Overview of the NAEP Technology and Engineering Literacy (TEL) Assessment

Background

In March 2010, the Governing Board adopted the NAEP Technology and Engineering Literacy (TEL) Framework; the TEL assessment was administered to a national sample of eighth-grade students in 2014 and 2018 and is next scheduled to be administered in 2024. The framework calls for the use of many scenario-based tasks (SBTs) in addition to discrete (stand-alone) items.

TEL measures students' knowledge and skills in three interconnected areas: Technology and Society, Design and Systems, and Information and Communications Technology. There are three cross-cutting practices as well: Understanding Technological Principles, Developing Solutions and Achieving Goals, and Communicating and Collaborating. The framework defines literacy as the level of knowledge and competencies about technology and engineering needed by all students and citizens to function in a technological society. The framework defines technology and engineering literacy as "the capacity to use, understand, and evaluate technology as well as to understand technological principles and strategies needed to develop solutions and achieve goals."

Relating to national efforts in science, technology, engineering, and mathematics (STEM) fields, the NAEP Technology and Engineering Literacy Assessment was developed to measure the "T" and "E" in STEM, augmenting the long-standing NAEP assessments in science and mathematics. The NAEP Science Framework, last updated in November 2005 for implementation in the 2009 assessment, does not measure technology or engineering. The decision not to include technology and engineering in the NAEP Science Framework adopted in November 2005 was one of the rationales for creating a separate NAEP TEL Framework. The development of both of these frameworks preceded the release of the Next Generation Science Standards (NGSS) in 2013. The NGSS includes both science and engineering.

Overview

The purpose of this session at the August Board meeting is to provide background on the TEL Framework and assessment to serve as a foundation for upcoming Board decisions on the NAEP Assessment Schedule and the NAEP Science Framework. Presenters will include:

- Assessment Development Committee member Christine Cunningham will introduce the TEL Framework and discuss current considerations for TEL in the context of the upcoming NAEP Science Framework update; and
- William Ward of the National Center for Education Statistics will provide an overview of the TEL assessment and current operational issues and challenges.