.</td>
<td>Policymakers Educators Parents &amp; Students</td>
<td>Communications Plan metrics</td>
<td>TBD</td>
<td>NAGB staff &amp; DCG contract</td>
<td>R&amp;D</td>
</tr>
</tbody>
</table>
Priority #4: Strengthen External Partnerships to Promote and Support the Resources NAEP Offers

**Strategy B – Promote Secondary Research Utilizing NAEP Information**

Increase impactful uses of NAEP data by encouraging secondary uses of the data.

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<tr>
<th>Actions to Accomplish</th>
<th>Target Audiences</th>
<th>Metrics</th>
<th>Timeline</th>
<th>Implemented by</th>
<th>NAGB Committee</th>
</tr>
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<tbody>
<tr>
<td>i. Create case studies/testimonials of impactful uses showcasing how NAEP data can be used appropriately as a resource for educational reform <em>(to be promoted through Priority 1.B.iii).</em></td>
<td>Policymakers Educators Parents &amp; Students Researchers</td>
<td>Communications Plan metrics</td>
<td>TBD</td>
<td>NAGB Members NAGB staff &amp; DCG contract</td>
<td>Full Board</td>
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GOVERNING BOARD AND NAEP RESOURCES

Table of Resources and Links

Attached documents are listed with page numbers. Click underlined links to access unattached documents online.

National Assessment Governing Board: Authority and Organization

- **NAEP Law**
- **Board By-laws**
- Board Composition and Responsibilities
- Board Members and Categories
- Ethics Primer for the National Assessment Governing Board
- **Board Staff Organization**
- **NAEP Organizational Model** (relationship to other organizations)
- Board Current Contracts
- **Board 2014 Strategic Communications Plan**

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NAEP Schedule of Assessments

- **NAEP Schedule of Assessments** (latest version)
- History of Changes to the NAEP Schedule of Assessments
- **Recent NAEP releases**

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General Web-based Resources

- Home page of Governing Board web site
- Home page of the Nation’s Report Card web site
- Materials for previous Board meetings

Board Policies for NAEP

- **General Policy: Conducting and Reporting NAEP**
- **Framework Development**
- **Item Development and Review**
- **Developing Student Performance Levels for NAEP**
- **Reporting, Release, and Dissemination of NAEP Results**
  - Guidelines for the Initial Release of The Nation's Report Card
  - Resolution on Reporting 12th Grade Academic Preparedness for College
  - Resolution on Reporting on Preparedness of 12th Grade Students
- **Collection and Reporting of Background Data by NAEP**
- **NAEP Testing and Reporting on Students with Disabilities and English Language Learners**
• **Trial Urban District Assessment: Eligibility Criteria and Selection Procedures**
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• **Resolution on Linking NAEP and International Assessments**

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- Technical Panel on 12th Grade Preparedness Research – Final Report
- The Future of 12th Grade NAEP: Report of the Ad Hoc Committee on Planning for NAEP 12th Grade Assessments in 2009
- Redesigning the National Assessment of Educational Progress

Previous “Inside NAEP” presentations

- Developing NAEP Frameworks: A Look Inside the Process
- Developing NAEP Test Questions
- Introduction to Validity
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National Assessment Governing Board

Composition

The Board is non-partisan, with 26 members representing gender, geographic, and racial-ethnic diversity. Specific categories of members specified in the NAEP law:

- **Policymakers**: governors or former governors (2), state legislators (2), chief state school officers (2), local school district superintendent (1), state (1) and local (1) school board members, nonpublic school administrator or policymaker (1)
- **Educators**: classroom teachers (3), principals (2), curriculum specialists (2)
- **Public**: general public representatives (2), parents (2), business representative (1)
- **Technical experts**: testing and measurement experts (3)

*The director of the Institute of Education Sciences serves as an ex-officio 26th member.*

Responsibilities

The responsibilities of the Board are mandated by Congress, and include:

- **Test Development**
  - Select subject areas to assess
  - Develop assessment objectives and test specifications
  - Ensure all items are free from bias
  - Have final authority on appropriateness of all items

- **Technical Methodology**
  - Develop appropriate student achievement levels
  - Design the methodology of the assessment to ensure that assessment items are valid and reliable

- **Reporting and Dissemination**
  - Develop guidelines for reporting and disseminating results
  - Plan and execute the initial public release of NAEP reports
  - Take appropriate actions needed to improve the form, content, use, and reporting of results
# National Assessment Governing Board

## Members and Categories by Term Expiration Date

<table>
<thead>
<tr>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
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| **Anitere Flores***  
  State Legislator (Republican)                                      | **Lucille Davy**  
  General Public Representative                                      | **Mitchell Chester**  
  Chief State School Officer                                           | **Alberto Carvalho**  
  Local School Superintendent                                           |
| **Rebecca Gagnon**  
  Local School Board Member                                              | **James Geringer**  
  Governor (Republican)                                                 | **Shannon Garrison***  
  Fourth Grade Teacher                                                   | **Carol Jago**  
  Curriculum Specialist                                                   |
| **Andrew Ho**  
  Testing & Measurement Expert                                           | **Doris Hicks***  
  Elementary School Principal                                            | **Frank Fernandes**  
  Secondary School Principal                                             | **Dale Nowlin***  
  Twelfth Grade Teacher                                                  |
| **Terry Mazany**  
  General Public Representative                                         | **Tonya Miles***  
  General Public Representative                                         | **Tonya Matthews**  
  General Public Representative                                          | **Fielding Rolston***  
  State School Board Member                                              |
| **Joseph O’Keefe**  
  Non-public School Administrator or Policymaker                         | **Ronnie Musgrove***  
  Governor (Democrat)                                                    | **Chasidy White**  
  Eighth Grade Teacher                                                    | **Linda Rosen**  
  Business Representative                                                 |
| (Vacancy)                                                            | **W. James Popham***  
  Testing & Measurement Expert                                            | **Ken Wagner**  
  Chief State School Officer                                              | **Cary Sneider***  
  Curriculum Specialist                                                   |
|                                                                     |                                                                     | **Dale Nowlin**  
  Testing & Measurement Expert                                            | **Joe Willhoft**  
  Testing & Measurement Expert                                            |

* Member currently serving 2\textsuperscript{nd} term; not eligible for reappointment

Updated 2/12/16
ETHICS PRIMER

FOR

THE NATIONAL ASSESSMENT GOVERNING BOARD

November 2009
Ethics Division
Office of the General Counsel
U.S. Department of Education
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EXECUTIVE SUMMARY

Now that you are a member of the National Assessment Governing Board (“NAGB”) you need to know what ethics laws and rules apply to you. The following is a very brief summary of these rules. For a more detailed discussion of how these rules apply to you, please refer to the attached summary entitled “Ethics Laws and Rules Applicable to SGEs.”

Your Status as a Special Government Employee

You are considered an SGE and not a regular federal employee because NAGB anticipates that you will be serving the federal government through your position for only 130 days or less during any period of 365 consecutive days. Whether or not you are paid by the Board for your service is irrelevant. This summary discusses how the ethics rules apply to SGEs.

Criminal Statutes Apply to Your Activities

Some of the ethics laws that apply to you carry criminal penalties. Below is a brief summary of the most important of these laws.

- The chief conflict of interest law bars you from participating personally and substantially in your capacity as a member of NAGB in any particular matter before the federal government that has a direct and predictable effect on your own financial interests or the financial interests of others with whom you have certain relationships. See 18 U.S.C. Section 208.

- If you find yourself with a financial conflict of interest, you have four options: (1) disqualify yourself (you don’t participate in any way in the matter); (2) resign from the outside entity that is the basis for the conflict; (3) sell or divest the stock or other financial interest that is the basis for the conflict; or (4) request and obtain a statutory waiver.¹

- Two other laws prohibit you from representing a third party, with or without compensation, before any court or agency in connection with any particular matter involving specific parties in which the United States is a party or has a direct and substantial interest and in which you have participated personally and substantially as an SGE. In addition, if you serve the federal government for more than 60 days during the immediately preceding period of 365 consecutive days, these restrictions apply to any matter that is pending with NAGB. But remember that these restrictions do not apply to particular matters of general applicability, such as broadly applicable policies, rulemaking proceedings or legislation, that do not involve specific parties. See 18 U.S.C. Sections 203 and 205.

¹ In rare circumstances, with the concurrence of the U.S. Office of Government Ethics, you may obtain a waiver of the conflict of interest.
Another criminal law limits some of your activities after your service on NAGB ends. This law prohibits you from representing others in connection with the same particular matter involving specific parties in which you participated personally and substantially during your service to NAGB. This prohibition lasts for your lifetime. See 18 U.S.C. Section 207.

Standards of Ethical Conduct for Employees of the Executive Branch

The Standards of Ethical Conduct for Employees of the Executive Branch (Standards), 5 C.F.R. Part 2635, are regulations that apply both to regular federal government employees and to SGEs. However, a few exceptions exist in the Standards in recognition of the fact that SGEs are working for the government only in a very limited way. A brief synopsis of some of these rules and their exceptions follow.

- Fundraising: You may not use your official title, position and authority to engage in fundraising.

- Gifts: You may not accept gifts from a “prohibited source” or offered to you because of your official position on NAGB. A prohibited source includes any person: seeking official action from NAGB; doing or seeking to do business with NAGB; conducting activities regulated by NAGB; or having interests that may be substantially affected by your official duties. There are many exceptions to this rule that are discussed in more detail in the accompanying memorandum.

- Lobbying: In your role as a member of NAGB, you may not urge others to contact Congress or a state legislature to urge the passage or defeat of legislation. Additional restrictions exist regarding lobbying. You should contact Department of Education’s Ethics Division before engaging in any type of lobbying.

- Misuse of Position: You may not use your position on NAGB or nonpublic information gained through your service on NAGB to seek advantage for yourself or others. In addition, you may not use your NAGB title in a manner that makes it appear that NAGB is sanctioning your views, products, services or personal enterprises.

- Political Activities: You may not engage in political activity when you are on duty or in a federal government building or car, and you may never use your official title as a member of NAGB in connection with political activities.

- Teaching, Speaking and Writing: You may not receive compensation for teaching, speaking or writing if: (1) the invitation was offered to you because of your position on NAGB; (2) the information conveyed by you draws substantially on nonpublic information that you obtained by working on NAGB; (3) the invitation was extended to you by an organization or person who has interests that may be substantially affected by your performance on NAGB; or (4) the subject of your work deals in a significant way
with a matter involving specific parties that you worked on while on NAGB. Again, there are some exceptions to this rule that are outlined in more detail in the accompanying memorandum.

**Required Filing of a Financial Disclosure Report By SGEs**

As a member of the NAGB, you are required to file a confidential financial disclosure report (also referred to as a “450” Report) when you are first appointed, and annually thereafter if you are reappointed. The purpose of the financial disclosure form is to protect you from inadvertently violating any of the criminal conflict of interest statutes and so that NAGB can know that your advice is free from any real or perceived conflicts of interest.

Please do not rely solely on this “Executive Summary” before undertaking your duties. There are many subtle nuances that are not discussed in this summary that may apply to your specific situation. The attached expanded summary provides additional detail that will help you better understand the ethics rules. Please feel free to call or e-mail Marcella Goodridge in the Ethics Division of the Office of the General Counsel at the U.S. Department of Education at (202) 401-8309, or Marcella.Keiller@ed.gov, for answers to any specific ethics questions that may arise in the course of your service on NAGB.
ETHICS LAWS AND RULES APPLICABLE TO SGES

I. INTRODUCTION

Although the ethics rules are numerous and detailed, a single, simple principle underlies these rules: *You should never use your public office for private gain, either for yourself, or for any third party.* In addition, you must refrain not only from engaging in any activity that violates the ethics rules, but you must also refrain from any activity that creates the appearance of a violation of any of these rules. The summary below is designed to help you avoid violating any ethics rules covering your activities as a member of NAGB.

II. YOUR STATUS AS A SPECIAL GOVERNMENT EMPLOYEE

A. What is a “special Government employee”? 

Because you have been appointed to be a member of the NAGB and you are expected to perform your duties for not more than 130 days during the 365 days subsequent to the date of your appointment, you are, by law, a “special Government employee” (SGE). As an SGE, you are a federal government employee. This means that upon appointment, you assume the responsibilities, obligations, and restrictions that are part of public service. Because SGEs are not full-time employees, several of these restrictions apply only in limited circumstances.

B. Do the ethics restrictions apply when I am not working for NAGB?

Yes, any restrictions concerning your private activities (representational services, expert witness activities, etc.) apply equally on days when you serve the federal government through your position on NAGB and on days when you do not, except with respect to political activity. If you have not provided any services for the federal government for some time, but have not received a termination date for your appointment, you must seek a formal resolution of the matter before engaging in conduct prohibited by the ethics rules.

III. CONFLICTS OF INTEREST

A. What criminal conflict of interest statutes apply to SGES?

While you are employed as an SGE, you need to pay particular attention to four criminal conflict of interest laws found in Chapter 11, Title 18 of the United States Code: 18 U.S.C. Sections 203, 205, 207 and 208. These criminal laws include some special provisions for the treatment of SGEs. A discussion of these laws and certain related requirements found in other laws and regulations follows.
B. What financial conflicts of interest may arise for SGEs under section 208?

Section 208 prohibits you from participating personally and substantially in any particular matter that has a direct and predictable effect on your financial interests, including certain interests of others that are imputed to you under the statute. This means that you may not work on NAGB matters if you have certain connections – through the ownership of stock, through employment, or by virtue of other circumstances – with an organization that has a financial interest in the matter. For example, you may not work at all on a contract competition if you own stock valued at a certain amount in a company competing for the contract. You may not participate in a discussion of whether to modify an existing contract with a company if you work for that company. And, you may not assist in the development of a scope of work for a contract competition if you know that an organization on which you serve on the Board of Directors plans to compete for that contract.

In addition to your own personal financial interests, the financial interests of the following persons or organizations are imputed to you and also disqualify you from participating in a particular matter:

(1) your spouse;
(2) your minor child;
(3) your general partner;
(4) an organization for which you serve as an officer, director, trustee, general partner or employee; and
(5) any prospective employer.

Example 1 You are on the governing board of ABC, a nonprofit organization. ABC’s financial interests are imputed to you under the statute. This means that for the purpose of determining whether you have a conflict of interest, ABC’s financial interests are treated as if they were your own. Accordingly, you may not participate in any NAGB matter in which ABC has a financial interest. Similarly, if you were in the process of discussing employment with ABC, you would be barred from participating in any NAGB matter affecting the financial interests of ABC.

Example 2 You are on the governing board of ABC (or employed by ABC, own stock in ABC, seeking employment with ABC, etc). You are asked to participate in the process of reviewing and scoring contract proposals for a contract competition for a NAGB project. Fifteen organizations have submitted a bid. When you open the proposal from one organization, you note that ABC’s name is one of the organizations that has submitted a bid. Or, perhaps ABC is listed as a subcontractor in one of the proposals. This contract competition is a “particular
that will have a “direct and predictable effect” upon the financial interests of ABC. In other words, as a result of the contract competition, ABC will either gain business or not, and this decision will affect ABC financially – either negatively or positively. The amount of financial interest is not relevant – as long as ABC’s finances will be affected, unless a regulatory exemption or waiver permits you to do so, you may not work on this competition. And, because each proposal is competing against all of the others, your evaluation of competing proposals will affect the chances ABC has of winning the contract. Accordingly, you may not review any of the proposals.

You must recuse yourself from a matter as soon as you realize that you have a conflict. If, for example, you notice that you have a conflict when you are in the middle of reviewing contract proposals, you put the proposal back in its envelope and call up an NAGB staff member and let that person know that you think that you are disqualified from working on the competition. If there is any question, you should contact the U.S. Department of Education Office of the General Counsel’s Ethics Division for guidance. Once you have determined that you may not work on this matter, send the proposal back to NAGB staff.

You are permitted to participate in a particular matter affecting one campus of a multi-campus institution of higher education, where the disqualifying interest arises from your employment with a separate campus of the same institution, provided that you have no multi-campus responsibilities at the institution. If you are employed with a large university with multiple campuses and you do not have any multi-campus responsibilities, you may participate in official matters--such as grants, contracts, applications, and other particular matters--that affect the financial interests of another campus in the same university system where you are employed. Below are some examples of how section 208 may apply to your activities.

Example 3  You are employed as a professor at the University of California-Berkeley. NAGB is planning to evaluate the impact of computer-based testing on students with disabilities and English language learners. UC-Berkeley’s science and technology department has submitted a bid. NAGB’s actions will have a direct and predictable effect on the university’s financial interest. Therefore, you may not participate in any way on this matter.

Example 4  You are employed as a researcher at the University of California-Berkeley. NAGB is planning to evaluate the impact of computer-based testing on students with disabilities and English language learners. The University of California-Los Angeles (UCLA) has submitted a bid to be the contractor for NAGB’s evaluation. You may participate in this matter because it will not have a direct and predictable effect on either your financial interests or UC-Berkeley’s.
C. How do I resolve a conflict of interest?

1. Disqualification

A common method of resolving a conflict of interest is to disqualify yourself from participating in the matter.

*Example 5* You are serving on NAGB’s Ad Hoc Committee that will examine issues related to computer-based testing for students with disabilities and English language learners, including developing a study of computer-based testing methodologies. The Request for Proposals has been disseminated. One of the bids submitted is from ABC Corporation (ABC). You own $20,000 worth of stock in ABC. You must advise the U.S. Department of Education Office of the General Counsel’s Ethics Division that you own stock in ABC and you will not be able to participate in any way in the entire contract competition. If ABC is awarded the contract, you will also need to disqualify yourself from the entire matter.

2. Divestiture

Divestiture of a disqualifying interest (usually through the sale of stock) is another remedy available to avoid a potential violation of section 208. SGEs are not eligible for a Certificate of Divestiture (CD). A CD is a tax benefit that allows the deferral or nonrecognition of capital gain where an employee divests a financial interest in order to comply with conflict of interest requirements. Unfortunately, Congress specifically excluded SGEs from eligibility to receive CDs. 26 U.S.C. § 1043(b)(1)(A).

3. Resignation

On some very rare occasions when none of the aforementioned options are available or feasible, an SGE may need to resign from participating in an outside activity with an entity if his or her official activities as an SGE have a direct and predictable effect on the financial interest of that entity creating an irreconcilable conflict.

4. Waiver or Authorization

Another remedy to avoid a conflicting financial interest is to request and obtain a statutory waiver by contacting the Department of Education’s Ethics Division (an authorization is similar to a waiver, but only applies to non-statutory conflicts of interest - what are often referred to as “appearances of a conflict”). You may be granted a waiver only if your financial interest is not so substantial as to be deemed to be likely to affect the integrity of your services.

*Example 6* In the scenario described in Examples 1 and 2 above, you are granted a waiver permitting you to participate in a general policy matter that affects ABC’s financial interests as
long as the matter affects all similarly situated entities in the same manner. But you would remain disqualified from participating in a matter that specifically involves ABC, which in this case means the entire contract competition.

D. What restrictions apply to my representation of third parties under sections 203 and 205?

With regard to particular matters in which you have participated personally and substantially while serving NAGB, you are prohibited from representing a third party on those particular matters, with or without compensation, before any court or agency, when the United States is a party or has a direct and substantial interest in the matter. See 18 U.S.C. Sections 203 and 205.

In addition, if you serve the federal government for more than 60 days during the immediately preceding period of 365 consecutive days, you are prohibited from representing a third party on any matter involving specific parties pending before NAGB, even if your work at NAGB did not involve these matters. These restrictions do not apply to particular matters of general applicability, such as broadly applicable policies, rulemaking procedures or legislation that does not involve specific parties.

IV. POST-EMPLOYMENT

After your appointment terminates at NAGB, you need to pay particular attention to one more criminal statute that subjects you to restrictions regarding certain matters that you may have worked on as a member of NAGB. Pursuant to 18 U.S.C. Section 207, you may never represent any third party, other than in the performance of your official government duties, in connection with the same particular matter involving specific parties in which you participated personally and substantially as a member of NAGB. This is a lifetime prohibition. For example, if you participated in a NAGB discussion concerning a contract to State University, you may never represent State University with respect to that same contract before any official of the Executive Branch of the federal government and you may never represent State University with respect to that contract in any federal court.

Further, if you serve on NAGB more than sixty days and are compensated above a certain level, you may be subject to a one-year “cooling-off” period during which you would be barred from representing before NAGB certain third parties in connection with any matter. There are some exceptions to this law as well, and you should contact the Department of Education’s Ethics Division for guidance.

V. STANDARDS OF ETHICAL CONDUCT AND OTHER ETHICS RULES

The Standards of Ethical Conduct for Employees of the Executive Branch (Standards), 5 C.F.R. Part 2635, are regulations that apply both to regular federal government employees and to SGEs. Although you are treated generally the same as regular employees under the Standards, a few
exceptions do exist for SGEs in recognition of the fact that SGEs are working for the government only in a very limited way. In addition, there are other rules that govern your conduct as an SGE, including the Hatch Act, anti-lobbying rules, the Federal Acquisition Regulation, and rules about accepting gifts and compensation from foreign governments. A brief synopsis of some of these rules follows.

A. What restrictions apply if I want to engage in fundraising?

You may not use your NAGB title, position or authority to solicit funds for any organization. In addition, you may not personally solicit funds or other support from persons whose interests may be affected substantially by the performance or nonperformance of your official duties.

B. What restrictions are there on my acceptance of gifts?

You are prohibited from accepting gifts (almost anything of monetary value) from a “prohibited source” or gifts given because of your official position as a member of NAGB, unless a specific exception applies. The definition of “prohibited source” includes any person:

- seeking official action from NAGB;
- doing or seeking to do business with NAGB; or
- having interests that may be substantially affected by your official duties at NAGB.

The definition also includes organizations the majority of whose members fall within any of these categories. You may accept various benefits resulting from your outside business or employment activities, if a reasonable person would conclude that such benefits are not offered or enhanced because of your official position. The most commonly applicable exceptions to the gift rule allow you to accept:

- Modest items of food other than a meal, such as coffee, soft drinks, or donuts;
- Most plaques, certificates and trophies;
- Discounts available to all Government employees;
- Anything for which you pay market value;
- Gifts valued at $20 or less per occasion, totaling no more than $50 in a calendar year from any one source;
- Gifts clearly motivated by friendship or family relationship;
- Gifts resulting from your outside business activities, including those of your spouse; and
- Free attendance or meal which is provided by:

  1. the sponsor of the event for the day on which you are speaking at the event, or for a widely-attended gathering of mutual interest to a number of parties when the necessary determination of agency interest has been made; or

  2. someone other than the sponsor of a widely-attended gathering of mutual interest to a number of parties when more than 100 people are expected to attend, the
aggregate value of the gift is under $335, and the necessary determination of agency interest has been made.

C. What restrictions apply if I want to “lobby” Congress?

NAGB and its members are permitted to communicate directly with Congress in their official capacity on matters that are related to legislation or appropriations deemed necessary to conduct NAGB’s “public business” (i.e., the NAGB’s statutory functions and responsibilities). However, the Anti-Lobbying Act, 18 U.S.C. Section 1913, prohibits you, in your official capacity at NAGB, from engaging in “grass-roots lobbying” (i.e., directly or indirectly suggesting or requesting that others contact Congress or a state legislature to urge the passage or defeat of proposed or pending legislation), even if it is related to the NAGB’s public business. The Anti-Lobbying Act also requires that any permissible direct communications with Congress in your official capacity at NAGB be made only through official channels.

None of these restrictions prohibit you from lobbying members of Congress or state legislatures, or urging others to do so, on your own time in your personal capacity. If you lobby Congress or state legislatures in your personal capacity, and the issue is related to NAGB’s business, you should make it clear that you are not representing NAGB and not acting in your official capacity as a member. Also, please note that when you are lobbying as a private citizen, you are not permitted to use government resources or equipment (including, but not limited to, computers, telephones, fax machines, copy machines, stationery), or seek assistance from NAGB staff.

D. What does “misuse of position” mean?

You may not use your position on NAGB to seek advantage for yourself or others. You also may not use nonpublic information gained through your service at NAGB to seek advantage for yourself or others. Finally, you may not use your NAGB title in a manner that makes it appear that the NAGB is sanctioning your views, products, services or personal enterprises. Of course, you may list your membership on NAGB on your curriculum vitae, but you may never use your status as an NAGB member to advertise or promote your personal activities. Please seek advice from the Department of Education Office of the General Counsel’s Ethics Division if you have any questions in this area.

E. May I keep my day job and still serve on NAGB?

Yes, you may continue to collect your regular salary from an outside employer for days on which you are providing services to the federal government (whether your federal government service is paid or unpaid). However, if you have another consultant or advisory position with NAGB or any other federal department or agency, you may not receive per diem or salary from NAGB for the same day for services performed for the two positions.

F. Are there any restrictions on my political activities?

You may not engage in any political activities while you are on duty (i.e., performing
government services) or when you are in a government building or vehicle. Although you are not subject to any restrictions on your political activities when you are not performing government services, you may never use your official title as a member of NAGB in connection with any political activities.

G. What restrictions do I face if I want to teach, speak, or write on matters that are related to the duties I perform for NAGB?

You may not receive compensation for teaching, speaking, or writing if:

- the activity is performed as part of your official duties (e.g., a speech on behalf of NAGB);
- the invitation to engage in the activity was extended primarily because of your official position at NAGB, rather than expertise in the subject matter;
- the invitation or offer of compensation was extended to you by someone with interests that may be affected substantially by your duties;
- the information conveyed through the activity draws substantially on nonpublic information obtained through your service at NAGB; or
- the activity deals, in significant part, with a matter involving specific parties to which you are currently assigned or had been assigned during your current NAGB appointment.

Notwithstanding the restrictions in bold type you may accept compensation for teaching a course requiring multiple presentations offered as part of: (a) the regularly established curriculum of various specified types of educational institutions; or (b) educational or training programs sponsored and funded by federal, State, or local government. However, if you teach at an educational institution, you must not participate in any NAGB matters that involve that institution.

H. What restrictions apply if my government duties involve the awarding of contracts?

If you are involved in the awarding of any contracts, please seek advice from the Ethics Division. There are special provisions that cover your involvement in the awarding of contracts. For example, you may not accept compensation as an employee, officer, director, or consultant of a contractor within the one-year period after leaving Government service where you participated in certain procurement matters pertaining to that contractor. In addition, if you disclose certain information pertaining to Federal procurements that you obtained during your service on a committee, you may face sanctions, including criminal penalties.
I. What restrictions apply to my interaction with foreign entities?

The emoluments clause of the U.S. Constitution prohibits you from receiving any emolument, office or title of any kind from a foreign government, including political subdivisions of a foreign government. An emolument is compensation received by virtue of holding an office or having employment with a foreign government and includes, for example, salary, honoraria, transportation, per diem allowances, household goods, shipment costs, and housing allowances. This clause has been interpreted to be broader than the traditional notion of employment and includes, for example, income received through a partnership when an identifiable portion of the partnership draw can be attributed to the partnership’s fees from such foreign government. This provision has particular relevance to positions with foreign universities that are government-operated, as opposed to private institutions. United States Constitution, art. I § 9, cl. 8. There are also statutory provisions restricting acceptance of gifts from foreign governments. 5 U.S.C. § 7342. You should seek advice from the Ethics Division regarding the details about these restrictions. Additionally, a criminal statute bars employment or consultation with a foreign entity for the purpose of providing foreign agent representation or lobbying. 18 U.S.C. § 219.

The ban on participating in foreign agent activities covered by the Foreign Agents Registration Act (FARA) prohibits representation of foreign governments or foreign political parties before the United States Government, as well as a number of other activities conducted within the United States on behalf of such entities. There are certain FARA exceptions related to trade or commerce, legal representation, humanitarian fundraising, and religious, scholastic, or scientific pursuits. The Lobbying Disclosure Act of 1995 requires certain covered Federal officials who serve as agents of foreign principals (other than foreign governments or foreign political parties) to register if they work on behalf of foreign corporations, associations, or other organizations.

Finally, certain restrictions apply after your position with NAGB terminates. Specifically, 18 U.S.C. § 207 includes restrictions on former employees who participated in trade or treaty negotiations on behalf of the United States (18 U.S.C. § 207(b)) and on former senior employees who wish to represent, or aid or advise in the representation of, a foreign entity with the intent to influence a decision of a Federal employee or agency (18 U.S.C. § 207(f)).

J. What do I do if I am called to be an expert witness?

Government employees generally may not participate as an expert witness, with or without compensation, other than on behalf of the United States, in any proceeding before a federal court or agency in which the United States is a party or has a direct and substantial interest. This restriction applies to most SGEs only if the SGE actually participated officially in the same proceeding or in the particular matter that is the subject of the proceeding. If you are appointed by the President, serve on a commission established by statute, or serve (or are expected to serve) for more than 60 days in a period of 365 days, the restriction on expert service also applies to any proceeding in which NAGB is a party or has a direct and substantial interest.
K. May I keep and use frequent flyer miles that I earn when I am on official NAGB travel?

Yes, you may use frequent flyer miles or other airline awards or promotions accumulated on official NAGB travel for your own personal use.

VI. CONCLUSION

We understand that these laws are complex and may not be intuitive. Again, we caution you that this summary is merely an introduction to the ethics laws and rules that apply to you. You should always feel free to contact the Department of Education Office of the General Counsel’s Ethics Division with any questions or concerns.

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(202) 401-8309
(202) 260-5104 (fax)

Marcella.Keiller@ed.gov
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February 2016
In 2014 and beyond, the National Assessment Governing Board seeks to focus its communication efforts strategically and cost effectively to "Make Data Matter" for various target audiences. The Board is well-positioned to increase the impact of its outreach, but it must prioritize its audiences and identify its objectives for each, while integrating innovative strategies to elevate the Board’s work—and NAEP—as a thought leader in education.

Reingold proposes three goals the Board can pursue to amplify its outreach efforts.

I. Make a Connection With Target Audiences
   II. Engage Audiences Between Report Card Releases
   III. Maximize Impact Through Innovation

Reingold’s assumption in developing strategic priorities for the Board is that reporting and dissemination activities must support a vision to make an impact in education through engagement with NAEP that will enable the use, discussion, and sharing of NAEP data and information. A time-phased action plan, including specific outreach tactics and metrics, will be developed with Governing Board staff on the Board’s approval of this strategic communications plan.

The members of the Reporting and Dissemination Committee have identified three key audiences it believes the Board should focus on—parents; teachers and administrators; and policymakers—as each of these audiences is in a position to make an impact through NAEP data. Working with staff, we will identify the Board’s goals and expectations of each audience and the key messages needed to engage each one effectively.

Potential outcomes of the audience-focused outreach are listed below:

**Parents**
- Understand the value of NAEP and its implication for parents.
- Ask informed questions about their child’s education and the school system.
- Use NAEP to consider out-of-school factors that might affect their child’s education.
- Share NAEP information and messages with their parent peers.

**Teachers and Administrators**
- Understand the value of NAEP and its implication for teachers and administrators.
- Use NAEP to influence change within their classroom or school system.
- Educate parents about NAEP data and resources.
- Share and distribute NAEP information to their peers.
Policymakers

- Understand the value of NAEP and its implication for education policy.
- Use and cite NAEP data in policy decisions, public statements, and white papers.
- Distribute NAEP information and messages to constituents and peers to help advocate for change.

It is important to remember that messages and calls to action are intended to move the Board’s priority audiences along an engagement continuum, from awareness and education to trial, buy-in, and, ultimately, action. But creating the right messages is only the beginning. It is critical to know which information to deliver first, which should follow, and who are the most credible messengers. We will lay out a cohesive, practical, comprehensive roadmap for reaching the Board’s target audiences that identifies how to take advantage of existing opportunities, what new strategies to develop, and optimal methods of dissemination. The action plan will include a variety of opportunities to connect with each audience to maximize the reach and frequency of each message. The proposed strategies involve cultivating and leveraging partnerships that will include stakeholders or champions. There will also be collaboration with the National Center for Education Statistics (NCES) to ensure efforts are not duplicated, with Board and NCES staff coordinating on roles, responsibilities, and resources on various strategies as needed.

To illustrate the strategies identified above, below we discuss what the execution of each one could involve for the Board’s three priority audiences.

I. Make a Connection With Target Audiences

The goal is personal and powerful: “Communicate the Value of NAEP.” This means going beyond the distribution of NAEP data to highlighting, developing, and sharing relevant messages, content, stories, and calls to action for key audiences. Communicating the “So what?” and “Why should we care?” can help the Board move beyond the scores and headlines to clarify the value of NAEP and its important role as an indicator of student achievement.

- Develop key messages and calls to action for priority audiences. The Governor Board’s audience is widely diverse—in their knowledge of and experience with NAEP, in their intended uses and consumption of data and information, and in their communications networks, favored channels, and approaches. With these differences in mind, it is imperative that the Governing Board tailor messages for each of its audiences to inspire deeper engagement with NAEP data. Instead of a one-size-fits-all approach, we will define and continually test and adjust the messages that are the most relevant to each audience.

Example of the strategy in action for parents: Include the tailored messages and calls to action on the website’s “Information For” parent pages. The parent landing page could have calls to action including “Learn about NAEP,” “Download NAEP resources,” or “Test yourself on NAEP questions.” The page could also have a section devoted to the Board’s assessment literacy efforts (including resources, information and questions to ask) once outreach strategies from the work group are finalized.
Example of the strategy in action for teachers and administrators: The American Federation of Teachers and National Education Association could include a NAEP toolkit with messages for teachers on its website in a resources section.

Example of the strategy in action for policymakers: Minneapolis Board of Education and Governing Board member Rebecca Gagnon could use and reference data from Science in Action: Hands-On and Interactive Computer Tasks From the 2009 Science Assessment in a discussion with the Minnesota Department of Education and the Minnesota Education Technology Task Force about the importance of science computer labs.

Impact metrics: The number of downloads of materials such as a PowerPoint or frequently asked questions PDF; number of clicks on links for calls to action (e.g., “Test yourself on NAEP questions”); number of champions—that is, advocates—who commit to using or distributing the NAEP messaging and toolkit.

- **Expand communications beyond reporting on the scores.** We need to get beyond the typical report presentations of the data and find meaningful ways to elevate the data (and their implications) through materials, messaging, and outreach activities. We will identify and highlight hidden gems of NAEP data, connecting the dots between data and practice and leveraging resources to reach specific audiences to deliver important messages in a meaningful and memorable way. The Governing Board must be a storyteller that educates its audiences about the relevancy of NAEP data and resources in a way that resonates with its audiences’ interests and needs in an actionable manner.

Example of the strategy in action for parents: Develop a parent leader discussion guide to assist parent leaders in using NAEP and other assessment data in their conversations with school administrators about improving student achievement for all children.

Example of the strategy in action for teachers and administrators: Develop an interactive Prezi presentation (a visually animated storytelling tool for presenting ideas and messages) on NAEP achievement gap data from the recent 2013 Mathematics and Reading, Grade 12 report card for New Leaders, a national nonprofit organization that develops transformational school leaders and designs effective leadership policies and practices for school systems across the country.

Example of the strategy in action for policymakers: Governing Board member Anitere Flores could host a Florida Senate session on parent involvement in education to highlight NAEP contextual variables data in reading from the 2013 Mathematics and Reading, Grade 12 report card. For example, when asked whether students discussed what they read, students who reported discussing their reading every day or almost every day had higher reading scores.
Impact metrics: The number of guides distributed at stakeholder conferences or downloaded from the website; number of groups posting the guide on their websites; number of Prezi and data downloads; parent-submitted testimonials and feedback on using the guide to speak with school and district leaders.

- **Tell the NAEP story through user testimonials.** NAEP data become more impactful when stakeholders learn how others use the data to fulfill their missions and advance their educational goals. Working through key groups, we will collect and disseminate real-life testimonials from the priority audiences to become an authentic author of the NAEP story.

  **Example of the strategy in action for parents:** Collaborate with National PTA to solicit testimonials from parents about how they use NAEP and other assessment data, and then promote the testimonials through the Board’s and PTA’s online networks. These testimonials and other NAEP information could also be featured on the websites of other national education groups, encouraging parents to learn about different assessments their children might take and how the data can be used.

  **Example of the strategy in action for teachers and administrators:** Coordinate with elementary school principal and Board member Doris Hicks and future Board member chosen for the secondary school principal slot to collaborate with the National Association of Elementary School Principals and the National Association of Secondary School Principals to solicit testimonials from principals and teachers within their districts about how they use NAEP and the importance of at-home and out-of-school activities that enhance learning, then promote testimonials through the school communication channels.

  **Example of the strategy in action for policymakers:** Collaborate with the National Association of State Boards of Education to collect testimonials from state board members on how data, including NAEP data, are used to inform policy-level decisions and improvements.

  **Impact metrics:** The number of NAEP user testimonials received; number of testimonial views online; number of social media shares and engagement; quality of the engagements and comments about parents using data.

  ➢ **Potential action taken by key audiences under this goal:** Using NAEP materials and resources on organization websites to inform questions of school and education leaders about school curriculum and district progress; downloading NAEP sample questions to test student knowledge or supplement classroom lessons;

II. Engage Audiences Between Report Card Releases

The goal is ongoing and impactful: “Continual Engagement.” This means building tangible connections—outside of report card release events—between NAEP and its stakeholders, and equipping them with the insight, information, and tools to make a difference in educational quality and student achievement. This important strategy cannot be executed by staff alone, and will require the contributions of Board members and the partnership of stakeholder groups and other NAEP champions, including former Board members.
Expand the report card release life cycle. There is great opportunity for the Governing Board to enliven data and engage target audiences by taking a comprehensive, reimagined view of releasing and reporting on NAEP results that goes beyond the one-day release event. The entire life cycle of an assessment—from developing the framework to fielding assessments to disseminating results—offers content and commentary that, if shared more strategically, will powerfully support the NAEP brand and use of NAEP by target audiences. The Board can both enhance the report card releases and extend the life cycle to make meaningful connections with target audiences by developing pre- and post-release content, and recording and sharing video or audio which tease out and illuminate NAEP data.

Example of the strategy in action for parents: For each report card release develop a highlight reel with panelist quotes, select data points, and facts on reading, mathematics, and science contextual variables to send to parent stakeholder groups to distribute to their networks and on the Web.

Example of the strategy in action for teachers and administrators: Governance Board member Terry Mazany could host a meeting with the executive director of the Chicago Principals & Administrators Association to discuss the value of NAEP state and TUDA achievement data.

Example of the strategy in action for policymakers: Host a briefing with the California State Board of Education on the performance of fourth-grade students in the NAEP 2012 Writing Grade 4 Pilot with a diverse panel to include California fourth-grade teacher and Governing Board member Shannon Garrison, the executive director of the National Writing Project, and authors Carol Bedard and Charles Fuhrken.

Impact metrics: The numbers of video views and shares; number of groups posting the video; quality of comments and conversations under the video; feedback from stakeholder groups about the impact of the video and parent engagement with the content; number of participants at the meeting or briefing.

Leverage partnerships with stakeholder organizations and champions. As a trusted messenger of information to key audiences, the Governing Board needs to mobilize its existing networks, engaging stakeholder groups and champions to share and shape future outreach. Stakeholders and champions are diverse and can be from education associations or news outlets like NBC News. They could also be politicians, celebrities, athletes, or prominent individuals like First Lady Michelle Obama. We will help the Board identify key partnership opportunities for its priority audiences and develop specific recommendations for engagement, to put their distinct capabilities to work in promoting NAEP and extending the Governing Board’s reach. For example, we could keep working with the Alliance for Excellent Education to produce and promote post-release webinars, provide data infographics to the National Council of Teachers of Mathematics, and collaborate with the National Council of La Raza in sponsoring Facebook chats in addition to consistently pursuing new opportunities with key stakeholder organizations.
Example of the strategy in action for parents: Collaborate with NBC News’ Education Nation and Pearson on their Parent Toolkit (www.parenttoolkit.com) including NAEP materials, graphics, and downloadable resources on the website that position the Governing Board as an authoritative source of information on student assessment data.

Example of the strategy in action for teachers and administrators: Collaborate with Danica McKellar, actress, author, and STEM education advocate, to submit an article to the National Science Teachers Association’s NSTA Express newsletter on the importance of STEM education and girls’ involvement in STEM, and include data from NAEP’s Technology and Engineering Literacy assessment.

Example of the strategy in action for policymakers: Arrange for James Geringer and/or Ronnie Musgrove, Board members and former governors, to present at the annual National Governors Association conference on an important policy issue affecting states in which NAEP data and contextual variables are relevant. Additionally, the Board and the governors can collaborate with the Center on Education Policy to include NAEP reading data and contextual variables (such as frequency of discussing what they read or finding reading enjoyable) in their research papers, publications and annual progress report.

Impact metrics: The number of clicks on the NAEP content; number of downloads of NAEP materials; use of presented NAEP data by governors and state policy leaders in media citations, state websites and other materials; volume of referral traffic from the Parent Toolkit site back to the Governing Board’s website; Education Nation engagement that identifies stories of the Toolkit in action; number of newsletter opens and clicks; number of research report downloads.

- Equip, empower, and display thought leadership. The Governing Board and NCES are well-positioned as thought leaders among researchers and many national policymakers but could expand their influence with other audiences, such as parents, local policymakers, and education practitioners. Governing Board members and staff should be seen by media representatives and stakeholders as valued spokespersons on educational assessment and achievement, including specific topics such as computerized assessments, achievement gap trends, 12th-grade academic preparedness, and the importance of technology, engineering, and literacy. The Board can also continually secure speaking engagements at a variety of events such as the International Reading Association’s annual conference or local PTA chapter meetings, or pitch quotes for inclusion in news articles and op-eds on relevant topics.

Example of the strategy in action for parents: Work with Board member and parent Tonya Miles and develop and pitch op-eds that connect NAEP data with important year-round education events, emphasizing the role parents can play in raising student achievement. During Black History Month, pitch a piece to HuffPost Parents that spotlights achievement gap success stories, or pitch a piece about technology and engineering skill-building beyond the classroom to Sacramento Parent magazine.
Example of the strategy in action for teachers and administrators: Co-host a webinar discussion on NAEP state achievement trends with the American Federation of School Administrators, with members weighing in on state-level changes and education initiatives that are aimed at increasing achievement.

Example of the strategy in action for policymakers: Submit a proposal to the National School Board Association’s annual conference for a Board member and NCES to co-host a breakout session to share and discuss the recent 2013 Mathematics and Reading, Grade 12 report card, academic preparedness data, and recent graduation rate research.

Impact metrics: The numbers of op-ed placements, shares, and comments; quality of user engagements and comments; number of follow-up questions from readers; number of new emails collected (from a “Subscribe to the Governing Board” call to action); number of webinar and conference participants and follow-up requests.

Potential action taken by key audiences under this goal: Inspired by op-ed on racial achievement gaps, exploring gaps in their own districts and talking with school leaders about parity of resources; noting performance trends in subjects by state and/or urban district and then using that knowledge to inform state, local, or school district-level decisions regarding academic programs.

III. Maximize Impact Through Innovation

The goal is proactive and cutting-edge: “Lead the Way.” This means reaching and making meaningful connections with priority audiences, customizing events, fostering and driving online conversations, and creating tech-savvy materials with compelling content.

- Customize release event formats. Report cards are not one-size-fits-all; innovative release event strategies are needed to achieve the specific goals of each release. Each release event strategy should have distinct goals, audiences messages, materials, strategies, and tactics to Make Data Matter. The Governing Board has expanded the report card release event structure from physical events for every release to include webinars and live-streaming during events, a post-release social media Facebook chat, and an online town hall event. We will continue to refine this approach to customizing every release to maximize the immediate release impact and create a sustained conversation that continues to reach and engage key audiences.

Example of the strategy in action for parents: Host a Google Hangout for parents after a NAEP release that can feature panelists from the National Council of La Raza talking about the importance of parent involvement in education, and encourage parent participants to share how they use data to help their students achieve.
Example of the strategy in action for teachers and administrators: Develop a Twitter town hall guide (NAEP data points, question-and-answer content, best-practice tips, and facilitation instructions) for teachers and school administrators to host their own facilitated chats with parents and the school district on state-level NAEP data and areas for application.

Example of the strategy in action for policymakers: Host an in-person round-table discussion with members of the Massachusetts Mayors’ Association on the latest state-level NAEP reading and mathematics results and their state-based implications.

Impact metrics: The number of promotions of the online events and shares of the URL; numbers of event participants and total users viewing them or reached; numbers of comments or participants sharing their testimonials; number of follow-up testimonials received for inclusion in materials or on the website.

Engage in the online conversation. It is important to be aware of the conversations on important education issues, but to influence and help shape public understanding and perceptions the Governing Board needs to participate in the conversation with key messages. We will help the Governing Board foster conversations through real-time engagement on social media platforms, develop content such as an article written by a Governing Board member to post on NAEP’s upcoming blog coordinated by NCES, and create a strategy to join or host online chat events, sponsor Q&A sessions, or solicit feedback. Champions are key to the success of this effort, providing greater reach and often a more powerful story than the Governing Board can tell alone.

Example of the strategy in action for parents: Hold a webinar with the Governing Board’s Education Summit for Parent Leaders attendees and parent leader champions to review the NAEP website workshop tutorial and obtain feedback through a moderated chat on how they have used NAEP data since the event. Compile feedback to create a one-pager and share it with participants.

Example of the strategy in action for teachers and administrators: Collaborate with the National Council of Teachers of Mathematics (NCTM) on an online Q&A chat session based on the NAEP Mathematics Curriculum Study data, educating NCTM about the wide variance of content in mathematics courses and books with the same name. Board member and math teacher Dale Nowlin could be a participating panelist.

Example of the strategy in action for policymakers: Reach out to the National Governors Association (NGA) on Twitter and provide NGA with content and data about the 2013 Mathematics and Reading, Grade 12 report card.

Impact metrics: Numbers of campaign participants and user submissions; numbers of engagements (“likes,” comments, shares, retweets, views) for the multimedia submissions; quality of comments on the multimedia submissions; growth in the Governing Board social media audience and number of engaged users discussing assessment data.
- **Create multimedia, digital content and materials.** The Governing Board must present messages, graphics, and images that resonate with target audiences. A wealth of materials has been developed by the Governing Board and NCES, and the first step will be to audit and catalog resources that may be repurposed through outreach and promotional activities. For the materials gaps that are identified, it is imperative to develop interactive, multimedia content and materials that deliver key messages to target priority audiences and include a call to action. Examples include infographics that embellish key report card findings to facilitate understanding and encourage engagement with NAEP data among nonexperts; videos, Prezi, and other presentation tools allowing exploration of the relationships between ideas and numbers and visual presentations of NAEP; and an email newsletter with new content and specific calls to action.

**Example of the strategy in action for parents:** Create a “NAEP for Parents” email newsletter with information on the latest report card data and trends, multimedia content such as video clips or NAEP data user testimonials, and links to other resource or news content and the interactive data maps on the Board's parent Web pages, to be distributed bimonthly or consistently throughout the year.

**Example of the strategy in action for teachers and administrators:** Create an infographic with “hidden data” gems from the NAEP Grade 8 Black Male Students report and accompanying language to share with the National Alliance of Black School Educators to post on social media.

**Example of the strategy in action for policymakers:** Work with Board member Terry Holliday to create an interactive presentation at CCSSO’s annual large-scale assessment conference on NAEP computer-based assessments, or work with Board member Tom Lunato to distribute the dynamic 12th-grade preparedness video highlighting the new college preparedness data to Chiefs for Change members.

**Impact metrics:** Email open rate; numbers of email shares, clicks from email to website, and new email subscribers; number of release participants who list the email as their referral source; numbers of email replies or responses with inquiries about NAEP or acquiring NAEP materials and resources; number of video and infographic views and shares.

- **Potential action taken by key audiences under this goal:** Using contextual data to influence out-of-school factors that have been shown to correlate with achievement; using curriculum study findings to investigate course rigor and influence change for exposure to challenging subject matter.

By pursuing these three fundamental communication goals and identifying priority strategies and tactics, the Governing Board can more effectively reach its target audiences to Make Data Matter and, ultimately, make an impact.
The National Assessment of Educational Progress (NAEP) Authorization Act established the National Assessment Governing Board to set policy for NAEP, including determining the schedule of assessments. (P.L. 107-279)

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<td>4, 8</td>
<td>4, 8</td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>4, 8, 12</td>
<td>4, 8</td>
<td>4, 8</td>
</tr>
<tr>
<td></td>
<td>High School Transcript Study</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2024</td>
<td>ARTS</td>
<td>8</td>
<td>4, 8</td>
<td>4, 8</td>
</tr>
<tr>
<td></td>
<td>FOREIGN LANGUAGE</td>
<td>12</td>
<td>4, 8</td>
<td>4, 8</td>
</tr>
<tr>
<td></td>
<td>Long-term Trend</td>
<td>~</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**
*Assessments not administered by computer. Beginning in 2017 all operational assessments will be digitally based.

**Science in 2015 consisted of paper-and-pencil and digital-based components.

~Long-term Trend (LTT) assessments sample students at ages 9, 13, and 17 and are conducted in reading and mathematics.

Subjects in **BOLD ALL CAPS** indicate the year in which a new framework is implemented or assessment year for which the Governing Board will decide whether a new or updated framework is needed.
History of Changes to the NAEP Schedule of Assessments

Historical Schedule Changes
The major schedule changes adopted by the Board since 2000 are listed below:

1. Added grade 4 and 8 state-level Reading and Mathematics every two years. (2002) [Prior to the 2002 ESEA reauthorization (NCLB), state assessments at grades 4 and 8 were given every two years with reading and writing in one biennium and mathematics and science in the next, i.e., these subjects and grade 12 subjects were tested once every four years.]
2. Added the High School Transcript Study (HSTS) as a regularly scheduled study. (2005)
4. Added Technology and Engineering Literacy (TEL) to the NAEP subjects assessed. (2005)
5. Added grade 12 state-level Reading and Mathematics for volunteer states with a periodicity of every four years. (2008)
6. Adjusted the periodicity of science to correspond to the periodicity of TIMSS to conduct international benchmarking studies in mathematics and science. (2010)
7. Scheduled Writing as a technology based assessment, beginning with national data collections only and delaying fourth grade in order to complete a special study. (2010)

Other schedule changes and program adjustments from 2000 through 2015 have been due primarily to budget constraints and/or technical challenges, considering options such as:
- Assessing fewer grade levels in non-required subject areas (e.g., U.S. History, Civics, and Geography; Writing; TEL).
- Postponing a state-level assessment
- Postponing a full assessment/study (e.g., World History, Foreign Language, HSTS).
- Changing the sample size and reporting depth for jurisdictions (e.g., alternating subjects with a smaller sample size in a model called focal and non-focal).

Guiding Principles for Schedule Changes
Guiding principles and priorities that have been used to guide planned updates to the NAEP schedule of assessments include:

1. Follow the guidance in the NAEP Act (303(b)(2)),
2. Administer all assessments using technology beginning in 2017,
3. Continue to assess broad-based curricular areas with a priority for science, technology, engineering, and mathematics (STEM),
4. Provide state-level data in curricular areas beyond reading and mathematics,
5. Include more districts in the TUDA program.

Guidance for the schedule is found in Title 303 Sec. 303(b)(2) which addresses the use of random sampling (A), testing in reading and mathematics at grades 4 and 8 once every two years (B), and testing in reading and mathematics at grade 12 at regularly scheduled intervals (at least as often as prior to NCLB (C).

After this initial guidance, Sec. 303(b)(2)(D) provides guidance for including other subjects in grades 4, 8, and 12 to the extent time and resources allow. It says, including assessments “... in regularly scheduled intervals in additional subject matter, including writing, science, history, geography, civics, economics, foreign languages, and arts, and the trend assessment described in subparagraph (F).”
Overview of NAEP Assessment Design
The content and format for each NAEP subject-area assessment is determined by a NAEP assessment framework, developed under the Governing Board’s direction. General details about the structure of NAEP assessments include:

- **Long Test, Short Student Test Booklet**
  - Each student gets a small part of the test
  - No individual student scores

- **Common Block Structures Across Subjects**
  - Items are within blocks, blocks are within booklets
  Example:
    At grade 4: Reading has 10 blocks and Math has 10 blocks

- **Test Question Types**
  - Multiple-choice
  - Open-ended
  - Computer-based tasks (Writing, Science, TEL)

- **Contextual Questions**
  - Student, teacher, administrator questionnaires

Student Booklet Block Design
While some NAEP assessments are conducted on a technology-based platform (TEL, Writing), for paper-based assessments NAEP uses a focused balanced incomplete block (BIB) or partially balanced incomplete block (pBIB) design to assign blocks or groups of cognitive items to student booklets. Because of the BIB and pBIB booklet designs and the way NAEP assigns booklets to students, NAEP can sample enough students to obtain precise results for each test question while generally consuming an average of about an hour and a half of each student's time.

The "focused" aspect of NAEP's booklet design requires that each student answer questions from only one subject area. The "BIB" or "pBIB" design ensures that students receive different interlocking sections of the assessment forms, enabling NAEP to check for any unusual interactions that may occur between different samples of students and different sets of assessment questions.

In a BIB design, the cognitive blocks are balanced; each cognitive block appears an equal number of times in every possible position. Each cognitive block is also paired with every other cognitive block in a test booklet exactly the same number of times. In a pBIB design, cognitive blocks may not appear an equal number of times in each position, or may not be paired with every other cognitive block an equal number of times. NAEP booklet design varies according to subject area (e.g., geography, mathematics, reading, science, U.S. history, writing).
Once the instrument developer has laid out the configuration of all blocks for each booklet in a *booklet map* shown here with the following column headings,

<table>
<thead>
<tr>
<th>Booklet number</th>
<th>Cognitive block 1</th>
<th>Cognitive block 2</th>
<th>Contextual question directions</th>
<th>General student contextual questions</th>
<th>Subject-specific contextual questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
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<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

the number of rows (booklet numbers) provides the booklet spiral design information needed for the bundling of the student booklets.


**NAEP Assessment Sample Design**

Each assessment cycle, a sample of students in designated grades within both public and private schools throughout the United States (and sometimes specified territories and possessions) is selected for assessment. In addition, in state assessment years, of which 2007 is an example, the samples of public schools and their students in each state are large enough to support state-level estimates. In all cases, the selection process utilizes a probability sample design in which every school and student has a chance to be selected, and standard errors can be calculated for the derived estimates.

**Public School Selection in State Assessment Years**

The selection of a sample of public school students for state assessment involves a complex multistage sampling design with the following stages:

- Select public schools within the designated areas,
- Select students in the relevant grades within the designated schools, and
- Allocate selected students to assessment subjects.

The Common Core of Data (CCD) file, a comprehensive list of operating public schools in each jurisdiction that is compiled each school year by the National Center for Education Statistics (NCES), is used as the sampling frame for the selection of sample schools. The CCD also contains information about grades served, enrollment, and location of each school. In addition to the CCD list, a set of specially sampled jurisdictions is contacted to determine if there are any newly formed public schools that were not included in the lists used as sampling frames. Considerable effort is expended to increase the survey coverage by locating public schools not included in the most recent CCD file.

As part of the selection process, public schools are combined into groups known as strata on the basis of various school characteristics related to achievement. These characteristics include the physical location of the school, extent of minority enrollment, state-based achievement scores, and median income of the area in which the school is located. Stratification of public schools
occurs within each state. Grouping schools within strata by such selected characteristics provides a more ordered selection process with improved reliability of the assessment results.

On average, a sample of approximately 100 grade-eligible public schools is selected within each jurisdiction; within each school, about 60 students are selected for assessment. Both of these numbers may vary somewhat, depending on the number and enrollment size of the schools in a jurisdiction, and the scope of the assessment in the particular year. Students are sampled from a roster of individual names, not by whole classrooms. The total number of schools selected is a function of the number of grades to be assessed, the number of subjects to be assessed, and the number of states participating.

**Private School Selection in State Assessment Years**

In years in which state-level samples are drawn for public schools, private schools are classified by type (e.g., Roman Catholic, Lutheran, etc.), and are grouped for sampling by geography (Census region), degree of urbanization of location, and minority enrollment. About 700 private schools, on average, are included, with up to 60 students per school selected for assessment. These samples are not large enough to support state-level estimates for private schools. Thus, inferences for private schools are limited to the national level, even in years when public school assessments are state-specific.

A national sample of private schools in all grades is then drawn from a list compiled through the Private School Universe Survey (PSS), which is a mail survey of all U.S. private schools carried out biennially by the U.S. Census Bureau under contract to NCES. The PSS list is updated for new schools only for a sample of Roman Catholic dioceses.

**National-Only Assessment Years**

In years when the NAEP samples are intended only to provide representation at the national level and not for each individual state, the public and private school selection process is somewhat different. Rather than selecting schools directly from lists of schools, the first stage of sampling involves selecting a sample of some 50 to 100 geographic primary sampling units (PSUs). Each PSU is composed of one or more counties. They vary in size considerably, and generally about 1,000 PSUs are created in total, from which a sample is selected. Within the set of selected PSUs, public and private school samples are selected using similar procedures to those described above for the direct sampling of schools from lists. The samples are clustered geographically, which results in a more efficient data collection process. The selection of PSUs is not necessary when the sample sizes are large in each state, as in state assessment years.


**NAEP Alliance Contractors**

NAEP is conducted by the Assessment Division of NCES, which also works with a series of contractors. The following chart presents the structure of the collaboration between these contractors.
To learn more about NAEP contractors in addition to the NAEP Alliance contractors, visit:
http://nces.ed.gov/nationsreportcard/contracts/history.aspx
# Glossary of Acronyms and Other Terms

The following acronyms and terms are commonly used in the work of the National Assessment Governing Board.

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>AASA</td>
<td>American Association of School Administrators</td>
</tr>
<tr>
<td>ACT</td>
<td>Formerly American College Testing</td>
</tr>
</tbody>
</table>
| ADC     | Assessment Development Committee  
  (*Board Committee responsible for test development on all NAEP subjects*) |
| AERA    | American Educational Research Association |
| AFT     | American Federation of Teachers |
| AIR     | American Institutes for Research |
| ALDs    | Achievement Level Descriptions |
| ALS     | Achievement Levels Setting |
| ARRA    | American Recovery and Reinvestment Act of 2009 |
| AYP     | Adequate Yearly Progress  
  (*From the No Child Left Behind Act*) |
| BOTA    | Board on Testing and Assessment, National Academy of Sciences |
| CCSS    | Common Core State Standards |
| CCSSO   | Council of Chief State School Officers |
| CGCS    | Council of the Great City Schools |
| COSDAM  | Committee on Standards, Design and Methodology  
  (*Board committee responsible for technical issues*) |
| CRESST  | Center for Research on Evaluation, Standards, and Student Testing  
  (*Research Center at UCLA*) |
| DAC     | Design and Analysis Committee  
  (*Advisory panel to ETS on technical issues in NAEP operations*) |
| ECS     | Education Commission of the States  
  (*First NAEP contractor and organization supporting state policy leaders*) |
| EIMAC   | Education Information Management Advisory Consortium  
  (*Advisory committee to CCSSO, mostly state testing directors*) |
| ELs or ELLs | English Learners or English Language Learner  
  (*Pronounced "Ls"; formerly called Limited English Proficient or LEP*) |
| ELPA    | English Language Proficiency Assessment  
  (*Also ELPA21*) |
| EPIC    | Education Policy Improvement Center |
| ESEA    | Elementary and Secondary Education Act |
| ETS     | Educational Testing Service |
| FAR     | Federal Acquisition Regulations |
| GAO     | Government Accountability Office |
| GPO     | Government Printing Office |
| GSA     | General Services Administration |
| HSTS    | High School Transcript Study  
  (*A special NAEP data collection*) |
| IEP     | Individualized Education Plan  
  (*A required document under the Individuals with Disabilities Education Act, which specifies learning objectives for an individual student found with a disability*) |
| IES     | Institute of Education Sciences  
  (*The Department of Education office in which NCES is located. The Director of IES is an ex-officio member of the Governing Board.*) |
<table>
<thead>
<tr>
<th>IRA</th>
<th>International Reading Association</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRT</td>
<td>Item Response Theory&lt;br&gt;(A theory for design, analysis, and scoring of tests)</td>
</tr>
<tr>
<td>KaSA</td>
<td>Knowledge and Skills Appropriate&lt;br&gt;(A series of NAEP research studies to improve measurement precision)</td>
</tr>
<tr>
<td>KSA</td>
<td>Knowledge, Skill, and/or Ability&lt;br&gt;(A statement describing a subset of academic content)</td>
</tr>
<tr>
<td>LEP</td>
<td>Limited English Proficient&lt;br&gt;(Term formerly used for an English Language Learner)</td>
</tr>
<tr>
<td>LTT</td>
<td>Long Term Trend Assessment&lt;br&gt;(Series of NAEP tests that began in the early 1970’s)</td>
</tr>
<tr>
<td>MST</td>
<td>Multi-stage Testing&lt;br&gt;(A testing format where subsets of test items are presented to students based on item difficulty and student performance)</td>
</tr>
<tr>
<td>NAE</td>
<td>National Academy of Education</td>
</tr>
<tr>
<td>NAEP</td>
<td>National Assessment of Educational Progress&lt;br&gt;(Pronounced &quot;nape&quot;)</td>
</tr>
<tr>
<td>NAESP</td>
<td>National Association of Elementary School Principals</td>
</tr>
<tr>
<td>NAGB</td>
<td>National Assessment Governing Board&lt;br&gt;(Pronounced &quot;nag bee&quot;)</td>
</tr>
<tr>
<td>NAS</td>
<td>National Academy of Sciences</td>
</tr>
<tr>
<td>NASBE</td>
<td>National Association of State Boards of Education</td>
</tr>
<tr>
<td>NASSP</td>
<td>National Association of Secondary School Principals</td>
</tr>
<tr>
<td>The Nation’s Report Card</td>
<td>Alternate reference for NAEP assessments</td>
</tr>
</tbody>
</table>

<p>| NCES      | National Center for Education Statistics&lt;br&gt;(Project office for NAEP in the U.S. Department of Education and IES) |
| NCLB      | No Child Left Behind Act of 2001 |
| NCME      | National Council on Measurement in Education |
| NCTE      | National Council of Teachers of English |
| NCTM      | National Council of Teachers of Mathematics |
| NEA       | National Education Association |
| NEA       | National Endowment for the Arts |
| NEH       | National Endowment for the Humanities |
| NGSS      | Next Generation Science Standards |
| NRC       | National Research Council |
| NSBA      | National School Boards Association |
| NSLP      | National School Lunch Program |
| NVS       | NAEP Validity Studies Panel |
| OGC       | Office of the General Counsel&lt;br&gt;(in the U.S. Department of Education) |
| OMB       | Office of Management and Budget |
| PARCC     | Partnership for Assessment of Readiness for College and Careers |
| PIRLS     | Progress in International Reading Literacy Study |
| PISA      | Program for International Student Assessment |
| POC       | Principal Operating Components&lt;br&gt;(Divisions of the U.S. Department of Education) |
| PTA       | Parent Teacher Association |</p>
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>R&amp;D</td>
<td>Reporting and Dissemination Committee <em>(Board Committee responsible for NAEP reporting issues)</em></td>
</tr>
<tr>
<td>RFP</td>
<td>Request for Proposals</td>
</tr>
<tr>
<td>RP</td>
<td>Response probability <em>(probability of correct response on a test question)</em></td>
</tr>
<tr>
<td>RTT</td>
<td>Race to the Top <em>(also referred to as RTTT)</em></td>
</tr>
<tr>
<td>SBAC</td>
<td>SMARTER Balanced Assessment Consortium</td>
</tr>
<tr>
<td>SD</td>
<td>Students with Disabilities</td>
</tr>
<tr>
<td>SES</td>
<td>Socio-economic Status</td>
</tr>
<tr>
<td>TBA</td>
<td>Technology-based Assessment</td>
</tr>
<tr>
<td>TEL</td>
<td>Technology and Engineering Literacy <em>(A content area assessed by NAEP)</em></td>
</tr>
<tr>
<td>TUD</td>
<td>Trial Urban District Assessment <em>(NAEP component that measures students in large urban districts)</em></td>
</tr>
<tr>
<td>The Department</td>
<td>United States Department of Education</td>
</tr>
<tr>
<td>The Secretary</td>
<td>Secretary of Education <em>(Honorable Arne Duncan during the Obama administration)</em></td>
</tr>
<tr>
<td>TIMSS</td>
<td>Trends in International Mathematics and Science Study</td>
</tr>
</tbody>
</table>

The United States Department of Education (The Department) has taken various initiatives through its Secretary (The Secretary) to improve educational standards and assessment methods, including through the RTT and TIMSS programs. The Secretary, during the Obama administration (The Secretary), has focused on ensuring fair and equitable assessments for all students, including those with disabilities (SD).
<table>
<thead>
<tr>
<th>DATE AND TIME</th>
<th>EVENT</th>
<th>LOCATION</th>
<th>DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thursday, March 3</td>
<td>Inside NAEP: Take the NAEP Technology and</td>
<td>Hilton Arlington: Gallery I (2nd Floor)</td>
<td>Closed Session</td>
</tr>
<tr>
<td>2:30 – 4:00 pm</td>
<td>Engineering Literacy (TEL) Assessment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thursday, March 3</td>
<td>Executive Committee</td>
<td>Hilton Arlington: Gallery III (2nd Floor)</td>
<td>Closed Session 4:30 – 5:20 pm</td>
</tr>
<tr>
<td>4:30 – 6:00 pm</td>
<td></td>
<td></td>
<td>Open Session 5:20 – 6:00 pm</td>
</tr>
<tr>
<td>Friday, March 4</td>
<td>Full Board Meeting General Session</td>
<td>Hilton Arlington: Gallery I &amp; II (2nd Floor)</td>
<td>Committee Rooms:</td>
</tr>
<tr>
<td>8:30 – 10:00 am</td>
<td></td>
<td></td>
<td>10:15 – 11:15 am</td>
</tr>
<tr>
<td>(Committee meetings:</td>
<td></td>
<td></td>
<td>Joint Session</td>
</tr>
<tr>
<td>10:15 am – 12:45 pm)</td>
<td></td>
<td></td>
<td>COSDAM &amp; R&amp;D</td>
</tr>
<tr>
<td>Closed Working Lunch</td>
<td></td>
<td></td>
<td>Gallery III</td>
</tr>
<tr>
<td>Session:</td>
<td></td>
<td></td>
<td>ADC: Renoir</td>
</tr>
<tr>
<td>1:00 – 2:30 pm</td>
<td></td>
<td></td>
<td>COSDAM: DaVinci &amp; Matisse</td>
</tr>
<tr>
<td>Open Session</td>
<td></td>
<td></td>
<td>R&amp;D: Gallery III</td>
</tr>
<tr>
<td>3:00 – 5:00 pm</td>
<td></td>
<td></td>
<td><em>(All rooms located on 2nd Floor)</em></td>
</tr>
<tr>
<td>Friday, March 4</td>
<td>Full Board Group Dinner</td>
<td>Kapnos Taverna 4000 Wilson Blvd</td>
<td>We will convene in the hotel lobby at 6:00 pm</td>
</tr>
<tr>
<td>6:30 – 9:30 pm</td>
<td></td>
<td>Arlington, VA 22203 (703) 243-4400</td>
<td>and either walk or share taxis to the</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>restaurant.</td>
</tr>
<tr>
<td>Saturday, March 5</td>
<td>Nominations Committee</td>
<td>Hilton Arlington: Renoir (2nd Floor)</td>
<td>Closed Session</td>
</tr>
<tr>
<td>7:30 – 8:15 am</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saturday, March 5</td>
<td>Full Board Meeting</td>
<td>Hilton Arlington: Gallery I &amp; II (2nd Floor)</td>
<td>Closed Session 8:30 – 9:00 am</td>
</tr>
<tr>
<td>8:30 am – 12:00 pm</td>
<td></td>
<td></td>
<td>Open Session 9:15 – 10:45 am</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Closed Session 11:00 am – 12 noon</td>
</tr>
</tbody>
</table>
Shuttle Service from BWI Thurgood Marshall Airport, Dulles International Airport and Ronald Reagan National Airport

Super Shuttle provides shuttle service from BWI Thurgood Marshall Airport (BWI), Dulles International Airport (IAD) and Washington Reagan National Airport (DCA) to the hotel. For pick up, claim your luggage and proceed to Ground Transportation/Shared Ride Vans. Reservations are not required for transportation to the hotel. However, reservations are required for transportation to the airport. 24-hour notice is preferred, and reservations can be made on-line at www.supershuttle.com, or by calling toll free (800) 258-3826. The one-way fare is approximately $50 from BWI, $31 from Dulles and $18 from Reagan.

Taxi Service

Arrivals and Departures via BWI Thurgood Marshall Airport and Ronald Reagan National Airport

Several taxi companies provide service from BWI Thurgood Marshall Airport (BWI) and Ronald Reagan National Airport (DCA). The one-way trip from BWI takes approximately one hour and the fare is approximately $90. The one-way fare from Reagan is approximately $25 and travel time is approximately 15 minutes. Taxi stands are located outside the airport and hotel.

Arrivals and Departures via Dulles International Airport

Washington Flyer Taxi Service (703) 661-6655 provides taxi service from Dulles International Airport. The one-way fare is approximately $60-65 per person and travel time is approximately 45 minutes. Upon arrival at Dulles, proceed to the baggage claim/arrivals area on the lower level of the Main terminal and proceed to the Washington Flyer taxi stand. A curbside representative will assist you with coordinating service.

Dulles International Airport Silver Line Express provides non-top service between Washington Dulles International Airport and Wiehle-Reston East Metro Station. The one-way trip is $5 and travel time is approximately 10 minutes. From the Wiehle-Reston East Metro Station, you can board Metro’s Silver Line marked “Largo Town Center” and exit at the Ballston-MU station. At the top of the escalator, walk straight (about 20 feet) into the Ballston Metro Center complex. The Hilton Arlington hotel lobby is located on the left.

You can purchase tickets at Washington Dulles International Airport from the ticket counter located near Arrivals Level Door 4 of the Main Terminal.

For more information, call 1-888-WASHFLY.

Public Transportation-Metrorail

Hilton Arlington is accessible by Metrorail via the Orange and Silver Lines. Take the Orange Line train to the Ballston-MU metro station. Upon exiting the station, walk straight (about 20 feet) into the Ballston Metro Center complex. The hotel lobby is located on the left.

Parking

Self-parking is available in the hotel's parking garage at the daily rate of $10 per day, (the early bird rate is $7 per day for arrival before 9 a.m. and departure before 6 p.m.), and a rate of $17.00 for overnight parking billed to guest rooms.
NAEP Organizational Model

U.S. Department of Education
John King, Jr., Acting

Institute of Education Sciences
Ruth Neild (Delegated)

National Assessment Governing Board
Terry Mazany

National Center for Education Statistics
Peggy Carr, Acting

Assessment Division
Peggy Carr

Contractors

Contractors