

National Assessment Governing Board

Assessment Development Committee

Report of February 27-28, 2014

CLOSED SESSION – February 27, 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 February 27, 2014 from 1:15 p.m. to 3:00 p.m. to review secure NAEP test questions.

Attendees: ADC – Shannon Garrison (Chair), Cary Sneider (Vice Chair), Brent Houston, Hector Ibarra, Dale Nowlin; Governing Board Staff – Mary Crovo, Michelle Blair; NCES – Elvira Germino Hausken; AIR – Kim Gattis, Ruth Isaia, Alka Arora; ETS – Gloria Dion, Greg Vafis, Rebecca Moran, Michael Friesenhahn.

The Assessment Development Committee (ADC) met to review operational 2015 NAEP reading and mathematics items at grades 4 and 8. These items had been reviewed previously by the ADC prior to pilot testing. Included in the confidential item review materials were student performance data from the 2014 pilot test.

ADC members had a thorough discussion of the reading and mathematics items. As a result of the review, several scoring guides were refined and other small edits were made to the scoring guides. ADC members commented on the very engaging reading passages for 4th and 8th graders. All items were approved in reading and mathematics.

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

ACTION: The Assessment Development Committee approves the NAEP 2015 reading and mathematics operational items at grades 4 and 8, with minor revisions to the scoring criteria. These revisions will be communicated in writing to the National Center for Education Statistics on or before March 5, 2014.

OPEN SESSION – February 28, 2014

Attendees: Shannon Garrison (Chair), Cary Sneider (Vice Chair), Brent Houston, Hector Ibarra, Dale Nowlin; Governing Board Staff – Mary Crovo; NCES – Elvira Germino Hausken, Dan McGrath, Dana Kelly, William Ward, Eunice Greer, Grady Wilburn, Peggy Carr, Holly Spurlock; AIR – Kim Gattis, Ruth Isaia, Alka Arora, Teresa Neidorf; Fran Stancavage; ETS – Jay Campbell, Gloria Dion, Lonnie Smith, Greg Vafis, Rebecca Moran, Michael Friesenhahn; Westat – Lisa Rodriguez; Fulcrum – Jud Cole, Scott Norton; Hager Sharp – Selam Maru; U.S. Department of Education – Jessica McKinney; Optimal Solutions Group – Stipo Josipovic

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 is being administered to a nationally representative sample of 20,000 eighth grade students in a total of 800 public and private schools. TEL is a completely computer-administered assessment.

Mr. Ward provided a sample of anecdotal responses from students, teachers, and school principals. Overwhelmingly, the responses described students' excitement about the TEL scenario-based tasks and the connection to real-world activities. Teachers and school administrators commented on the high level of student engagement with the assessment and the innovative nature of the TEL tasks. ADC members noted that the school-level comments reinforced the importance of more focused NAEP outreach for school principals.

The next phase of the TEL update covered plans for web-based outreach efforts. The released Wells task has been on the NAEP website for some time, but additional materials are in development to provide more context and guidance for teachers, students, and others. Following Mr. Ward's presentation of draft web-based information, ADC members had a number of comments on the proposed website.

Overall, the ADC noted that the web pages were too text-heavy. The focus of the main page should be a large icon for the Wells task. The web "breadcrumbs" also need to be more visually appealing on the landing page. Perhaps the landing page could have different entry points depending on the audience. Students may want to go directly to the Wells task, while teachers may want to explore the assessment targets, performance data, scoring rubrics, or other information.

On other web pages, ADC members stated that the "donut-shaped" graphics page was too text-heavy and difficult to read. In displaying the horizontal bar chart of high and low performing groups, the high performing bar should be above the low performance bar. In the slide with the four percentages in four quadrants, a better explanation is needed to facilitate interpretation of the data. Throughout the web-based display, it is important to note that these data were obtained from the 2013 TEL pilot—not the 2014 operational assessment.

As noted in the previous ADC review of preliminary Wells task pages, the criterion of "efficiency" is not aligned with the TEL Framework targets for this task. The goal is for students to use evidence appropriately when working on a design and systems task. Another ADC member commented that "systematicity" was not a user-friendly label for the Wells task graphics. The task was designed to assess whether students think logically about the system in solving the Wells task problem. Another important skill in this task is troubleshooting.

ADC members recommended the Science Interactive Computer Tasks (ICTs) on the web as an excellent model for communicating information to broad audiences about scenario-based tasks. It was also noted that on some Mac computers, the current Wells task display had text appearing on top of the graphics, making the display difficult to read.

Members also agreed that the term "probe" should be dropped from references to the 2014 TEL administration. This term is misleading, since the national TEL sample of 20,000 eighth graders is larger than many NAEP national samples in other subjects.

In conclusion, ADC members thanked Mr. Ward for presenting the draft Wells task web pages. The Committee requested they be provided a staging site to review the next draft Wells website, so they can independently review and comment on the information. Following their independent reviews, the Committee could convene via webinar or conference call to share their results. Depending on the development timeline for the Wells task website, the ADC could conduct the review discussion at its May 16, 2014 meeting.

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

For this session, Eunice Greer of NCES provided a briefing on NAEP's transition to technology-based assessments in reading and mathematics. The goal is to complete this transition by 2017 via a comprehensive, carefully coordinated set of steps during the next several years.

Initially, NCES is working with its contractors to convert current NAEP paper and pencil questions to a technology-based platform. This will form the basis of a bridge study in 2015 between the paper/pencil administration and the TBA component. Following that step, new technology-based items will be developed that take full advantage of the computer delivery system to test more higher order skills.

The TBA transition process is intended to maintain existing trend results while beginning a staged introduction of innovative TBA items. Individual items may perform differently in paper-and-pencil assessments vs. the TBA administration. Bridge study analyses will evaluate the link between TBA results, paper-and-pencil results, and the established NAEP trend lines. These data will inform the selection of a pool of items, which will be supplemented in 2016 with new items to be piloted.

For the TBA delivery, a substantial amount of work went into exploring options for the hardware and software. Various groups were involved in meetings and teleconferences including technology and software vendors, state content and measurement experts, and other important constituents. The decision was to use tablets that NAEP would bring into the schools. Students also will be provided with a keyboard during the assessment.

Ms. Greer then presented subject-specific issues related to reading and mathematics item development in a TBA environment. For reading, NAEP is exploring how to present the reading passages on the screen, how to display the passage and items at the same time, and how students will be able to refer to sections of the passage to support answers to items. In mathematics, online calculators, measurement tools, and equation editors were among the most salient TBA issues being explored.

ADC members expressed a number of positive comments about the TBA transition plan. The Committee looks forward to continued engagement in the process as work moves ahead.

Results of the NAEP Read-Aloud Study

Grady Wilburn of NCES provided a briefing on a study of various read aloud conditions. 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?
- 4.

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

Mr. Wilburn described the sample of students in 4th and 8th grade and the materials they were provided in the study. Students were randomly assigned to one of several experimental conditions: read aloud all (passage, directions, items); read aloud everything except the passage; and no read aloud. All groups of students (SD, ELL, and Non SD/ELL) received each treatment.

ADC members were presented with findings of the study in terms of 4th and 8th grade student performance in the various experimental conditions. Results showed that the read aloud was effective at grade 4, but had mixed results at grade 8. The read aloud was not shown to be valid across all conditions in grades 4 and 8.

The ADC engaged in a lengthy discussion of the study methodology, findings, and conclusions. First, the study labeled read aloud as an accommodation. However read aloud is a modification of the Board-adopted Reading Framework definition of reading comprehension. According to the Framework, the NAEP Reading Assessment requires students to read passages of text written in English and respond to questions about what they have read. The NAEP Assessment is a reading comprehension assessment; it is not an assessment of listening comprehension.

ADC members noted that variability due to the human reader was not accounted for in the study. This variable could have significantly influenced the results. There was also a question about the sample size and generalizability of the findings. Particularly in the Specific Learning Disability subgroup, there are many types of learning disabilities. It was not clear how these were represented in the subgroup of students in the study. Another question that was not addressed in the study was how the test administrators were instructed to respond to a student who wanted them to re-read a part of the text to support an answer. Many other concerns about this study were expressed by the ADC.

In terms of implications, members noted that reading aloud a reading comprehension test to students sends a message to teachers of struggling readers at the early elementary level. Many of those students can learn to read, but individual students may learn to master various reading skills at a different pace. It would be inappropriate for NAEP to signal that struggling readers not receive reading instruction in in the elementary grades. ADC members did acknowledge that a very small percentage of students do have disabilities that prevent them from reading written text.

ADC members thanked Mr. Wilburn for briefing the Committee on the study. The ADC found the study design and results interesting. However, the Committee reaffirmed that reading aloud reading passages on the NAEP Reading Assessment was not consistent with the construct being measured. The read aloud study did not support a change in the NAEP Reading Framework.

STEM Indicators Project

ADC Vice Chair, Cary Sneider, briefly described an ongoing project involving the National Science Foundation (NSF), SRI, NCES, and others. The project is an effort supported by NSF to SRI to

support NSF's indicators of progress in STEM education. One goal of the project is to explore ways that NAEP contextual (survey) questions can provide useful information for K-12 STEM education. A meeting was held in January 2014 to bring together the project partners and staff from participating organizations. Mr. Sneider participated in the meeting, along with two Governing Board staff and several NCES staff. Next steps include examining future NAEP contextual questions in relation to STEM indicators. Mr. Sneider also noted that this work may have implications for the Reporting and Dissemination Committee's work on reporting education indicators.

I certify the accuracy of these minutes.



Shannon Garrison, Chair

March 6, 2014

Date