National Assessment Governing Board
Assessment Development Committee
Report of November 20, 2015

Joint Meeting with Reporting and Dissemination Committee on Reporting of the Technology and Engineering Literacy Assessment

Assessment Development Committee Members: Cary Sneider (Vice Chair), Frank Fernandes, Doris Hicks, Dale Nowlin, Chasidy White.

Reporting and Dissemination Committee Members: Rebecca Gagnon (Chair), Alberto Carvalho, Terry Mazany, Tonya Miles.

Governing Board Staff: Bill Bushaw, Lily Clark, Mary Crovo, Stephaan Harris, Laura LoGerfo, Tony White.

NCES Staff: Peggy Carr, Halima Adenegan, Gina Broxterman, Mary Coleman, Jamie Deaton, Elvira Germino Hausken, Eunice Greer, Linda Hamilton, Lydia Malley, Dan McGrath, Emmanuel Sikali, Holly Spurlock, Ebony Walton, Bill Ward, Grady Wilburn.

Other Attendees: AIR: Kim Gattis, Cadelle Hemphill, Teresa Neidorf, Young Yee Kim. CRP: Arnold Goldstein, Edward Wofford. DCG: Meredith Davis, Chelsea Radler, Lyn Schultes. ETS: Jonas Bertling, Jay Campbell, Robert Finnegan, Rebecca Moran. Fulcrum: Scott Ferguson. Hager Sharp: James Elias, Joanne Lim, Ashley Parker, Debra Silimeo. HumRRO: Hillary Michaels, Sheila Schultz, Steve Sellman. Optimal Solutions: Brian Cramer, Sam Toriola. Pearson: Cathy White. Reingold: Valerie Marrapodi. Westat: Chris Averett, Greg Binzer.

1. **Joint Meeting with Assessment Development Committee on Plans for Reporting the 2014 Technology and Engineering Literacy (TEL) Assessment Results**

Reporting and Dissemination Committee (R&D) Chair Rebecca Gagnon called the meeting to order at 10:00 am. The first item on the agenda was the joint meeting of the Assessment Development and Reporting and Dissemination Committees to review progress made on the website that will report findings from the new NAEP Technology and Engineering Literacy Assessment, or TEL. It is expected that the TEL results will be released in April 2016. After a brief welcome by Rebecca Gagnon, an introduction by Cary Sneider, Vice Chair of the Assessment Development Committee (ADC), as well as an overview provided by Mary Crovo, Dan McGrath of NCES and Robert Finnegan of ETS presented the plans to report TEL results.

Robert Finnegan reminded the committees about the four primary recommendations they made at the joint ADC and R&D meeting in March 2015 on how to improve the design of the TEL release website:

- Provide a high-level introduction on why and how TEL measures important skills and knowledge
- Focus on the tasks which reflect the innovative nature of the TEL assessment items
- Emphasize findings on the contextual variables
- Provide patterns of performance on the scenario based tasks

New features on the website design presented at the November 2015 joint meeting directly responded to the feedback provided by committee members in March. Generally, the website will introduce TEL and give an overview, then invite visitors to dig deeply into the assessment through various options presented on the home page.

More specifically, the site will offer a guided tour of each type of TEL assessment task and its associated results as well as a more ala carte experience. The home page will host a motion graphic which will explain what TEL is and its importance and will entice users to delve more deeply into exemplar tasks. The "Explore the Tasks" function prominent on the home page will allow people to take a task and describe tasks with visuals, video clips, survey results, and score information. "Performance Profiles" – similar to item maps but enriched with additional detail such as relevant contextual variable data—will be available on the release site as well. Results will be presented not only by overall score but also in the three subareas.

The site's pages will emphasize direct links to findings from contextual variables most relevant to a task and its items, such as coursework in TEL areas, activities in and out of school, etc. The site will include disaggregated data, such as gender gaps as well as differences by race/ethnicity and school location. The TEL assessment includes index variables from survey results, which will be presented on the TEL website through innovative bubble charts that Jonas Bertling of ETS debuted at the March 2015 meeting, which the committee members unanimously praised. In late January 2016, R&D members will have two weeks to review and comment on the draft report site, followed by a conference call in early February to consolidate R&D feedback and feedback from ADC. After which, NCES will revise the website and submit the site for an expedited review by IES in February. Following R&D signoff on the report, the TEL Report Card is expected to be released in April 2016.

Rebecca Gagnon thanked the presenters, praised the developers for integrating the Board's feedback, and expressed appreciation for how the navigation of the site is a process, which mirrors what TEL asks participants to do on the assessment itself. Ms. Gagnon then opened the floor to questions.

Cary Sneider asked whether it was possible to see a draft version of the website before the two-week window of review opens in late January. In this case, because TEL is new and differs dramatically from other NAEP Report Cards, it would be helpful if ADC members could review

the site for content related to explanations of performance on the TEL tasks. Dan McGrath of NCES expressed that, while difficult, NCES would try to meet this request and understood the need for adequate Board review time. Mr. McGrath cautioned that the time contractors need to make changes can be more complicated and extensive, because of the website delivery model, and changes may hold important implications for the release timeline.

Peggy Carr, Acting Commissioner of NCES, noted that changes must be in line with NCES and OMB standards, to which both Mr. Sneider and Ms. Gagnon reassured Ms. Carr that the committees understood that requirement.

Mr. Sneider then pivoted to suggestions for disseminating the results. He suggested that many professional organizations (e.g., The International Technology and Engineering Educators Association [ITEEA], National Science Teachers Association [NSTA], even the National Council of Teachers of English [NCTE]) would love to feature a simple summary of TEL results in their respective journals, which would help extend the TEL message. But these journals require a six-month lead time. Thus R&D could submit placeholders to such journals, for placement of an article after the TEL results are released. Dale Nowlin, an ADC member, concurred and suggested that publishing in these journals might attract teachers to peruse the TEL website.

Ms. Gagnon was pleased with NCES' and ETS' commitment to increase user friendliness for the TEL Report Card release site, like embedding links to reduce unnecessary scrolling and minimizing required clicks to access information more easily. Ms. Gagnon added recommendations, such as containing each web page to one specific topic and sending users to other pages when branching to other ideas. Mr. Sneider and the rest of the committees' membership agreed with these suggestions. The joint session ended at 10:50 am.

Assessment Development Committee Meeting

Assessment Development Committee (ADC) Members: Cary Sneider (Vice Chair), Frank Fernandes, Doris Hicks, Dale Nowlin, Chasidy White.

Governing Board Staff: Mary Crovo.

NCES Staff: Jamie Deaton, Allison Deigan, Eunice Greer, Elvira Germino Hausken, Shawn Kline, Lydia Malley, Holly Spurlock, Ebony Walton, William Ward.

Other Attendees: AIR: Kim Gattis, Young Yee Kim, Teresa Neidorf. CCSSO Policy Task Force: Shelley Loving-Ryder. CRP: Ed Wofford. ETS: Jonas Bertling, Jay Campbell, Rebecca Moran, Greg Vafis, Karen Wixson. Fulcrum: Kevin Price. Hager Sharp: Joanne Lim. HumRRO: Sheila Schultz. Optimal Solutions: Brian Cramer. Pearson: Kathy White. Widmeyer: Siobhan Mueller.

2. Update on NAEP Digital-Based Assessments (DBA)

Assessment Development Committee Vice Chair, Cary Sneider, convened the ADC meeting at 11:00 am. The ADC heard a presentation from Eunice Greer of NCES on capturing, analyzing, and reporting "process data" from NAEP digital-based assessments. In addition to the student's response to an item, NAEP captures the associated keystrokes of the student's interactions with that task or item. Process data are the digital trails students leave when they interact with NAEP tasks and items on the DBA platform. For example, this could be button clicks or keystrokes. Process data also can show what part of the screen the student activates during a task. And there is also time stamp data to indicate how quickly or slowly a student progressed on an item or task.

The design of interactive elements and analysis of process data are strongly grounded in cognitive theory and research. Ms. Greer noted that this analysis work is in a research and development mode at present, with a future possibility of reporting process data for NAEP DBA assessments.

As one example of process data reporting, the ADC saw how multi-colored horizontal bars were generated in a graphic display that showed when a student is given a reading passage and items. NAEP can generate a multicolored bar to show how long students spent reading the passage, when they began to take the items, when or if they referred back to the passage, and other process data. The bars differ for students and response patterns can be interpreted from the aggregate process data. For various subjects—reading, math, science—there is a unique graphic display such a colored bar or line graph, showing patterns of student responses and various process data.

Although these process data analyses are in the preliminary stages, they hold great potential for informing task and item development, and serving as a resource for expanded and enriched reporting. Process data can also show the type and frequency of use for various NAEP accommodations by students with disabilities and English language learners during the assessment.

Holly Spurlock of NCES emphasized that there are no formal timelines or plans at present for this type of process data reporting, given the research and development that is ongoing in this area. The ADC had a number of questions during this DBA presentation and requested an update in March 2016.

Closed Session: 11:30 am - 12:30 pm

Assessment Development Committee (ADC) Members: Cary Sneider (Vice Chair), Frank Fernandes, Doris Hicks, Dale Nowlin, Chasidy White.

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Other Attendees: AIR: Kim Gattis, Young Yee Kim, Teresa Neidorf. CRP: Ed Wofford. ETS: Jonas Bertling, Jay Campbell, Rebecca Moran, Greg Vafis, Karen Wixson. Fulcrum: Kevin Price. Hager Sharp: Joanne Lim. HumRRO: Sheila Schultz. Optimal Solutions: Brian Cramer. Pearson: Llana Hines, Kathy White.

In accordance with the provisions of exemption (9)(B) of Section 552b(c) of Title 5 U.S.C., the Assessment Development Committee (ADC) met in closed session on November 20, 2015 from 11:30 am to 12:30 pm to receive a briefing on additional analyses of the 2015 NAEP data in grades 4 and 8. This briefing included discussion of secure NAEP data and test items which have not yet been publicly released.

3. Additional Analysis of NAEP 2015 Data: Focus on Frameworks and Items

The ADC met in closed session from 11:30 am to 12:30 pm to discuss additional analyses of the 2015 data in grades 4 and 8. Rebecca Moran of ETS presented an overview of the design for maintaining trend as NAEP transitions to digital based assessments (DBA) in Reading and Mathematics in 2017. The core focus of this design is how NAEP can maintain trend from paper and pencil to DBA. The ADC spent considerable time viewing preliminary data and secure items from the 2015 bridge study at grades 4 and 8 in Reading.   The Mathematics data analysis is still underway.
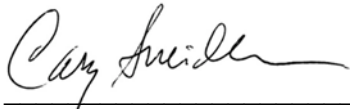
The ADC also discussed the recent NAEP Validity Studies (NVS) Panel study comparing NAEP Mathematics items to Common Core standards. NVS is an independent panel of experts that addresses research on validity considerations for NAEP. NVS is overseen by the American Institutes for Research (AIR) under contract to the National Center for Education Statistics.

ADC members noted the diverse views currently circulating about whether NAEP should align its Mathematics Framework to the Common Core. A similar set of questions arose in response to the recent study by AIR that compared the NAEP Technology and Engineering Literacy (TEL), Science, and Mathematics Framework with the Next Generation Science Standards (NGSS).

Additional comparison studies between NAEP and the Common Core are planned and many individuals have raised cautions about changing NAEP content right away, given the DBA transition and importance of maintaining trendlines in 2017 in Reading and Mathematics. Many

states are in the process of developing their own assessments now and the degree of alignment with Common Core has not been documented. The Board will continue to monitor this issue carefully and engage in additional outreach to relevant groups to explore this issue further.   The Board will discuss updates on this topic in March 2016.

I certify the accuracy of these minutes.

_____   <u>December 8, 2015</u>
Cary Sneider, Vice Chair   Date