National Assessment Governing Board

Assessment Development Committee

August 4-5, 2016

AGENDA

Thursday, August 4		
Noon – 4:00 pm	**Closed Session** Review of NAEP Items for Reading, Mathematics, and Writing *Committee Discussion*	Secure material provided under separate cover
Friday, August 5		
10:30 – 10:35 am	Welcome, Introductions, and Agenda Overview *Shannon Garrison, Chair*	
10:35 – 11:00 am	Studies Involving the NAEP Mathematics Framework and State Standards *Dan McGrath,, NCES*	

11:00 – 10:25 am	Update on Technology and Engineering Literacy (TEL) Outreach Activities
	    Shannon Garrison
	    Cary Sneider, ADC Vice Chair
	    Mary Crovo, Deputy Executive Director
		Attachment A

11:25 am – 12:15 pm	**Closed Session** Update on NAEP Digital-Based Assessments *Eunice Greer, NCES*	Attachment B
	Information Item: NAEP Item Review Schedule	Attachment C

Update on NAEP Technology and Engineering Literacy (TEL)

Outreach Activities

Since the May 17, 2016 release of the NAEP Technology and Engineering Literacy (TEL) results in Detroit, a number of Board members and staff have participated in major events to further disseminate TEL data and related information to a wide range of audiences. Recent conference presentations are listed below.

> **U.S. News STEM Solutions National Leadership Conference**
> **May 20, 2016 in Baltimore, Maryland**

What Testing Technology and Engineering Literacy Means for Education

The National Assessment of Educational Progress (NAEP)—the country's largest nationally representative measurement of student achievement—released findings from the first-ever assessment of Technology and Engineering Literacy (TEL), putting NAEP on course to measure all the subjects in STEM. TEL goes beyond testing the ability to "do" engineering or use technology to measuring a myriad of skills today's 8th graders will need for any career path. A panel will discuss what the implications are for testing and instruction and what the lessons learned from this new assessment can mean for educators, students, and policymakers nationwide.

Moderator: Tonya Miles, Maryland-National Capital Park and Planning Commission; and
                         National Assessment Governing Board

Panelists:
- Claus von Zastrow, Chief Operating Officer and Director of Research, Change the Equation
- Mary Crovo, Deputy Executive Director, National Assessment Governing Board
- Steve Barbado, Executive Director and CEO, International Technology and Engineering Educators Association

<div style="border:1px solid #666; background:#b9c7e0; padding:8px;">

Change the Equation STEM Salon
 May 24, 2016 in Washington DC

</div>

Examining Access to Technology and Engineering in K-12

Are American youth getting enough hands-on experience in technology and engineering? Join Change the Equation (CTEq) for an exclusive overview of new data that sheds light on this critical question and many others. CTEq's analysis of student survey data from the Nation's Report Card's first Technology and Engineering Literacy (TEL) assessment will reveal important insights about students' opportunities to gain skills most Americans will need, whether or not they go into engineering or technology careers.

Do American youth have equal opportunities for exposure to engineering and technology, regardless of race, gender, or income? Are they gaining these opportunities in or out of schools? How can STEM advocates improve opportunity? Hear answers to these questions, discuss strategies for improving technology and engineering literacy, and network with like-minded professionals from education and industry.

Speakers:
- Linda Rosen, CEO, Change the Equation; and Member, National Assessment Governing Board
- Claus Von Zastrow, Chief Operating Officer and Director of Research, Change the Equation

<div style="border:1px solid #666; background:#b9c7e0; padding:8px;">

Event for the STEM Education Caucus
 June 16, 2016 in Washington, DC

</div>

Are You Smarter Than an 8th Grader?
Briefing on the First-Ever Nation's Report Card for Technology and Engineering Literacy

The National Assessment Governing Board and the Museum of Science, Boston's National Center for Technological Literacy®, in conjunction with the STEM Education Caucus, invite you to learn more about the first-ever Nation's Report Card for Technology and Engineering Literacy. At this dynamic briefing, participants learned more about this new assessment and what these results mean for the nation.

Event for the STEM Education Caucus (continued)

Moderator: Bill Bushaw, Executive Director, National Assessment Governing Board

Panelists:

- Rep. Joseph Kennedy III (D-MA)
- Rep. Paul Tonko (D-NY)
- Nate Ball, mechanical engineer, TV Host, entrepreneur, and author
- Peggy Carr, Acting Commissioner, National Center for Education Statistics
- Ioannis Miaoulis, President and Director, Museum of Science, Boston and Founder, National Center for Technological Literacy®
- Tonya Miles, Member, National Assessment Governing Board, and Chief Departmental Administrator, Office of the General Counsel, Maryland-National Capital Park and Planning Commission
- Claus von Zastrow, Chief Operating Officer and Director of Research, Change the Equation

American Society for Engineering Education Annual Conference
June 29. 2016 in New Orleans. Louisiana

Measuring Technology and Engineering Literacy on the Nation's Report Card

In the spring of 2016, the National Assessment of Educational Progress (NAEP) (also known as The Nation's Report Card) will release results of the first Technology and Engineering Literacy (TEL) assessment, which was administered to a national sample of grade eight students in 2014. In this session, TEL content and assessment specialists from the National Assessment Governing Board (NAGB) and the National Center for Education Statistics (NCES) will share:

- The key elements of the framework, and how the framework was developed
- How the 8th-grade assessment was developed and delivered, including sample items
- How the achievement levels setting process helps shape the interpretation of results
- The results of the 2014 assessment at grade eight, including scale scores, achievement levels, and comparison of student groups

Moderator: Pamela Lottero-Perdue, Towson University (Maryland)

Panelists:
- Sharyn Rosenberg, National Assessment Governing Board
- Cary Sneider, Portland State University and National Assessment Governing Board
- Senay Purzer, Purdue University
- Greg Pearson, National Academy of Engineering
- Laura Bottomley, North Carolina State University
- William Ward, U.S. Department of Education, National Center for Education Statistics

National Science Teachers Association Annual STEM Forum and Expo
July 28, 2016 in Denver, Colorado

Technology and Engineering Literacy: An Interactive Exploration

Using their own devices, attendees will explore the tasks and findings of the groundbreaking NAEP Technology and Engineering Literacy assessment to enhance instruction and learning.

Panelists:
- Cary Sneider, Portland State University and National Assessment Governing Board
- Shannon Garrison. Solano Avenue Elementary School: Los Angeles, CA and
        National Assessment Governing Board

Update on Digital-Based Assessment Development

NAEP's transition from a paper and pencil assessment to a tabled-administered, digital-based assessment (DBA) continues to move forward. Work is progressing in all subject areas with an eye toward DBA operational and pilot administrations in in 2017 for mathematics, reading, writing, civics, U.S. history and geography, followed by 2018 for mathematics, reading, science, civics, U.S. history, geography and technology and engineering literacy. However, some of our most recent work has been focused on civics, U.S. history and geography. For these three subjects, at grade 8, the DBA start-up and DBA pilot will be administered in 2017. Following on the heels of 2017, the first operational assessment of DBA civics, U.S. history and geography will take place, along with a paper and pencil bridge study in 2018. In addition to these processes of trans-adapting existing paper and pencil items to DBA and conducting bridging studies to evaluate the strength of the relationship between the old and new assessments, a more innovative line of development that more fully exploits the technology environment is also underway.

This session will provide the Assessment Development Committee with its first look at some of the more innovative Interactive Item Component (IIC) tools and items for the assessment of civics, U.S. history and geography. Many of these assessment elements are constructed around two to three stimuli which will serve as the focus for a set of items. Several tools are featured. In U.S. history, students will use a "select-in-stimulus" tool to identify content they wish to include in their response. In civics, we are building a constrained web-search tool that functions much like Google© but limits the content students see and can select from. And in geography, students' geographic skills and knowledge will be assessed using Geographic Information Systems (GIS). GIS is one of the leading classroom tools used for teaching geographic skills and technology to students in the United States.*

*Note added by Governing Board staff: The NAEP Geography Framework, first developed for the 1994 geography assessment, addresses the importance of Geographic Information Systems in instruction and assessment. GIS can now be incorporated into the 2018 NAEP geography assessment in the DBA environment!

Assessment Development Committee
Item Review Schedule
July 2016 – January 2017
July 22, 2016

Review Package to Board	Board Comments to NCES	Survey/ Cognitive	Review Task	Approx. Number Items	Status
7/20/16	8/12/16	Cognitive	2017 Reading (4, 8) Operational (DI)	20 (2 blocks)	For review at August Board meeting
7/20/16	8/12/16	Cognitive	2017 Writing (4) Operational (DI)	22	
7/20/16	8/12/16	Cognitive	2017 Writing (8) Operational (DI)	3	
7/20/16	8/12/16	Cognitive	2019 Reading (4) Pilot (SBT)	2 tasks	
7/21/16	8/12/16	Cognitive	2017 Math (4, 8) Operational (DI)	216	
11/9/16	11/29/16	Cognitive	2019 Math (12) Pilot (SBT) Draft builds	2 tasks	
11/9/16	11/29/16	Survey	2019 Math (12) Pilot	20*	
11/9/16	11/29/16	Survey	2019 Reading (12) Pilot	10**	
1/5/17	1/26/17	Cognitive	2019 Reading (12) Pilot (SBT) Draft Builds	2 tasks	

NOTE: "SBT" indicates Scenario-Based Task
"DI" indicates Discrete Item