

National Assessment Governing Board Assessment Development Committee

Report of May 15-16, 2014

Closed Session – May 15, 2014

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 May 15, 2014 from 12:00 Noon to 4:00 p.m. to review secure NAEP test questions.

Attendees: ADC – Shannon Garrison (Chair), Cary Sneider (Vice Chair), Doris Hicks, Hector Ibarra, Dale Nowlin; Other Board members – Tonya Miles; Governing Board Staff – Mary Crovo, Michelle Blair; NCES – Peggy Carr, Elvira Germino Hausken; AIR – Kim Gattis, Teresa Neidorf, Fran Stancavage; ETS – Greg Vafis, Kathleen Scalise, Jay Campbell, Rebecca Moran, Madeline Keehner; HumRRO – Monica Gribben; Fulcrum IT – Saira Brenner

The Assessment Development Committee (ADC) met in closed session to review Science interactive computer tasks in grades 4, 8, and 12. These dynamic, engaging tasks will be pilot tested in 2015. ADC members commented on the high quality measurement and engaging graphics of these interactive Science tasks. Comments were made related to fine tuning the tasks, and clarifying the Framework assessment targets measured by the tasks.

In open session, the ADC unanimously approved the following motion:

ACTION: The Assessment Development Committee approves the NAEP 2015 Science interactive computer tasks at grades 4, 8, and 12 with minor revisions to the tasks, scoring criteria, and assessment targets. These revisions will be communicated in writing to the National Center for Education Statistics.

Open Session – May 16, 2014

Attendees: Shannon Garrison (Chair), Cary Sneider (Vice Chair), Doris Hicks, Brent Houston, Hector Ibarra, Dale Nowlin, Susan Pimentel; Governing Board Staff – Mary Crovo; NCES – Peggy Carr, Elvira Germino Hausken, William Ward, Grady Wilburn, Holly Spurlock, James Deaton, Ebony Walton Chester; AIR – Kim Gattis, Terre Neidorf; ETS – Jay Campbell, Greg Vafis, Rebecca Moran, Kathleen Scalise, Madeline Keehner, Jonas Bertling; Westat – Dianne Walsh; Optimal Solutions Group – Yvette Clinton; CRP – Ed Wofford; Pearson – Connie Smith

Technology and Engineering Literacy (TEL) Assessment Update

William Ward of NCES began the briefing by describing the current TEL operational assessment. Between January and March 2014, the assessment was administered to a nationally representative sample of 22,000 eighth grade students in a total of 800 public and private schools. TEL is a completely computer-administered assessment.

In terms of the TEL assessment timeline, Mr. Ward reported that the 2014 data analysis is now underway from the January through March assessment. NCES anticipates that the TEL Report Card will be ready for release in March 2015. However, it was noted that the achievement levels for TEL will not be ready for Board approval until later in 2015. ADC members discussed advantages and disadvantages of releasing the initial TEL report without achievement level information. This is a topic that the Board's COSDAM Committee will need to address in the near future. It is also an issue for the Reporting and Dissemination Committee.

Mr. Ward presented information on plans to report a TEL composite score, along with subscores for each of the three TEL content areas. NCES also plans to report on the three TEL practices. Finally, Mr. Ward described some opportunities for in-depth reporting on how students performed on various TEL tasks in terms of problem solving skills and other areas.

ADC members discussed options for released TEL tasks and the pros and cons of those strategies. Options presented to the ADC included no released items, full release of TEL tasks vs. release of partial tasks, and releasing a complete TEL task along with some discrete items. As a hybrid approach, one TEL task could be released along with observational reporting from other tasks. ADC members noted that in a report-centered approach, NAEP should release the number and types of tasks and items that convey the important messages about the TEL assessment and findings. Members also asked whether the release of a partial TEL task means that task could be re-used in a future assessment. Various factors must be weighed carefully when considering releasing the TEL tasks and items. Such factors include cost, trend, re-use, demonstration value, and contribution to extended reporting. ADC members commented that it will be important to release some tasks and items that measure collaboration and communication, to provide examples to the public and the TEL community about how these skills are being tested by NAEP. Finally, it was noted that the use of TEL items along with both released and secure task and item descriptors will be an important component of the TEL Report Card.

Members discussed the TEL reporting issue at length. The use of key contextual variables should also play a major role in the TEL release. It was suggested that the Science interactive computer task (ICT) model be used for TEL reporting. In addition, the primary TEL report could be the initial release mode followed by smaller reports to extend the TEL message and findings to various audiences. At their August meeting, the ADC would like more information on TEL reporting in terms of the content.

Transitioning to NAEP Technology Based Assessments (TBA) in Reading and Mathematics

Elivira Germino Hausken of NCES presented information on the TBA transition. The 2017 TBA subjects include Reading and Mathematics, however other subject areas are scheduled for TBA administrations in the coming years. For example, in Science all of the assessment components will be transitioned to a TBA setting and will be reported on the main NAEP Science scale. This includes the science test items, interactive computer tasks (ICTs), and hands-on tasks (HOTs).

Ms. Germino Hausken began with an overview of issues discussed with the Reading Standing Committee. This group represents experts in the field of reading instruction, assessment, and research. Various usability studies are underway to examine the impact of different ways to present and reference reading passages. Three formats of text presentation were studied: full screen, half screen, and half screen scroll. Students were also asked how they preferred to navigate between the text and the test questions. ADC members asked if students could switch between full and half screen display mode. More usability testing is underway to determine the best way to address the issues of text presentation and text referencing.

In Mathematics, the TBA issues being studied include online vs. hand-held calculator use, online “scratch paper” vs. giving students a blank piece of paper for scratch work, and equation editors. Different equation editors are being studied at the different grade levels, since the mathematics symbols and types of equations become more complex at higher grade levels. As with the Reading TBA issues, more Mathematics usability studies are in the process of being conducted.

ADC members commented on the importance of the work being done in the TBA transition, and the need to focus on maintaining the trendlines. More TBA information will be shared with the ADC at their August meeting.

Follow-up on the NAEP Read Aloud Study

Grady Wilburn of NCES provided an update on this study, following the initial presentation at the ADC’s meeting on February 28, 2014. The principal investigator for the study was Jamal Abedi, of the University of California at Davis. NCES commissioned the study to examine the utility of read aloud on NAEP. Research questions included:

1. Does the read aloud help students with disabilities (SD) and English language learners (ELL)?
2. Does the read aloud help the non-target group (non-SD/ELL students)?
3. Does the accommodation help the target group more than it helps the non-target group?

The study also was intended to contribute to the research on the read-aloud provision.

At the present time, NCES is asking experts to comment on the study design, statistics, and methodology. Several peer reviews have been submitted so far, but additional reviews are due in

the coming weeks. Mr. Wilburn reported that to date, peer reviewers have not identified any major problems with the study. Plans call for the full set of peer reviews to be summarized in time for the ADC's August 2014 meeting.

ADC members noted some concerns with the study, including small sample sizes within the subgroups of students with disabilities. The Committee also expressed issues regarding the message that reading aloud reading passages would send to teachers of struggling readers. We do not want teachers to give up on struggling readers. While a small percentage of students cannot decode text, too many students receive a read aloud provision and are never taught to read. Members also discussed the option of reading aloud only the test questions. However, if students cannot read the reading passage, they are unlikely to be able to read the test questions. ADC members commented that reading the test questions seems more related to helping students focus on the assessment and not really about their ability to read printed text.

Options for NAEP Assessments in U.S. History, Civics, and Geography

Governing Board staff member, Mary Crovo, provided a brief overview of the NAEP assessments in these subject areas. Throughout the Board's history, it has been important to have separate assessments in these subjects, as evidenced by the framework projects conducted by the Board in the 1990's. Some minor revisions have been undertaken since that time, however NAEP trendlines in all of these subjects were maintained.

Holly Spurlock then displayed the timeline for transitioning these subjects to a technology based assessment (TBA) platform. The first operational assessment would occur in 2018, with a pilot study scheduled for 2017. To realize testing and cost efficiencies, the TBA design calls for examining the NAEP frameworks in U.S. History, Civics, and Geography to look for areas of content overlap. There may be some areas of the frameworks that could be tested using the same stimulus material, such as an interactive map, video clip of an historic event, or audio clip of an important speech. Such "interactive stimulus tasks" or ISTs could be used as the basis for sets of test questions. An IST might be used in both U.S. History and Civics, with subject-specific test items developed that measure the respective framework objectives.

The next steps in the TBA transition for these subjects is for the content Standing Committees to review the NAEP frameworks for areas of content overlap and possible topics for some common ISTs.

ADC members commented on the availability of rich, original source material that is currently in the public domain. Such multi-media material could include video clips, interactive maps, and other materials to be used in developing NAEP ISTs. This would be both cost effective and provide efficiencies for test development. This type of material would be very engaging for students at all grade levels, and serve as an interesting source of innovative NAEP items in the TBA environment. Members expressed a high level of interest in the TBA work in these subject areas. This could provide more "gold standard" assessment examples that could be shared with teachers, parents, and policymakers.

NAEP and the Next Generation Science Standards (NGSS): A Comparison Study

Teresa Neidorf of the American Institutes for Research (AIR) provided an overview of this planned study. In 2014, phase I of the study will focus on comparing NAEP frameworks in Science, TEL, and Mathematics to the NGSS. Future phases of the study would involve comparisons at the item level, when NGSS assessments become available. Ms. Neidorf illustrated the types of content areas in NAEP science, TEL, and Mathematics that correspond to specific areas of the NGSS.

ADC members noted that the study purposes should be labeled goals, to more accurately reflect the study process and outcomes. The National Research Council (NRC) report stated that a matrix sampling assessment approach is the best way to determine if the NGSS are being implemented in the states. NAEP can play an important role in this work.

In addition, the ADC provided feedback on the level of comparisons to be made to ensure that similar content is being matched across NAEP and NGSS. The NAEP Mathematics reasoning subareas should also be examined in relation to the NGSS content. Finally, it was recommended that the NAEP specifications documents should be examined as part of the content comparison study, since those detailed documents contain much of the rich content descriptions of what NAEP measures at grades 4, 8, and 12.

ADC members thought the overall design of the NAEP/NGSS study was well organized and comprehensive. They requested an update on the study at their August 2014 meeting.

Contextual Variables: Implementing New NAEP Guidelines

At the request of the ADC, James Deaton of NCES provided a comprehensive overview of ways NCES is implementing the Board's new contextual variables policy. Mr. Deaton outlined implementation steps that are underway or in the planning stages for seven contextual variable guidelines. For clusters of questions, NCES is working to align the NAEP design with that of other large-scale surveys. This will also minimize the wording effects of individual questions. In terms of special studies, clusters of questions can be designed to focus on an area of interest. Such areas might include charter school questions or technology related questions. NCES is looking at ways to implement the guideline related to eliminating duplication and low priority questions. Data-driven decisions are being considered that examine qualitative and quantitative measures. Qualitative factors include sensitivity and relevance, whereas quantitative measures include percentage missing, response rate distribution, and correlation with achievement.

An opportunity has developed to implement the guideline related to using international contextual questions. NCES is now reorganized with international assessment staff and NAEP staff in one division. The program plans to use some TIMSS items for the 2015 NAEP Science assessment, for example. Mr. Deaton then described implementation plans for the guideline on preserving trend, and considerations needed when deciding whether to break trend. Next Mr. Deaton addressed the guideline that specified increasing the time for students to answer

contextual questions. With the advent of NAEP technology based assessments (TBA), students will have 15 minutes to respond to contextual questions. Finally, the guideline related to spiraling questions was described and TBA options were presented.

In closing, Mr. Deaton summarized the steps NCES is taking to address each of the seven contextual variable guidelines. ADC members commented on the high quality, responsive, and detailed presentation. It will be interesting to see the changes that are forthcoming in the NAEP contextual questions. The ADC noted that these questions are a rich source of NAEP information, and will be of great interest to the general public, teachers, and policymakers in the years ahead.

I certify the accuracy of these minutes.



6/3/2014

Shannon Garrison, Chair

Date