

National Assessment Governing Board Committee on Standards, Design and Methodology

March 6, 2015

Attendees

COSDAM Committee Members: Chair Lou Fabrizio, Vice Chair Fielding Rolston, Mitchell Chester, Lucille Davy, James Geringer, Andrew Ho.

Other Board Members: Board Chair Terry Mazany.

Governing Board Staff: Executive Director Cornelia Orr, Michelle Blair, Lily Clark, Sharyn Rosenberg.

NCES: Acting Commissioner Peggy Carr, Samantha Burg, Patricia Etienne, Daniel McGrath, Brad Thayer, Amy Yamashiro.

Contractors: George Bohrnstedt, Young Yee Kim (AIR); Clayton Hollingshead (CCSSO); Amy Dresher, Steve Lazer, Andreas Oranje (ETS); Melissa Spade Cristler (Hager Sharp); Laress Wise (HumRRO); Rukayat Akinbiyi (Optimal Solutions Group); Steve Ferrara, Steve Fitzpatrick, Peg Heck (Pearson); Keith Rust (Westat); Jason Smith (Widmeyer).

Introductions and Review of Agenda

Lou Fabrizio, Chair of the Committee on Standards, Design and Methodology (COSDAM), called the meeting to order at 9:48 a.m. and welcomed members and guests. Mr. Fabrizio noted that COSDAM members Terry Holliday and Jim Popham were unable to attend this Board meeting. He also welcomed Mitchell Chester to his first meeting of COSDAM.

Project Update and Design Document for Technology and Engineering Literacy (TEL) Achievement Levels Setting (ALS)

Mr. Fabrizio noted that the previous TEL ALS project director, Paul Nichols, recently left Pearson to pursue an opportunity at a different company. He asked Steve Fitzpatrick of Pearson, the new TEL ALS project director, to tell COSDAM members about himself and his experience with standard setting. Mr. Fitzpatrick introduced himself and program manager Peg Heck and provided an update on recent project activities. Since the last COSDAM meeting on November 21st, the public comment period for the Design Document came to an end; a usability study was conducted in early December; the Technical Advisory Committee on Standard Setting (TACSS) met twice in person and once by webinar; and preparations have been underway for the pilot study.

Mr. Fitzpatrick reported that the Design Document was out for public comment from October 29th until November 28th, but no comments were received. Pearson had a web page for public

comment, and the link was sent to over 100 interested organizations as part of the panelist nomination effort. In addition, a link to the public comment site appeared on the Governing Board home page. Jim Geringer expressed concern about not receiving any comments; other COSDAM members noted that the document is very long and technical, and such documents rarely receive public comments.

A usability study was conducted from December 2-4, 2014 with five eighth grade science teachers in Chandler, Arizona. The purpose of the study was to provide feedback on how panelists navigate between two different computers that will be used during the standard setting process. The first computer will be used to display the NAEP TEL items and scenario-based tasks, and the second computer will contain software to conduct the standard setting process. Mr. Fitzpatrick reported that participants were comfortable using both computers and understood the purpose of each.

The Technical Advisory Committee on Standard Setting (TACSS) held face-to-face meetings on December 18-19, 2014 and February 12-13, 2015; in addition there was a webinar on January 28, 2015. The TACSS discussed plans and materials for the upcoming pilot study, including: a design for collecting public comment on the ALS outcomes in conjunction with the National Conference on Student Assessment (per COSDAM's recommendation at the November 2014 Board meeting); functionality of the standard setting software; division of the TEL items and tasks into three parallel ordered item booklets; plans for ensuring uninterrupted internet access; the meeting room layout; and panelist evaluation questionnaires.

The TEL ALS pilot study will be held on March 16-19, 2015 in San Antonio, Texas. Results from the pilot study and planned modifications for the operational study will be discussed during a closed session at the May 2015 COSDAM meeting.

Update on Transition to Digital Based Assessments (DBA)

Andreas Oranje of Educational Testing Service (ETS) provided an overview of the current plans for transitioning NAEP Reading and Mathematics assessments onto a digital platform with a focus on the updated white paper, which was sent to COSDAM members via email the week before the March 6th meeting. In 2015, the paper-based assessments in Reading, Mathematics, and Science will continue to be administered and used for reporting NAEP results. In addition, digital-based assessments will be administered as part of the DBA start-up process, for the purpose of conducting a mode study (examining potential differences in student performance attributable to the mode of administration) and exploring how the trends can be maintained. The 2015 DBA start-up activities will be based on existing paper-based items that have been "trans-adapted," or transferred to a digital platform. In 2016, pilot tests will be conducted using new DBA items that do not have current paper-based equivalents. In addition, the trans-adapted items will be re-administered in 2016 to determine the extent to which the new content can be scaled with the existing content. In 2017, pilot tests of scenario-based tasks (SBTs) would be conducted but would not be scaled with the operational assessment. The current plan for 2017 is to administer the Reading and Mathematics assessments exclusively by tablets that would be provided by the NAEP administrators.

Last fall, the draft white paper was reviewed by three NAEP expert panels: the Design and Analysis Committee (DAC), the NAEP Validation Studies panel (NVS), and the Quality Assurance Technical Panel (QATP). Mr. Oranje provided an update on planned responses to the following five issues that were raised by the expert panels: 1) disentangle DBA from MST (multi-stage testing), which is not inherent in the design; 2) address digital equity/fairness in the DBA studies; 3) add a state validation component, which is not currently planned and would involve significant costs; 4) provide an argument for the value of scenario-based tasks; and 5) add evaluation criteria for the decision about whether trend can be maintained.

The recommendation to disentangle DBA from MST is to ensure that item assignment does not result in estimation biases (i.e., that relatively difficult items do not appear easy when disproportionately assigned to higher-performing students, or relatively easy items do not appear hard when disproportionately assigned to lower-performing students). Mr. Oranje noted that the degree of adaptive testing in the current design is modest; existing item pools were used to construct three second stage blocks for Mathematics and two second stage blocks for Science (the Reading assessment will not have an MST design in 2017). It is not feasible to implement a paper-based MST design, but it is possible to address this concern by routing a small sample of students to an adjacent second stage block. That is, of the students who would be expected to receive a second stage block of medium difficulty, 10 percent could be routed to the easy block and 10 percent could be routed to the hard block.

In terms of digital equity, Mr. Oranje began by noting that the assessment design is intended to minimize administration barriers but that some aspects of the DBA mode may be construct-relevant. Planned analyses will relate tutorial data and self-reports of experiences with digital exposure and resources to student performance data. Additional small scale experimental studies could be performed in this area.

In response to the recommendation to add a state validation component to the DBA design, Mr. Oranje presented a proposal for the 2017 grades 4 and 8 Reading and Mathematics samples to consist of both DBA (2,000 students per subject/grade per state) and paper-and-pencil (500 students per subject/grade per state). The proposed design would evaluate the paper-to-tablet link over two points in time; evaluate whether and how this link varies by state; and allow for the option to present 2017 Reading and Mathematics results as a mixture of paper- and tablet-based assessment results. Andrew Ho called the proposal a creative, practical, and feasible approach to a very important question and noted, “This plan might have saved NAEP.” There was some discussion about the potential costs of testing in two different modes in 2017, and about the tension between wanting to maintain trend, but also allowing constructs to drift over time to maintain relevance to how students are learning.

To address the value of scenario-based tasks (SBTs), Mr. Oranje stated that interactive, immersive environments can be used to measure how students develop an answer, the approach taken, and possible misconceptions. These innovative item types hold promise for measuring certain parts of the NAEP frameworks more effectively than traditional items. In addition, SBTs may be more engaging to students. Jim Geringer noted that it is more important to measure understanding than knowledge, and that SBTs may help achieve that goal.

Finally, Mr. Oranje stated that results from the bridge studies would be evaluated by focusing on the meaning of the patterns in the results rather than choosing an a priori criterion. Mr. Ho requested that this be explicitly stated in the white paper, rather than placing so much emphasis on the possible criteria of two scale points. Mr. Oranje noted that results from the 2015 bridge studies would be available in April or May 2016, and that a final decision about the design for the 2017 assessments (including the state validation component) would be needed by December 2015.

Developing a Resolution on Maintaining Trend with Transition to Digital Based Assessment

Sharyn Rosenberg, the Governing Board Assistant Director for Psychometrics, proposed that a Resolution be developed to make a formal statement about the priority of maintaining trend from 2015 to 2017 in grades 4 and 8 Reading and Math with the changing mode of administration. There was some discussion about the need to recognize that maintaining trend does not preclude changes in constructs over time; the concept of dynamic frameworks indicates that construct change can be thought of as a continuum rather than a dichotomy. Cornelia Orr, the Governing Board's Executive Director, noted that the context and timing are critical, given all of the changes in state educational and assessment systems over the past five years.

Governing Board staff, working closely with NCES staff, will propose some draft wording for COSDAM to review prior to the May 2015 Board meeting.

Governing Board Strategic Planning Initiative

At the request of Board Chairman Terry Mazany, COSDAM members discussed the strategic planning initiative and reviewed an excerpt of the meeting minutes from the February 2015 Executive Committee retreat (the complete meeting minutes appeared in the Strategic Planning tab of the full Board materials). A few members noted that the preliminary list seems more focused on procedures than process, and that they were unsure how to react to the list of ideas. There was an acknowledgment that budgetary restrictions might necessitate a strategic plan, so that the highest priorities of the Board can be funded first.

Update on Academic Preparedness Research

Ms. Rosenberg gave a brief update about the status of the Board's ongoing research studies on academic preparedness for college and job training programs. Ms. Rosenberg noted that there are no current plans to perform additional research in the area of academic preparedness for job training; a report will be prepared to summarize the previous research and lessons learned, per COSDAM's earlier recommendations.

Results from the exploratory studies at grade 8 (linking NAEP to ACT Explore in Reading and Mathematics for three states, and the content alignment study of NAEP and ACT Explore in these subjects) are expected to be presented to COSDAM during the August 2015 meeting.

The timeline for the grade 12 statistical relationship studies on academic preparedness for college is less certain. We have received data from three of the five intended state partners (MA, MI, and TN) but do not yet have signed agreements with the two remaining states (FL and IL), nor with ACT for the planned national linking study of NAEP and ACT. COSDAM will continue to receive updates on the status of this work as more information becomes available.

Other Issues and Questions

Finally, Mr. Fabrizio expressed COSDAM’s appreciation for Cornelia Orr’s service, since this is her last Board meeting as Executive Director.

I certify the accuracy of these minutes.

Louis M. Fabrizio

4-1-15

Lou Fabrizio, Chair

Date