

National Assessment Governing Board

Assessment Development Committee

Report of May 16-17, 2013

May 16, 2013

Closed Session

8:00 am – 1:45 pm

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 16, 2013 from 8:00 a.m. to 1:45 p.m.

Attendees: ADC – Alan Friedman (Chair), Shannon Garrison (Vice Chair), Hector Ibarra, Dale Nowlin, Susan Pimentel, Cary Sneider; Other Board Members – Rebecca Gagnon; Governing Board Staff – Mary Crovo, Michelle Blair; AIR – Kim Gattis; ETS – Jay Campbell, Greg Vafis, Andy Latham, Shu-Kang Chen, Madeline Keehner; HumRRO – Steve Sellman; Fulcrum IT – Saira Brenner.

Review of Science Interactive Computer Tasks (ICTs)

Andrew Latham of ETS provided an overview of the NAEP Science ICT development process and timelines leading up to the 2015 operational Science assessment at grades 4, 8, and 12. The goal is to have a total 27 interactive computer tasks. The first portion of the meeting was spent reviewing the computer-based “beta builds” (later-stage, interactive computer-based versions) for a number of ICTs that were further along in development. ADC members had previously reviewed and commented on the task outlines and “alpha builds” (early-stage, screen shot versions) for these tasks. The second part of the Science ICT review involved a large number of alpha builds. ADC comments on the outlines for these alpha builds had been gathered previously.

The ADC was pleased overall with the topics, rigor, and timeliness of the proposed tasks. They commented that the tasks will measure important content and practices in science and will be very engaging to students. Members also commented on the match between the ICTs and the assessment targets from the NAEP Science Framework. A substantial number of comments were provided by the ADC on modifications to improve the tasks in terms of clarity, increasing the level of student engagement, providing a better match to the assessment targets, and other factors.

Action on the Science ICTs was taken in open session during the ADC’s May 17, 2013 meeting.

May 17, 2013

Closed Session

10:00 – 11:00 am

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 17, 2013 from 10:00 a.m. to 11:00 a.m.

Attendees: ADC – Alan Friedman (Chair), Shannon Garrison (Vice Chair), Hector Ibarra, Dale Nowlin, Susan Pimentel, Cary Sneider; Governing Board Staff – Mary Crovo; NCES – Arnold Goldstein, Jamie Deaton, Bill Ward; AIR – Kim Gattis; ETS – Jay Campbell, Greg Vafis, Shu Kang Chen, Madeline Keehner, Andy Latham; Westat – Dianne Walsh; Fulcrum IT – Saira Brenner; Pearson – Brad Thayer; Optimal Solutions – Sadat Asrar.

Review of a Science Hands on Task (HOT)

Based on a previous review, the ADC had requested a new grade 12 hands-on task be developed to replace one that was not deemed appropriate for 12th graders. The new hands-on task was discussed in the May 17 closed session. Comments were provided by ADC members related to the assessment targets measured, the equipment set-up, and other issues. Action on this HOT was taken in open session on May 17.

2013 Technology and Engineering Literacy (TEL) Pilot Test: Update and Preliminary Observations

William Ward of NCES provided a status report on the TEL pilot test, which was administered to 16,000 eighth-grade students in both public and private schools. The TEL pilot used an administration model similar to the one for the NAEP Writing computer-based assessment. Westat field staff brought laptops into the schools and students took the TEL assessment in two groups of 15 students, for a total of 30 students per school. The sample size for the TEL pilot was larger than is typical for NAEP pilot tests, due to additional analyses planned to help prepare for the 2014 operational assessment.

Mr. Ward shared preliminary observations from the TEL pilot, including the usefulness of universal design features that provide computer-based accommodations for students with disabilities and English language learners. For example, the computer-based TEL assessment allows adjustment of font size, text to speech, and other features to make the assessment more accessible. Such features also eliminate the need for many separate accommodated sessions since students needing these accommodations participate in the regular assessment setting. This reduces the time NAEP spends in a school and also lowers field staff administration costs.

The ADC also received information on preliminary observations from scoring the TEL tasks. Mr. Ward then shared some examples of the very positive feedback received from students, teachers, and school administrators on the TEL assessment.

ADC members were very pleased with the preliminary results from the 2013 TEL pilot, particularly the encouraging findings from scoring and the positive feedback expressed from those who participated in the assessment. ADC members requested an update at their August 2013 meeting on the TEL pilot and preliminary analyses.

May 17, 2013

Open Session

11:00 am – 12:30 pm

Attendees: ADC – Alan Friedman (Chair), Shannon Garrison (Vice Chair), Hector Ibarra, Dale Nowlin, Susan Pimentel, Cary Sneider; Governing Board Staff – Mary Crovo; NCES – Arnold Goldstein, Jamie Deaton, Bill Ward; AIR – Kim Gattis; ETS – Jay Campbell, Greg Vafis, Shu Kang Chen, Andy Latham; Fulcrum IT – Saira Brenner; AIR – Fran Stancavage; Optimal Solutions – Sadat Asrar; CRP – Carolyn Rudd, Edward Wofford.

Release of the Next Generation Science Standards (NGSS)

ADC Chair, Alan Friedman, gave a presentation on the recently-released NGSS and the implications for NAEP. The NGSS standards reflect a new consensus on STEM learning. Key features of the NGSS are: 1) disciplinary core ideas in science and engineering; 2) scientific and engineering practices; and 3) crosscutting concepts. The NGSS include eight Practices, such as: 1) asking questions (for science) and defining problems (for engineering); 2) developing and using models; and 3) planning and carrying out investigations. Mr. Friedman also outlined the crosscutting concepts in the NGSS including systems and system models, energy and matter, and structure and function, among others.

Response to the NGSS has been positive, including feedback from the National Academy of Sciences, the U.S. Department of Education, the National Science Foundation, and the National Science Teachers Association. The NGSS make engineering a priority, which was not the case in the previous national science standards. However, at this point there is no plan for developing an assessment of the NGSS and no practical model for implementing the standards.

Cary Sneider, who served as one of the NGSS authors, noted that many curriculum developers and textbook companies are beginning to work on materials aligned with the NGSS. He also mentioned that the NGSS require instruction in five subject areas at the high school level: biology, chemistry, physics, Earth/space science, and engineering. This is a major curriculum shift, since many states only require two or three science courses for a high school diploma.

Shannon Garrison commented that the NGSS also will have a major impact on elementary science education due to the shift toward more rigorous content and a substantial focus on higher order thinking skills

Mr. Friedman said that the NAEP Science and the NAEP Technology and Engineering Literacy (TEL) assessments appear to be well-aligned with the NGSS content. It will be important to examine future NAEP Science and TEL assessments, in addition to related NAEP background variables, for possible impacts on student performance in these areas as the NGSS are implemented.

Update on Reporting Grade 4 Computer-Based Writing Information

Arnold Goldstein of NCES updated the ADC on progress since their March 2013 meeting on reporting information from the grade 4 computer-based Writing pilot. In March the ADC had provided substantial feedback on the proposed reporting plans and gave input on both the substance and format of the planned reports.

Mr. Goldstein explained that the goal of the grade 4 Writing pilot report was to communicate what was learned in the development and implementation of the grade 4 assessment. The information will be shared via the website and the target audiences are the assessment community and assessment consumers. In terms of lessons learned, the report will describe how the grade 4 computer platform was determined, how well students interacted with the computer-based assessment, the types of writing prompts administered via computer, and how accommodations were administered on the computer. In terms of the reporting timeline, Mr. Goldstein said that the website should be ready for release later this summer.

ADC members felt that the report format was much improved in comparison to the version they reviewed in March. They thought the web mock-up Mr. Goldstein shared would be of interest to educators in addition to the assessment community. ADC members recommended that the online report examine the background variables in some depth. For example, how did students who reported no experience on the computer interact with the NAEP Writing platform? Members also noted that the website should link to existing writing prompts on the NAEP Questions Tool, scoring rubrics, and student responses. Since the 2013 Writing pilot website will not include student results or released tasks, teachers will want some examples of the kinds of prompts NAEP has used in the past, along with accompanying information that could be useful in the classroom.

Assessment Development under the New NAEP Contracts

William Ward of NCES gave a brief presentation on the new NAEP contracts, with a focus on assessment development activities. He reported that the new NAEP Alliance contracts were awarded in March 2013. Mr. Ward described the NAEP Alliance contractors, most of which remained the same as in the 2008-2012 contract cycle.

In addition to the major contractors, there are some new subcontractors such as IBM and SRI. IBM will work with several NAEP contractors on transitioning to computer-based assessments and other tasks. SRI will lead the evidence-centered design (ECD) work for mathematics. Mr. Ward explained that all new assessments will employ the ECD model,

as was used in TEL, to help ensure that NAEP results are as relevant, meaningful, and as actionable as possible.

Under the new contract, NCES is working to develop a dynamic NAEP-specific item development tracking system. The system will hold all of the cognitive and survey material and associated data, allowing for quick and efficient retrieval and reporting of item inventories, histories of individual items, and other information.

In the survey questionnaires, Mr. Ward explained that NCES will expand the research base and its application in development of new background questions. The expert panel in this area will be reconstituted with a new focus on expertise in survey methodology. New literature reviews will be conducted, particularly in the areas of educational practice and policy. International assessment information, such as that from TIMSS and PISA, will be considered during development of the new NAEP survey questions.

ADC members thanked Mr. Ward for his presentation on the new contracts and look forward to future briefings as the assessment development work moves forward.

Revisiting the NAEP Foreign Language Assessment

Governing Board staff member, Mary Crovo, provided an overview of the issues related to a possible “revisit” of the Board’s Foreign Language Framework, originally developed in the early 2000’s. Based on Board member comments at the February-March, 2013 meeting related to testing English language learners and assessing students’ skills in Spanish, the staff thought that the current Board members should be made aware of the Foreign Language Framework and possibilities for its use in NAEP’s evolving computer-based environment. Currently the Board’s proposed Schedule of Assessments includes Foreign Language in 2020.

The NAEP Foreign Language Framework and Specifications were originally developed between 1999 - 2000 under a contract to:

- Center for Applied Linguistics (CAL)
- American Council on the Teaching of Foreign Language (ACTFL)
- American Institutes for Research (AIR)

Members of the Foreign Language Framework development panels included educators, business representatives, government agency representatives (e.g., from the Defense Language Institute in Monterey), researchers, representatives of foreign language organizations, psychometricians, and members of the general public.

Originally designed as a two-stage assessment, the Foreign Language NAEP focused on testing 12th grade students’ Spanish language skills in reading, writing, listening, and speaking. A second component consisted of a brief paper-and-pencil (and also an electronically-delivered version) language screener for the two-stage Spanish assessment, and as a brief self-assessment in other languages. This component also contained the student background questions.

The main NAEP Foreign Language Assessment was designed to be administered to a targeted sample of 12th graders—both native Spanish speakers and students who had taken or were enrolled in Spanish language classes.

The ADC also heard about challenges experienced in the 2003 Foreign Language field test including concerns with participation rates, complexity of the assessment design, the need for more sophisticated digital technology, and other issues.

ADC members were very interested in the NAEP Foreign Language Framework, and felt that this subject area was a crucial one for NAEP given the increasingly global environment in which our students live. The Committee noted that it is important for NAEP to include a full range of subjects and not to scale back and test only a few content areas. Members discussed innovative ways in which the Foreign Language assessment could be administered via computer including online, real-time conversations and a brief online screening assessment of languages other than Spanish. However, given the Board's upcoming budget discussions this summer and likely decisions regarding the NAEP schedule, the ADC decided to postpone further discussion and planning for a Foreign Language assessment until after the August 2013 meeting.

The ADC took the following two actions in open session, both of which were approved unanimously.

- 1. ACTION: The Assessment Development Committee approves the NAEP Science Interactive Computer Task (ICT) alpha and beta builds in grades 4, 8, and 12 with changes to be communicated in writing to the National Center for Education Statistics (NCES).**
- 2. ACTION: The Assessment Development Committee approves the NAEP Science Hands on Task (HOT) for grade 12, with changes to be communicated in writing to NCES.**

I certify the accuracy of these minutes.



Alan Friedman, Chair

6-5-13

Date

