

COMMITTEE ON STANDARDS, DESIGN AND METHODOLOGY AGENDA



March 11, 2024

4:00 – 6:00pm EDT

[Zoom](#)

4:00

Welcome

Suzanne Lane, Chair

4:00 – 4:55

**Exploring the Use of Rolling
Averages to Report on Small
Subgroups (CLOSED)**

*Enis Dogan, National Center for
Education Statistics, Chief
Psychometrician*

*Helena (Yue) Jia, Educational Testing
Service, Executive Director*

*Tom Krenzke, Westat, Senior Manager
of Statistical Operations*

Attachment A

4:55 – 5:00

Move to Open Session

5:00 – 6:00

**NAEP Achievement Levels Work
Plan Updates and Discussion**

Suzanne Lane

Alice Peisch, Vice Chair

*Becky Dvorak, Assistant Director for
Psychometrics*

Attachment B

6:00

Adjourn

Exploring the Use of Rolling Averages to Report on Small Subgroups

Closed Session, COSDAM Meeting
March 11, 2024

Goal

The purpose of this session is for COSDAM members to learn about methodology the National Center for Education Statistics (NCES) is exploring to report NAEP results for (1) state by race/ethnicity subgroups (public schools) that do not reach the [reporting threshold of 62 students](#), and (2) private schools, where the participation rates do not reach the [reporting threshold of 70%](#). COSDAM members will be invited to ask questions and provide input on the approaches. This session will be closed to allow sharing of data not available to the public.

Overview

NCES has been investigating two approaches corresponding to the two reporting issues listed above. In the first approach, all available data across adjacent years are combined (simple combination) to remedy the problem of small samples in public schools. In the second approach, schools that participated in the previous year are selected as substitutes for schools that were sampled but did not participate in the current year based on various school characteristics (selective combination) to remedy the problem of non-response in private schools.

Background

During the November 2022 quarterly Board meeting NCES presented data regarding state-level sample sizes for the 2022 NAEP administration compared to prior years. At the state-level, a small number of subgroups that had been reported out in 2019 were too small to report out on in 2022. In addition, the state sample sizes were smaller in 2022, which impacted the size of difference required to achieve statistical significance (i.e., smaller sample sizes require larger differences to be statistically significant). Governing Board members discussed the implications of these differences, and COSDAM has held follow-up discussions to consider different approaches to address instances of small sample sizes. This session will offer an opportunity for COSDAM to consider methodology being explored that may allow expansion of NAEP reporting to some of these small subgroups.

NAEP Achievement Levels Work Plan Updates and Discussion

Open Session, COSDAM Meeting
March 11, 2024

Goals

The goals of this session are to 1) provide new members of the Committee on Standards, Design, and Methodology (COSDAM) background information regarding the [Achievement Levels Work Plan](#), adopted by the Board in 2020, 2) update on progress towards the activities outlined in the work plan, and 3) provide an opportunity for input on content planned for inclusion in a NAEP Achievement Levels Validity Argument.

Overview

Suzanne Lane (COSDAM Chair), Alice Peisch (Vice Chair) and Becky Dvorak (Board Staff) will provide background information regarding the NAEP Achievement Levels and the Achievement Levels Work Plan. They will summarize the status of activities, with a focus on the ongoing development of an Achievement Levels Validity Argument. COSDAM members will have the opportunity to offer feedback on the content of the argument.

Background

One of COSDAM's most vital roles is around the development, setting of cut scores, and validating of the NAEP Achievement Levels. General information about the achievement levels is available on the [Governing Board website](#). In 2017 an independent [evaluation of the NAEP Achievement Levels](#) was conducted by the National Academies of Sciences, Engineering, and Medicine (NASEM). NASEM offered seven recommendations to address the validity and communications of the achievement levels. Those recommendations fall into three general areas:

1. Activities to examine the validity of the achievement levels as defined by the NAEP frameworks

The first and third NASEM recommendations call for actions to be taken to ensure the NAEP achievement levels are a valid representation of the NAEP assessment frameworks and the assessment content. The second recommendation is to remove the trial status when there is evidence supporting this. The Governing Board is responsible for activities associated with providing validity evidence; whereas the Commissioner of the National Center for Education Statistics (NCES) determines at what point the trial status is removed.

The Governing Board addressed these recommendations by updating achievement level policy to specify the development of achievement level descriptions (ALDs) for use in reporting based on NAEP data (referred to as Reporting ALDs). Next to align the

Reporting ALDs back to the ALDs in the frameworks to ensure consistency between what the frameworks express students at each level should know and be able to do and what students do know and can do based on assessment performance. In 2020, the Board awarded a contract to Pearson to complete this task for content areas that were to be assessed in 2022, and in 2022 an [ALD review study for NAEP Reading and Mathematics, grades 4, 8, and 12](#) was completed ahead of the 2022 NAEP data release. A similar study [for NAEP U.S. History, Civics, and Science grade 8](#) was completed in 2023 to coincide with the data release of these subjects. COSDAM members provided guidance and feedback at key points in the study. The Board policy calls for conducting new studies every three administrations or 10 years, and when new frameworks put into place. The Reporting ALDs accompany the release of NAEP results to add meaningful interpretations of the achievement levels.

2. Linking NAEP achievement level data to external outcomes

The fourth NASEM recommendation is to provide context and relevance to NAEP results by showing where NAEP fits with other assessments and familiar measures of student achievement. Linking with external measures can help contextualize what it means to reach each achievement level beyond what is possible with NAEP data and achievement level descriptions alone.

The Board included linking NAEP to external data as part of its 2020 Strategic Vision. In 2022 and 2023, a Linking Studies Working Group convened with members from COSDAM and the Reporting and Dissemination (R&D) committee under leadership of Rick Hanushek (former COSDAM member) to consider Board priorities around linking studies. The Linking Studies Working Group presented a Linking Studies Resolution to the full Board in August 2023 that was unanimously adopted. The resolution indicates the Board's support for prioritizing studies linking NAEP to external measures, particularly through overlap samples (e.g., administering NAEP and an external measure to a common sample of students to allow direct comparison). The resolution requests collaboration with NCES when future linking studies are conducted, and supports increased dissemination of results and data, as possible.

The Achievement Level Work Plan also calls for synthesizing and disseminating information from existing linking studies. COSDAM is currently working on an Achievement Levels Validity Argument (described later in this document) that will incorporate information from linking studies to support the interpretation of achievement levels.

3. Synthesizing and communicating achievement level information

The Achievement Levels Work Plan includes activities surrounding improved documentation and communication of achievement levels to address the fifth and sixth recommendations presented by NASEM. NASEM notes the need to articulate the intended interpretations and uses of achievement levels, and to collect validity evidence to support these interpretations. They also recommend guidance is needed to help users determine inferences best made with achievement levels and those best made with scale scores.

The Board has traditionally made efforts to communicate achievement levels and appropriate interpretations; the Achievement Levels Work Plan acknowledges the need to increase these activities and to better disseminate the information. Following the development of ALDs for use in Reporting (described earlier in this document), Board staff collaborated with Board strategic communications contractors to develop informational briefs on achievement level interpretations for use in the [2022](#) and [2023](#) NAEP data releases. The Board plans to continue to produce similar documents for future releases, and COSDAM has discussed plans for improving these communications for future releases through collaboration with the R&D committee and the strategic communications contractors. COSDAM has identified different stakeholder groups to prioritize when developing these briefs, with input from the R&D committee. COSDAM is currently working towards the development of an Achievement Levels Validity Argument. The goal of this argument is to provide background information on the NAEP achievement levels, synthesize validity evidence, and indicate their appropriate and inappropriate uses and interpretations. Board staff are working with a technical services contractor to develop the Validity Argument based on guidance from COSDAM. COSDAM members will have the opportunity to provide input as sections are drafted. COSDAM members should review the Validity Argument outline presented below and offer feedback during the March 2024 COSDAM meeting, or by reaching out to the COSDAM staff liaison at their convenience.

Updated Draft Outline of Validity Argument Document

The outline was drafted based on original input from COSDAM members, and incorporates COSDAM member feedback to a first draft collected during the August 2023 COSDAM meeting. Next, the draft was shared with NCES staff and discussed in a meeting in December 2023. NCES staff provided recommendations to add specific historical and background information to help strengthen the validity argument and better illustrate how the interpretation of NAEP Achievement Levels differs from well-known international assessments.

The outline presented below incorporates the feedback received to date and is being used as guidance for our technical services contractor to develop the NAEP Achievement Levels Validity Argument report. This argument is intended to be public facing and dynamic – though a final draft will be produced, it is the intent to update as new validity information as available.

- I. Introduction
 - a. Purpose of report and report organization
- II. Purpose of NAEP and NAEP Achievement Levels
 - a. NAEP history and purpose
 - i. Content areas and grades assessed, and frequency
 - b. Historical context of Achievement Levels
 - i. Intent
 - ii. Development process
 - iii. Policy definitions

- c. Major claims that can be made using achievement levels
- III. Achievement Levels development policy and process
 - a. Historical context of NAEP achievement levels
 - i. Incorporate early documentation on purpose and goals
 - ii. Describe how achievement levels differ from other familiar assessments (e.g., criterion referenced versus norm referenced cut scores)
 - b. Summary of Board achievement level policy (including links to policy documents)
 - i. Highlight adherence to field best practices (e.g., standards for testing and measurement)
 - c. Achievement Level Descriptions (ALDs)
 - i. In framework
 - ii. Reporting ALDs
- IV. Validity research
 - a. Standard setting process overview (including links to full reports for most recent standard setting for each subject area)
 - b. ALD review studies, with focus on alignment ratings
 - i. Summarize methodology and alignment ratings for Reading, Mathematics
 - c. Summary of achievement level evidence from linking studies, state mapping studies
 - i. Include linking studies with rigorous methodology
- V. Claims/appropriate and inappropriate uses of ALs based on validity evidence (see Tables 1 and 2 for initial ideas)
 - a. How achievement levels indicate academic performance for NAEP
 - i. How these differ from state achievement levels and being “on grade level”
 - b. Relationship to external measures of achievement and college preparedness, and what the findings suggest
 - c. Use of NAEP achievement levels for understanding differences in state achievement levels

Tables 1 and 2 summarize some of the appropriate and inappropriate interpretations and uses of NAEP Achievement Levels, respectively, for inclusion in the validity argument document. This is intended to be more expansive than information presented in [The Intended Meaning of NAEP Results](#) adopted by the Board in 2020. These are only in draft form and may be revised and/or added to as information is identified in research, and/or by COSDAM members or external reviewers.

Table 1. Draft of appropriate interpretations and uses of NAEP Achievement Levels.

<u>Appropriate</u> Uses of NAEP Achievement Levels	Possible Sources of Evidence
Performance at <i>NAEP Proficient</i> represents a solid understanding of subject-matter content	Policy and technical documentation of AL development and the standard setting process
Though not directly related to state achievement levels, NAEP ALs can help inform the comparisons of state achievement level cut-points	State Mapping Studies; information on AL development and the standard setting process; State achievement level documentation
Reporting ALDs provide information on what students performing at each AL can likely do based on assessment data <ul style="list-style-type: none"> • Include full set of Reporting ALDs for validity argument document; one or two examples for briefs. 	ALD Study reports for Reading and Mathematics, and for U.S. History, Civics, and Science
AL performance is related to other/academic and college readiness outcomes <ul style="list-style-type: none"> • NAEP achievement levels associated with greater likelihood of attending a two- or four- year college • Performance in <i>NAEP Advanced</i> associated with a greater likelihood of majoring in a STEM field in college compared to other achievement levels • Performance at <i>NAEP Proficient</i> or above in grade 4 Reading associated with higher reading trajectories in elementary school 	Linking study reports, including: <ul style="list-style-type: none"> • NAEP linked with High School Longitudinal Study of 2009 (HSL:09) • NAEP linked with Early Childhood Longitudinal Study (ECLS-K:2011) • Various studies linking NAEP with college entrance exams

Table 2. Draft of inappropriate interpretations and uses of NAEP Achievement Levels.

<u>Inappropriate</u> Uses of NAEP Achievement Levels	Possible Sources of Evidence
Using NAEP Reading ALs to determine the percentage of students that can or cannot read	Policy and technical documentation of AL development and standard setting process, information from framework and Reporting ALDs; State achievement level documentation
The percent <i>NAEP Proficient</i> (or <i>NAEP Basic</i> , or <i>NAEP Advanced</i>) indicates the percentage of students falling at grade level for a given subject	Policy and technical documentation of AL development and standard setting process; note regarding how NAEP achievement levels differ from state achievement levels; State achievement level documentation
Using NAEP AL data as an outcome measure to determine cause and effect impacts of state- or district-level interventions	Policy and technical documentation of AL development; Intended Meaning of NAEP Results; External information on requirements for determining causality