Update on NCES *Future of NAEP* Activities

Several years ago, NCES embarked on its *Future of NAEP* Initiative, which involved convening a panel of experts in assessment, measurement, and technology to discuss ideas for the future of NAEP. The panel's recommendations were published in 2012 and some of these are being implemented by NCES. The Governing Board has asked NCES for an update on this initiative at its November 2015 meeting to promote coordination of these efforts with the National Assessment Governing Board's Strategic Planning Initiative.

The highlights document summarizing this report is on the following pages.

The full *Future of NAEP* report can be found at:
http://nces.ed.gov/nationsreportcard/about/future_of_naep.asp.

HIGHLIGHTS

NAEP: LOOKING AHEAD

LEADING ASSESSMENT INTO THE FUTURE

MAY 2012

NCES INITIATIVE ON

THE FUTURE OF NAEP

The National Assessment of Educational Progress (NAEP) has undergone a series of notable changes in the past decade. The NAEP program has expanded to meet new demands. All 50 states, the District of Columbia, the Department of Defense schools, and (on a trial basis) 21 urban districts are now participating in the mathematics and reading assessments at grades 4 and 8. In addition, thirteen states are participating in trial state 12th-grade assessments in reading and mathematics. NAEP is also reporting in record time to ensure that the findings are highly relevant upon release. Technology has taken on a bigger role in the development and administration of NAEP, including computer-based tasks in the science and writing assessments. These are just a few of the major developments; the program has grown and matured in almost all respects.

There is also growing interest in linking NAEP to international assessments so that NAEP scores can also show how our nation's students measure up to their peers globally. Additionally, there is increasing interest in broadening assessments in the subject areas to incorporate college and career readiness, as well as what are often called "21st-century skills" (communication, collaboration, and problem-solving).

The National Center for Education Statistics (NCES), which administers NAEP, is dedicated to moving the program forward with its upcoming procurement cycle which will take the program to 2017. Under the leadership of NCES Commissioner Jack Buckley, NCES convened a diverse group of experts in assessment, measurement, and technology for a summit in August 2011. These experts discussed and debated ideas for the future of NAEP. NCES convened a second summit of state and local stakeholders in January 2012. Participants at both gatherings were encouraged to "think big" about the role that NAEP should play in the decades ahead.

NCES assembled a panel of experts from the first summit, chaired by Edward Haertel, an expert in educational assessment, to consider and further develop the ideas from the two discussions and make recommendations on the role of NAEP in the future—10 years ahead and beyond. Based on summit deliberations and their own extensive expertise, the panel developed a high-level vision for the future of the NAEP program, as well as a plan for moving toward that vision. Here are the panel members and their major recommendations. NCES will consider these recommendations in their mid- and long-range planning for the program.

The panel's full report can be found at
http://nces.ed.gov/nationsreportcard/about/future_of_naep.asp

"This is an exciting time of change and promise for education. NAEP may be more important now than it has ever been. We look forward to a future in which NAEP continues to define the state-of-the-art in large-scale assessment and serves as a source of innovation here and throughout the world, while providing the nation with an unfailingly reliable measure of student achievement."

EDWARD HAERTEL (CHAIR)

Jacks Family Professor of Education
School of Education
Stanford University

ANDREW HO

Assistant Professor
Graduate School of Education
Harvard University

RUSSELL BEAUREGARD

Manager
Research & Definition Emerging Markets Platform Group
Intel Corporation

PAUL HORWITZ

Senior Scientist & Director
Concord Consortium
Modeling Center
Concord Consortium

JERE CONFREY

Joseph D. Moore Distinguished University Professor
College of Education
North Carolina State University

BRIAN JUNKER

Professor
Department of Statistics
Carnegie Mellon University

LOUIS GOMEZ

MacArthur Chair in Digital Media & Learning
Graduate School of Education & Information Sciences
University of California, Los Angeles

ROY PEA

David Jacks Professor of Education
School of Education
Stanford University

BRIAN GONG

Executive Director
Center for Assessment
National Center for the Improvement of Educational Assessment

ROBERT ROTHMAN

Senior Fellow
Alliance for Excellent Education

LORRIE SHEPARD

Dean & Distinguished Professor
School of Education
University of Colorado, Boulder

BACKGROUND

As members of the expert panel considered the NAEP program of the future, they agreed that NAEP will be called upon to do all that it has done historically–and more. They envisioned a new, more nimble NAEP that can serve as the "backbone" of an evolving assessment infrastructure. They identified four major trends to which NAEP must be prepared to respond:

1. Other assessments are likely to provide information about student achievement that may be aggregated and compared across districts and states. NAEP's value as an independent, ongoing, nationally representative assessment will remain and may, in fact, be more important than ever;

2. As we aspire to provide all of our young people with the high levels of knowledge and skills needed in a global economy, NAEP will be called upon to assess a broader set of learning outcomes;

3. Rapidly changing technology is driving all aspects of modern life, including learning and assessment. NAEP should continue to serve as a leader in assessment innovation as new technologies become available for assessment, as well as for scoring and reporting results; and

4. There is increasing interest in cross-national comparisons of educational achievement, and in sharing data and instructional resources across states and perhaps even across nations. Linking assessments and data-sharing can offer more context to help understand and interpret NAEP findings.

The panel focused on what NAEP can do best in the future. It envisioned NAEP fulfilling its traditional purposes as The Nation's Report Card, as well as responding to emerging needs. As the panel developed its recommendations, it kept the following in mind:

- NAEP is not principally a research program, and its design does not support causal inferences as to "what works" in education;

- NAEP will continue to provide a series of snapshots of achievement. Redesigning NAEP to provide results at the individual or school level would likely compromise its role as an independent, low-stakes benchmark. Other assessments are better suited to provide student-level or school-level information; and

- NAEP assessments are not and probably cannot be strongly connected to specific classroom instruction. As a result, it may be that some valued forms of complex learning simply cannot be assessed by NAEP.

The panel's recommendations are focused in four areas: infrastructure, assessment frameworks, new technologies, and reporting.

INFRASTRUCTURE

> “The Innovations Laboratory would support and oversee a portfolio of research studies in the tradition of past NAEP R&D, as well as innovative research essential to keeping NAEP at the forefront of innovation and best practices.”

NCES should establish an "Innovations Laboratory" with an expanded assessment research and development (R&D) commitment to strengthen and systematize NAEP R&D. This is a major near-term recommendation on which virtually everything else depends. The Innovations Laboratory would support and oversee a portfolio of research studies in the tradition of past NAEP R&D, as well as innovative research essential to keeping NAEP at the forefront of innovation and best practices. As a first step, the panel recommends a systematic survey of the existing infrastructure through which NAEP research has been carried out. The Innovations Laboratory would vet ideas, determine priorities, serve as a hub for disseminating technical innovations, and support both in-house and third-party studies.

THE INNOVATIONS LABORATORY SHOULD:

- Investigate and assure the validity of intended inferences from NAEP, including but not limited to framework development and test specifications, item development, item response processes, student motivation, the effects of accommodations, sampling weights, statistical accuracy, and report clarity;
- Improve the timeliness and precision of NAEP results while managing respondent burden and costs;
- Expand the range of learning outcomes NAEP can validly measure;
- Enable NAEP to serve new purposes, such as linkage to other assessments;
- Maintain NAEP trends without having a separate long-term trend assessment;
- Examine the feasibility of more frequent updates to assessment frameworks and the items representing those frameworks. Changes would be deliberate and incremental, designed to keep NAEP up to date with educational policy and research, perhaps using a market basket approach similar to the Consumer Price Index; and
- Serve as the primary vehicle for determining the feasibility of new technologies in the various realms of NAEP.

ASSESSMENT FRAMEWORKS

“The standing committees would engage in a deliberate process whereby assessment frameworks are updated incrementally while monitoring the achievement definitions embodied by those frameworks and making it easier to maintain trend lines.”

The NAEP program should expand the role of standing committees of content experts so that they remain engaged with both item development and assessment framework revisions. This ongoing involvement would help to maintain fidelity of actual assessments to the framework committees' original vision. The standing committees would engage in a deliberate process whereby assessment frameworks are updated incrementally while monitoring the achievement definitions embodied by those frameworks and making it easier to maintain trend lines.

NAEP assessment frameworks should be augmented routinely with statistical and psychometric guidelines to guide development of items, blocks, booklets, and assessments and to ensure that assessments adequately measure the constructs NAEP intends to report.

NAEP item pools could be expanded somewhat further beyond what is specified in the assessment frameworks to help support linkages between NAEP and other large-scale assessments, both domestic and international. Reporting scales would continue to adhere to content specified in the frameworks; the additional items would further several goals:

- Incorporating long-term trend NAEP within main NAEP;
- Helping to ensure sufficient representation of the Common Core standards; and
- Enabling stronger linkages to other large-scale assessment programs, including international assessments.

In mathematics and other subject areas, learning progressions can describe typical stages through which students progress toward mature understanding. These learning progressions may offer guidance for developing future NAEP frameworks and for creating items to identify partial understandings or misconceptions.

NEW TECHNOLOGIES

"Emerging technologies may have the greatest potential to impact the future of assessment."

Emerging technologies may have the greatest potential to impact the future of assessment. **The panel recommends active monitoring of technology trends,** including one-to-one initiatives around the world that are integrating curriculum content with formative assessment.

NCES SHOULD EXPLORE USING NEW TECHNOLOGIES TO:

- Measure old constructs in new ways;
- Assess new constructs, such as critical thinking, problem solving, and collaboration within each subject area assessed;
- Better reflect the ways students are learning to reason and solve problems in classrooms equipped with new educational technologies;
- Employ "naturalistic user interfaces" to enable a broader range of student interactions with assessment content;
- Expand cross-program linking with other state, district, and international assessments;
- Use education data warehouses, maintained by states and multi-state consortia, to improve efficiency of NAEP sampling and to better contextualize NAEP findings;
- Allow fuller inclusion of students with special needs;
- Improve measurement precision; and
- Improve student engagement.

NAEP REPORTING

> “Ideally, NAEP would work backwards – starting with anticipated reporting needs and allowing them to guide assessment design and sampling.”

NAEP reports inform the nation about student achievement. They help readers understand the meaning of achievement scales, using actual items to illustrate what students know and can do. They also serve as models for effective communication of quantitative information. NAEP's reporting arm is essential to the success of the program.

Assessment design changes should be guided by thoughtful consideration of reporting expectations. Ideally, NAEP would work backwards–starting with anticipated reporting needs and allowing them to guide assessment design and sampling. Foreseeable reporting expectations include relating NAEP to the Common Core standards; linking NAEP to other assessments; and measuring and reporting the achievement of various small groups.

NAEP should also employ dynamic data visualization tools to reach beyond the capabilities of static text, and for customizing reports to meet the needs and interests of different users.

NAEP should place less emphasis on achievement levels as the primary reporting metric and use the NAEP reports to explain their limitations as clearly as possible.

NAEP should strengthen the connection between reporting scales and assessment frameworks to give stakeholders a better sense of what students at any given score level know and can do.

> We envisioned a new, more nimble NAEP that can serve as the backbone of an evolving assessment infrastructure.
>
> – Expert Panel Members

FOR MORE INFORMATION CONTACT:

Patricia Etienne

National Center for Education Statistics
1990 K Street, NW,
Washington, DC 20006
(202) 219-7054

Patricia.Etienne@ed.gov