NAEP
NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS

2012

GRADE 8 TASK TRYOUT

Technology and Engineering Literacy Assessment

WHAT IS NAEP?

The National Assessment of Educational Progress (NAEP) is an essential measurement of student achievement in the United States.

- First administered in 1969, NAEP is the largest continuing and nationally representative assessment of what our nation's students know and can do in core subjects such as mathematics, reading, science, and writing.
- NAEP is administered by the National Center for Education Statistics within the Institute of Education Sciences of the U.S. Department of Education.
- NAEP monitors academic progress over time and reports on student achievement nationally.
- The results of NAEP are released as The Nation's Report Card.

To what extent can young people analyze the pros and cons of a proposal to develop a new source of energy? Can students use the Internet to find and summarize information in order to solve a problem? Do students understand how and why new technologies are developed to suit human needs and wants?

Technology and engineering have become critical components of 21st century life. For generations students have been taught about technology and have been instructed on how to use various technological devices. However, there are currently no standardized, nationally representative assessments to provide evidence of what students know about technology and engineering; the roles they play in our lives; and the extent to which students can use technologies and understand how engineers design and develop them.

The questions listed above are just a few examples of the types of questions the National Assessment of Educational Progress (NAEP) technology and engineering literacy (TEL) assessment will aim to answer. In 2014, eighth-grade students who are selected to take NAEP will be asked to participate in the first-ever national TEL assessment. In preparation for this assessment, selected eighth-grade students in 2012 will participate in a TEL tryout of scenario-based tasks on the computer.

What is TEL?

The 2014 National Assessment of Educational Progress Technology and Engineering Literacy Framework broadly defines technological 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.

This framework is the guide for the development of the TEL assessment and defines what students should know and be able to do with technology. The assessment is designed to assess three interconnected areas of technological and engineering literacy:

- Technology and Society
- Design and Systems
- Information and Communication Technology

For more information about the TEL assessment , visit the NAEP website: http://nces.ed.gov/nationsreportcard/techliteracy.

The framework focuses on literacy as the level of knowledge and competencies needed by all students and citizens, that is, students who are literate about technology and engineering can function in a technological society. The focus of the framework is not on whether students have the ability to engineer or produce technology in the professional sense. Therefore, TEL does not address technical knowledge of specific technologies, nor types of engineering expertise taught in specialized courses to prepare some students for postsecondary engineering studies.

Why is TEL important for today's students?

Technology and engineering are increasingly being incorporated into a wide range of school coursework. This includes contemporary science, technology, engineering, and mathematics (STEM) education, as well as subjects such as social studies and language arts. These courses include instruction on the use of computers and information technology to complete school assignments, lessons that examine the role of technology in society, and information on engineering design. Information technologies are also essential tools in workplace and practical contexts.

Because of this growing importance of technology and engineering in the educational landscape, an assessment of technological and engineering literacy is an important addition to NAEP.

TEL opens the door to understanding what students know about technology and engineering, in the same way that NAEP already assesses their knowledge and capabilities in reading, mathematics, science, and other subjects.

How is TEL assessed?

Allowing students to demonstrate the wide range of knowledge and skills detailed in the three TEL assessment areas will require a departure from the typical assessment designs used in other NAEP subjects. Students will be asked to perform a variety of computer-based tasks to solve problems within scenarios that reflect realistic situations. These scenario-based tasks are an innovative component of NAEP, and range from 10 to 30 minutes in length.

In addition to scenario-based tasks, TEL will also rely on short answer and multiple-choice questions to measure students' knowledge and skills.

Because technological and engineering literacy is not always attained in or confined to the classroom, TEL will be accompanied by a questionnaire component that aims to get a better understanding of students' opportunities to learn about technology and engineering both inside and outside the classroom.

How is the TEL task tryout administered?

The TEL task tryout will engage students through the use of multimedia presentations, such as video, audio, and interactive simulations, and will be administered to students entirely on a computer.

Schools selected for the tryout will be asked to designate about 25 to 30 students to participate. TEL will be administered in sessions of up to 15 students each. NAEP staff will bring all necessary materials, including laptop computers, to the school on the tryout day.

Students will be asked to complete two or three scenario-based tasks on the computer, as well as a brief questionnaire. The tryout will take approximately 90 minutes.

For more information, contact your NAEP State Coordinator.

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