

Long-Term Trend: Options for the Future

Background

NAEP includes two national assessment programs—Long-Term Trend (LTT) NAEP and Main NAEP. While both assessments enable NAEP to measure student progress over time, there are key differences between the two assessments. The NAEP LTT assessment measures national reading and mathematics performance at ages 9, 13 and 17. In contrast, the Main NAEP assessments focus on populations of students defined by grade, rather than age, and go beyond the national level to provide results at the state level and for 27 urban districts. LTT trend lines date back to the early 1970s, and Main NAEP trend lines start in the early 1990s. The content differs as well—for example, LTT math measures more basic mathematics skills than the current Main NAEP.

The Main NAEP assessments in reading and mathematics are administered every two years, as required by law. The administration of LTT assessments in reading and mathematics at ages 9, 13, and 17 is also required by law, but the periodicity is not specified. The NAEP LTT assessments had been administered approximately every four years over the past two decades (and more frequently prior to that), but were last administered in 2012 and will be next administered in 2024. The Governing Board postponed the NAEP LTT planned administration for 2016 and 2020 due to budgetary constraints. Some stakeholders have expressed concern with the gap of 12 years between LTT administrations, which represents a cohort's entire length of schooling. On the other hand, there are stakeholders who argue that the NAEP LTT is less useful now that Main NAEP provides trend information back to the early 1990s and that LTT should be eliminated.

In 2012, [the Future of NAEP panel](#) recommended exploring ways of consolidating or combining Long-Term Trend and Main NAEP data collections. This is a complex challenge due to the many differences in content, sampling, and administration of the assessments. To explore the feasibility of combining the data collection efforts and to debate the relative merits of NAEP LTT, the Governing Board organized a symposium on the future of NAEP Long-Term Trend. The symposium took place on March 2, 2017, immediately preceding the quarterly Governing Board meeting.

In advance of the symposium, Edward Haertel of Stanford University (who previously served as Chair of the Future of NAEP panel and, as a previous member of the Governing Board, chaired COSDAM) prepared a comprehensive white paper on the history of NAEP Long-Term Trend and a consideration of current issues. The paper was distributed to four additional participants, who each prepared a shorter response paper on their perspective of the future of NAEP LTT. The papers were disseminated in advance of the symposium and served as the basis for discussion during the March 2nd event. In addition, the participants discussed their perspectives and solicited external input at a session during the annual American Educational Research Association (AERA) conference on April 29th. At both events, Acting NCES Commissioner Peggy Carr also participated and provided her perspective on the operational feasibility of the various options for the future of NAEP LTT.

Symposium on the Future of NAEP Long-Term Trend

Introduction

Moderator Dr. Joe Willhoft thanked attendees for joining the discussion on the future of the National Assessment of Education Progress (NAEP) Long-Term Trend assessment. He summarized the role of the National Assessment Governing Board and its relationship to the National Center for Education Statistics (NCES), which carries out the operations of NAEP.

Dr. Willhoft introduced and welcomed the symposium panel:

- Dr. Edward Haertel is a former member of the Governing Board and has served as president and chair of the National Research Council's Board of Testing and fellow of the American Educational Research Association and the American Psychological Association. He serves as an elected member of the National Academy of Education.
- Mr. Jack Jennings is a former president and CEO of the Center on Education Policy. He served as subcommittee staff director and as general counsel for the House of Representatives Committee on Education and Labor. He is an elected member of the National Academy of Education.
- Dr. Lou Fabrizio is the director of data research and federal policy at the North Carolina Department of Public Instruction, serving as the state's federal liaison with the Education Department. He is a former member of the Governing Board and currently serves as a member of the NCES Advisory Task Force.
- Dr. Ina Mullis is a professor of educational research, measurement, and evaluation at Boston College and the executive director of the Trends in International Mathematics and Science Study (TIMSS) and Progress in International Reading Literacy Study (PIRLS) International Study Center. Previously, she was the project director of NAEP at Educational Testing Service (ETS). She currently serves on the NAEP Validity Studies Panel.
- Dr. Andrew Kolstad is a former senior technical advisor and psychometrician in the Assessment Division of NCES. He took the lead role in designing the 2004 bridge study for the NAEP Long-Term assessment. Through his consulting firm, P20 Strategies, he works with the Governing Board and for NAEP contractors.
- Dr. Peggy Carr is the Acting Commissioner of NCES. She oversees the collection, analysis, and reporting of education data from preschool through post-secondary education. She is one of the nation's foremost experts on student assessment.

Panel Presentations

Edward Haertel

[Future of NAEP Long-Term Trend Assessments](#)

Dr. Haertel presented the origins of the Long-Term Trend assessment and how it differs from main NAEP. His slides included a graphic showing the decades-long span of the Long-Term Trend assessment before main NAEP trends began. He reminded the audience that NAEP began as a series of exercises with no scale scores.

He explained that in 1983, ETS introduced item response theory, and scales were retrofitted to the old exercise pools. Frameworks continued to improve after the founding of the National Assessment Governing Board in 1988. A 2004 bridge study helped align the Long-Term Trend assessment with legislation and closer to the ideal of assessing all students, with the inclusion of more students with disabilities. Today, Main NAEP is transitioning to a digital platform while the Long-Term Trend assessment remains a paper-and-pencil assessment.

Dr. Haertel argued for maintaining the Long-Term Trend assessment and examining major actions required to ensure its viability in the future. He stated that Main NAEP frameworks are updated periodically to reflect changing concepts and desired learning outcomes. The Long-Term Trend assessment remains stable, making it a strong complement to Main NAEP. It can also aid in policymaking because it is age-based, not grade-based, so the discrepancies can be analyzed between the two assessments. Tracking age-based cohorts can inform important policy questions on school enrollment (e.g., grade retention and grade acceleration).

Dr. Haertel encouraged greater use of the Long-Term Trend assessment in the future. He stated that this will require modernization of the test specifications and frameworks, and it needs to be clear what the Long-Term Trend is measuring. Dr. Haertel emphasized the need for further bridge studies of each age level and a commitment to ongoing maintenance. He is confident that new uses for the assessment can be found through more study, increasing the clarity of the Long-Term Trend assessment.

Jack Jennings

[Why Continue An Old Assessment?](#)

Mr. Jennings thanked the Governing Board for being thoughtful in the process and discussion of the Long-Term Trend assessment.

Mr. Jennings outlined his reasons for continuing and strengthening the Long-Term Trend assessment. First, he stated, it is the law. Second, he believes delaying the assessment for 12 years jeopardizes the usefulness of the data. He suggested that the Long-Term Trend assessment could be made more useful by more frequent administration.

Mr. Jennings stated that the Long-Term Trend assessment serves as a safeguard for the deficiencies of main NAEP, including the controversies associated with achievement levels. He stated that his background is not in testing; it is policy, so he supports long-term assessment as a valuable tool in policy and communication.

Mr. Jennings stated that he understood the ongoing concern of cost, which was presented in many of the response papers. He is in favor of searching for ways to retain the essence of the Long-Term Trend assessment while being mindful of the cost of administration.

Lou Fabrizio

[Is It Time to Retire Long-Term Trend?](#)

Dr. Fabrizio explained his role in the state of North Carolina and his experience with policy, legislation, and the testing and accountability program. He approached the issue from a state perspective. He acknowledged that the Long-Term Trend assessment is currently the law, but stated that the U.S. Congress should remove the requirement to administer this assessment.

Dr. Fabrizio stated that the Governing Board should pursue all efforts to enhance main NAEP, including increasing participation by private schools.

Dr. Fabrizio said the Long-Term Trend assessment is out of date and does not provide actionable information at the state level. He is also in favor of reducing redundant testing. He feels the resources used for Long-Term Trend assessment could be better spent with assessments that offer states help with benchmarking.

Ina Mullis

[Content of the Long-Term Trend Assessments Compared to Main NAEP](#)

Dr. Mullis began her presentation with a comparison of the Long-Term Trend assessment and main NAEP. She then explained her role in the international assessment community.

Dr. Mullis stated that main NAEP is a world-class assessment with challenging content and forward-looking frameworks. She felt that the Long-Term Trend assessment, on the other hand, is outdated in both content and measurement methods. LTT is almost wholly comprised of multiple choice items, the reading passages are short and inauthentic, and mathematics includes little or no problem solving. The main NAEP has more challenging material, and the Long-Term Trend assessment is too easy and focuses on basic skills. There is overlap among items across ages 9, 13, and 17, which puts a ceiling on item difficulty of the LTT assessment.

She also stated that there are no formal frameworks for the LTT and it is hard to justify using scarce resources to support the assessment. The high-quality main NAEP has nearly 25 years of trends now; therefore, she believes the Long-Term Trend assessment is no longer needed.

Andrew Kolstad

[A Rescue Plan for the NAEP Long-Term Trend Assessments: Thoughts on Edward Haertel's White Paper](#)

Mr. Kolstad explained that his paper focused on the technical point of view. He did not advocate in favor or against the Long-Term Trend assessment. He stated that he was concerned with the 2024 assessment as it is currently planned. He titled his paper "A Rescue Plan" because it outlines issues that must be addressed for the assessment's future success, including the possibility of integrating the LTT and Main NAEP or switching to a digitally-based format.

Mr. Kolstad addressed the issue of creating a common testing window between main NAEP and the Long-Term Trend assessment to preserve resources. He also stated that a separate scoring

operation would no longer be needed and managerial costs could be conserved. He proposed that a bridge study could examine the feasibility of this merger.

He echoed Ina Mullis' caution about the importance of understanding what the Long-Term Trend assessment is really measuring.

Peggy Carr

Dr. Carr began by discussing the mode issue, where there is both paper-and-pencil and digital-based assessments; the window issue, which presents moving the Long-Term Trend assessment from its current window to main NAEP; the length of the blocks; and the discussion on the test content, which she thinks was addressed well in the panelists' papers.

She pointed out the importance of moving LTT into the digital space because support for paper-and-pencil administration is disappearing. She stated that the costs associated with the bridge studies are significant and should not wait until the 2024 timeframe. From her perspective as the operational leader of all the NAEP programs, she believes "transadapting" the Long-Term Trend assessment is the only option. In response to a question from Dr. Kolstad about the difference between transadapted vs. paper-to-screen, Dr. Carr explained that transadapted means taking a paper-and-pencil assessment and adapting it to the digital environment to take advantage of the features that one can use to enhance it without impacting the construct.

Dr. Carr stated that the window versus test length challenge should be examined for efficiency. She presented graphical options on how to adapt the two assessments for cost and scoring challenges. She added that she was concerned about the platform used to administer the assessments and how they can be used in the same session.

She explained the Long-Term Trend assessment consists of three 15-minute blocks, but Main NAEP in the digital world is now 30 minutes per block. This is important for some of the designs that have been recommended because it makes it possible to administer them in the same session, which will be substantially more efficient for the program. Dr. Carr was also concerned about what platform would be used to administer the assessments. She stated that the bridge study would need to address multiple factors, including the mode, the windows, and the test length.

Dr. Carr described the communications challenges of explaining what the Long-Term Trend assessment is measuring and the confusion it causes when both LTT and Main NAEP are released in proximity to each other.

She also stated that money is an ongoing concern in whatever plan is chosen. Moving the Long-Term Trend assessment to the Main NAEP window has costs associated and should be addressed when considering different options. Moving the Long-Term Trend assessment into Main NAEP would be expensive. Currently, there are many assumptions about spiraling them together, and these need to be studied. She stated that she does not have a preference and is examining administrative and operational challenges with all options.

Discussion

Dr. Willhoft thanked the panelists for their thoughtful comments and invited each panelist to share one important observation after hearing their colleagues' presentations before inviting audience participation.

Dr. Fabrizio said he wanted people to keep in mind that sometimes we need to let things go, even if we like them.

Mr. Jennings shared that he was pleased that the papers were commissioned and that he learned a lot from the research and history.

Dr. Kolstad shared that the NAEP law calls for the Long-Term Trend assessment but also sets a priority for Main NAEP in reading and math when funds are short.

Dr. Mullis stated that the content is outdated for students, and current questions included on the Long-Term Trend assessment are unrelated to modern experiences.

Mr. Jennings commented that the NAEP website is an excellent resource. He especially liked being able to generate reports of demographic data. He also expressed a wish for more emphasis on basic achievement levels, especially in the basic levels of math, where progress has been made.

The following comments and questions were raised by audience members:

- As a policymaker, the role of the Long-Term Trend assessment is minimal and Main NAEP is extensive. The ongoing value of the Long-Term Trend assessment is questionable. There was agreement with Dr. Mullis and her statement that digital assessment and content is imperative. The Long-Term Trend assessment must add something beyond Main NAEP to provide value in policy.
- What is the relevance of NAEP to a parent who wants to know whether his or her school is doing a good job? Do NAEP scores reflect what the school is doing right or wrong?
- If NAEP is used for policy decisions, what is being done to engage other stakeholders including industry, parents, students, and educators in the policy decisions? How are others a part of the decision to continue the assessment and understand what it is measuring?
- This is an issue of cost/benefit analysis. Given the unexpected dips in the 2015 main NAEP results, it would have been helpful to have a second set of reading and math results in 2016 from LTT. And what are the costs associated with other NAEP investments, including the technology and engineering literacy assessment and the Trial Urban District Assessment program in several dozen large cities?

- A local superintendent pays close attention to main NAEP but mostly ignores the Long-Term Trend assessment. Given the demographic shift of students taking the assessments today versus the demographics of 45 years ago, could those shifts change the relevance of the Long-Term Trend assessment?
- Main NAEP has useful information that schools and parents can use on some levels, including data about in- and out-of-school factors that affect learning, while the Long-Term Trend assessment lacks this context.
- What is the board is doing to address what cognitive science says about how students solve math problems and how that compares with main NAEP and the LTT?

AERA Session on the Future of NAEP Long-Term Trend

On April 29, 2017, the same panel presentations were delivered at an invited session of the American Educational Research Association (AERA) annual meeting in San Antonio, Texas. Dr. Ina Mullis was unable to attend; her paper was presented by Dr. Joe Willhoft.

The following comments and questions were raised by attendees:

- What is the decision process for the Board?
- Is it important if we lose current knowledge of students' basic skills in mathematics and reading?
- Congress is not likely to argue with cutting something that would reduce a budget.
- What about the validity of policy inferences or usefulness of decisions made with NAEP?

Next Steps

At the May 2017 Governing Board meeting, the Board will discuss the following potential options for the future of LTT, along with a process and timeline for making a decision:

1. Transadapt LTT from paper-and-pencil to digital-based assessments, produce assessment frameworks, perform a bridge study for each age group, and keep the assessments in the same administration windows
2. Ask Congress to remove the legislative requirement and cease administration of LTT
3. Ask Congress to remove the legislative requirement but perform a special study where LTT is administered one last time (in paper-and-pencil) in an attempt to connect future main NAEP results with the long-standing LTT trend lines

The Board will discuss whether any other options should be considered, along with what additional information is needed to evaluate each option.