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# Committee on Standards, Design and Methodology

March 2, 2023

3:15 pm – 5:30 pm ET

Banneker; Edison BC for Joint Meeting



## AGENDA

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<b>3:15 – 3:20 pm</b>	<b>Welcome</b> <i>Suzanne Lane, Chair</i>	
<b>3:20 – 3:50 pm</b>	<b>Update and Discussion: Adaptive Testing for NAEP (CLOSED)</b> <i>Enis Dogan, National Center for Education Statistics</i>	Attachment A
<b>3:50 – 4:15 pm</b>	<b>Debrief: NAEP State Sampling Ideas</b> <i>Suzanne Lane, Chair</i>	Attachment B
<b>4:15 – 4:40 pm</b>	<b>Prepare for and Transition to Joint Meeting</b> <i>Suzanne Lane, Chair</i> <i>Rebecca Dvorak, Assistant Director for Psychometrics</i>	
<b>4:40 – 5:30 pm</b>	<b>Joint Meeting with Reporting and Dissemination Committee: Achievement Levels and Linking Studies</b> <i>Alberto Carvalho, Chair, Reporting and Dissemination Committee</i> <i>Suzanne Lane, Chair</i>	Attachment C

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### **Adaptive Testing for NAEP**

The purpose of this session is for COSDAM members to receive an update on efforts to prepare for the potential use of multi-staged adaptive testing for NAEP operationally in 2028. Enis Dogan from the National Center for Education Statistics (NCES) will provide an update of recent activities, note additional work planned, and provide the opportunity for COSDAM members to ask questions and consider policy implications. This session will be closed because it will include sharing of preliminary data not yet available to the public.

### **NAEP State Sampling**

The National Center for Education Statistics (NCES) presented to the Board in November 2022 about recent changes to NAEP state-level sample sizes as part of a closed budget discussion. The NAEP 2022 administration of Reading and Mathematics included reduced state-level sample sizes compared to recent prior years. The reduction was driven by budgetary needs and informed by technical investigations. There were two types of notable impacts of reduced state-level sample sizes to 2022 reporting: a) a small number of subgroups for some states that had been reported in previous administrations could not be reported in 2022, and b) the standard errors increased, requiring larger year-to-year differences to be identified as statistically significant compared to prior years.

During the November session Board members discussed ideas for whether and how to address the reduction of state-level sample sizes moving forward. Many of the ideas centered around sampling procedures and psychometric considerations. The March 2023 discussion on NAEP state sampling will be an opportunity for COSDAM to debrief on the sampling and technical ideas described during the Board discussion, and to consider what ideas might warrant future investigation.

## Joint COSDAM and R&D Meeting on Achievement Levels and Linking Studies

In 2016, the National Academies of Sciences, Engineering, and Medicine (NASEM) conducted an evaluation of NAEP achievement levels. In its evaluation, NASEM presented seven recommendations to build evidence that the NAEP achievement levels are reasonable, valid, and informative. NASEM recommendations 5 and 6 call for a better understanding among the public of intended and unintended uses of achievement levels. The Board adopted the [Achievement Levels Work Plan](#) in 2020 in response to these recommendations. Activities related to recommendations 4, 5, and 6 are best addressed through collaboration between COSDAM and R&D.

### Linking Studies

NASEM recommendation 4 urges research on the relationship between the NAEP achievement levels and current or future performance on measures external to NAEP. Table 1 presents the activities the Board identified to address this recommendation in the Work Plan. To determine what measures external to NAEP would be useful, a Linking Studies Working Group, which includes Rick Hanushek (Chair), Tyler Cramer, Scott Marion, Julia Rafal-Baer, and Marty West, convenes periodically. COSDAM and R&D members will receive an update from the Working Group's discussions at the joint COSDAM and R&D meeting.

**Table 1. Achievement Levels Work Plan activities for NASEM recommendation 4.**

Proposed Activity	Responsibility	Progress
Review of technical memo <sup>1</sup> on various ideas (including pros/cons) for synthesizing and representing findings about how other assessments and external indicators of student performance relate to NAEP (including a summary of existing linking studies) and what the findings mean for NAEP.	NAGB	Efforts are ongoing through the Linking Studies Working Group
As the Governing Board develops its next Strategic Vision, deliberations will take place as part of that effort to determine how to approach the goal of making NAEP more relevant by connecting NAEP results to important real world indicators of student achievement.	NAGB	The Strategic Vision 2025 includes linking studies as a priority  Efforts are ongoing through the Linking Studies Working Group to consider how to make NAEP more relevant through linking

<sup>1</sup>Memo generated by the Center for Assessment in 2020, through a contract with HumRRO, summarizing existing NAEP linking studies, implications of these studies, and ideas for future studies.

Decision on additional studies that should be pursued to connect NAEP to other assessments and external indicators of student performance	NAGB/NCES	This will be discussed in the Linking Studies Working Group
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### Achievement Levels Communications

The NASEM recommendations 5 and 6 call for more effective articulation of the intended interpretations and uses of NAEP achievement levels, more validity evidence to support interpretations, and guidance to help users determine appropriate inferences that can be made from achievement level data. Table 2 presents the activities the Board identified in response to these recommendations. These activities form the basis for recent brainstorming sessions held by COSDAM. R&D also considered achievement level communications pertaining to the dissemination of newly developed Reporting Achievement Level Descriptions (ALDs).

**Table 2. Achievement Levels Work Plan activities associated with NASEM recommendations 5 - 6.**

Proposed Activity <sup>2</sup>	Responsibility	Progress
Convene ongoing advisory group to discuss and provide feedback on the development of materials for communicating NAEP achievement levels	NAGB/NCES	Not yet started
Collect information about current uses of NAEP achievement levels via focus groups and evaluate appropriateness of interpretations and uses that are not directly intended	NAGB	As an initial effort, held informal discussion with CCSSO task force members in Fall of 2022
Adopt statement of intended purpose and meaning of NAEP	NAGB	<a href="#">Intended Meaning</a> adopted by Board in March 2020.
Improve communications of what NAEP frameworks and achievement levels represent	NAGB/NCES	Some initial efforts to develop infographics
Develop and finalize interpretative guide for NAEP achievement levels; iterative drafts will be discussed by COSDAM and R&D	NAGB	Not yet started

<sup>2</sup> Note that all proposed activities are subject to budget constraints and existence of appropriate contract vehicles.

Collect and document validity evidence to support intended interpretations and uses of NAEP achievement levels <ul style="list-style-type: none"> <li>Collect and summarize validity evidence to support intended interpretations and uses of NAEP scale scores</li> </ul>	NAGB  NCES	Some validity evidence has been collected, may want to consider additional collection; have not yet formally summarized findings
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### Summary of Recent COSDAM Discussions on Achievement Levels Communications

In recent meetings, COSDAM members reacted to Work Plan activities from a technical viewpoint. A summary of the discussion is presented below.

COSDAM members identified and prioritized multiple stakeholders to target in communications about achievement levels (see below). All stakeholders identified were considered important consumers of NAEP data; their levels of priority reflect those considered most likely to use NAEP data directly in their work and/or convey information to others (e.g., education leaders, journalists).

<b><u>Immediate Priority</u></b>	<b><u>Priority</u></b>	<b><u>Future Priority</u></b>
State School Chiefs/Superintendents State Testing Directors District Superintendents Business Community Journalists	National and State Legislators Governors Education Committee Legislative Staff Educators/Teachers State DOE Staff (test, content, standards)	Parents Students General Public

COSDAM considered information to include in communications strategies to convey what achievement levels are and how they should be interpreted and used. The outcomes would include materials (e.g., documents, videos) that are concise, easy to grasp, free of jargon, and interesting. COSDAM suggests the following information be conveyed:

- Define NAEP
- Define NAEP achievement levels, including the policy definitions and proper interpretations (e.g., NOT consistent with state proficiency, grade-level)
- Note that achievement level data are available to examine performance at the national, state, and select district level, and for select subgroups, similar to scale score data
- Provide examples of reporting ALDs to name the knowledge and skills students performing at each level demonstrate likely can do
- Include some mention of validity evidence (e.g., indicate the development process followed field accepted standards, linking studies and review studies provide support)

- Incorporate information from the NAEP Item Maps and/or exemplar items to illustrate items at different achievement levels to add clarity
- Show how NAEP achievement levels can be mapped to state standards to understand how state assessment data compare to NAEP data

COSDAM members also considered the intended uses of achievement level communications documents by stakeholder type, for example:

- State education chiefs/superintendents should understand NAEP achievement levels and explain what these mean to other education staff in their state. They should know achievement levels can be used to consider whether their own standards are at a desired level of rigor. State chiefs/superintendents may also use NAEP achievement level data as one piece of evidence to examine whether students in their state, or specific student groups in their state, require additional supports and resources.
- Media should understand how to interpret achievement level results and to describe them accurately to a wide audience. This requires effort, given that popular articles are rife [with examples of misinterpretation](#). Journalists could pull examples of reporting ALDs in their reporting to help distinguish between students performing at various achievement levels.

COSDAM also discussed drafting technical documentation on the development and validity of achievement levels to address the sixth activity presented in Table 2. This document would summarize standard setting methodology, relevant linking studies (e.g., those that address how achievement levels link to external measures of student achievement), and achievement level research studies (e.g., recently conducted achievement level description studies).

### **Reporting Achievement Level Descriptions (ALD) Communications Documents**

The 2022 NAEP [Reading](#) and [Mathematics](#) Report Cards included Reporting ALDs adopted by the Board in August 2022. Board staff and contractors developed a [brief document](#) to communicate these Reporting ALDs.

### **Students Performing at below *NAEP Basic***

COSDAM and R&D will discuss whether there is a need to change the approach regarding students performing below the *NAEP Basic* achievement level. NAEP currently defines *NAEP Basic*, *NAEP Proficient*, and *NAEP Advanced*. Students who do not reach the *NAEP Basic* cut score are referred to as performing below *NAEP Basic* in reporting. The range below *NAEP Basic* is not defined by achievement level descriptions, though there are recent efforts to increase the number of items on the NAEP assessments within this range.

Recent actions related to the potential utility of NAEP achievement levels include:

- The 2022 Highlights for [Reading](#) and [Mathematics](#) included a focus on students falling below *NAEP Basic*, due to an increased number of students falling in this range for the most recent assessment administration.
- Suzanne Lane (COSDAM Chair) and Becky Dvorak (Assistant Director for Psychometrics) held an informal discussion with the Council of Chief State School Officers (CCSSO) Policy Task Force about achievement level utility. Task Force members explained they primarily focus on *NAEP Proficient* when examining achievement level data.

The [March 2022 COSDAM meeting materials](#) include information previously considered by COSDAM on this topic. Most COSDAM members have expressed there is not a compelling reason to add an official achievement level at below *NAEP Basic* at this time; however, given the focus of attention on this range in media reports on the NAEP 2022 data, it would be useful to hear from a reporting and dissemination perspective whether this should be considered.

### **Discussion Questions**

In the joint meeting, COSDAM and R&D members will address the following key questions:

1. How should we approach communications for achievement levels more broadly?
  - a. What are your general thoughts on the activities as presented in the Achievement Levels Work Plan adopted by the Board?
  - b. What information has COSDAM identified that you believe should be included in communications strategies intended for a wide audience? What might be too much?
2. From a reporting perspective, should the Board adopt an official achievement level for students performing below *NAEP Basic*? How would this change reporting?