As the National Assessment Governing Board celebrates its 20th anniversary, it is an appropriate time to look back on what we have learned during the past decade and a half. Research on the National Assessment of Educational Progress (NAEP) and state assessments points to important directions for NAGB to consider for the NAEP of the future. The research highlights who students with disabilities and English Language Learners are, how decisions are made about their participation in assessments, and how accommodations influence accessibility and validity for these students. The experiences of states, which are required to include all students in their assessment systems, also have much to contribute to considerations about NAEP. Revisiting some of the research and experiences can help to identify approaches for the future of NAEP.

The National Center on Educational Outcomes focuses on the inclusion of students with disabilities and English Language Learners with disabilities in assessments. As director of this center, I will concentrate my comments on the inclusion of students with disabilities in NAEP and other assessments. First, however, I would like to go back to a report from a working conference held 15 years ago on the development of guidelines on inclusion and accommodations (Ysseldyke, Thurlow, McGrew, & Vanderwood, 1994). Discussions at that working conference, held March 9-10, 1994, focused primarily on NAEP. The report is interesting for many reasons, and I suspect that it would be interesting reading for the Ad Hoc Committee on the Inclusion of Students with disabilities and English Language Learners in NAEP.

Remembering that we have come a long way in the past 15 years, it is nevertheless interesting to highlight the major recommendations from that working conference. Guidelines were proposed for making inclusion decisions:

1. Include students with disabilities when trying out items in order to identify problematic item formats and the need for more items at the lower end, for example.
2. Include all students with disabilities in taking some form of the assessment.
   - Allow partial participation in an assessment.
   - Use an alternative assessment for some students.
3. Include students with disabilities in the reporting of results.

Proposed guidelines for making accommodations decisions were:

1. Make a student more comfortable and secure in the test setting.
2. Do not destroy the validity of measures.

Finally, recommendations were proposed for monitoring:

1. Conduct and report results of follow-up studies of currently excluded students to verify that these students could not participate in the assessment with reasonable accommodations.
2. Remove incentives for exclusion by not reporting the results for states that exclude a defined percentage of students with disabilities.
3. Set up a panel to review requests for new forms of testing [accommodations] so that decisions can be made about the reasonableness of the requested modifications, or a decision made about the need for research.

NAEP should be applauded for the progress it has made in pursuing and conducting research, changing decision-making guidelines, providing training to state NAEP coordinators, and exploring options to obtain better representation of students with disabilities in NAEP. Like any foray into an emerging area of knowledge, not all of the attempts have been successful. But, many have, and these are to be applauded.

Congratulations on the progress that NAEP has made in inclusion and accommodations does not reduce the need for continued vigilance in attending to and taking steps toward optimal accessibility, inclusion, and accommodations for students with disabilities. I am not going to review the evidence that points toward the need for continued, if not greater, attention to these topics. But, I do want to re-emphasize some things that we know that support the belief that our “nation’s report card” can get to the point where it better reflects the knowledge and skills of all of the nation’s children, not just those who fit into a preconceived way of conducting assessments.

- Most students with disabilities who receive special education services have learning disabilities, speech/language impairments, and emotional/behavioral disabilities (75% altogether). These students, along with those who have physical, visual, hearing, and other health impairments (another 4-5%), are all students without intellectual impairments. This accounts for 80% of students with disabilities. We should be able to figure out how to include these students in any large-scale assessment, including NAEP.

- Research suggests that many of those students who have intellectual impairments (which is less than 20% of all students with disabilities) also can participate in regular assessments. We must not assume that these students are not able to participate in NAEP.

- States are including all of their students with disabilities in their assessment systems to inform accountability decisions for each state’s public schools. As the one national assessment that informs our understanding of our public school system in the United States, shouldn’t NAEP be an assessment system that also allows all students to participate?

- Providing accommodations to students increases their participation rates (Anderson, Jenkins & Miller, 1996; Olson & Goldstein, 1997). Figuring out the accommodation challenges that currently face NAEP is critical.

- Research on accommodations has increased dramatically since the early 1990s. Reviews of accommodation studies reported in journal articles, published reports, and dissertations show that the number of studies increased from 11 studies during 1990-1992, to 29 studies published from 1996-1998 (Tindal & Fuchs, 1999), to 46 empirical studies from 1991-2001 (Thompson, Blount, & Thurlow, 2002), to 49 from 2002-2004 (Johnstone, Altman, Thurlow, & Thompson, 2006), to 32 for the two-year period from 2005-2006 (Zenisky & Sireci, 2007). It is important to attend to these studies and to add studies specifically on NAEP.

Given this background, I would like to discuss each of the topics addressed 15 years ago, to both comment on what we know now that we did not know then, and to suggest ways in which we can move forward for NAEP.

**Participation in NAEP**

We know that more students can participate in NAEP than are now participating. This claim is supported by both the rates of inclusion in state regular assessments and by the changes that have
occurred over time in NAEP. These data suggest that decisions about accommodations are interfering with participation of students with disabilities in NAEP. It is imperative that NAEP move forward in including those students who already successfully participate in regular state assessments, and who should be participating in NAEP assessments.

We also know that the IEP team decision making process is intertwined with the challenges to participation in NAEP. IEP teams generally do not consider NAEP when they make decisions about participation and accommodations. Allowing IEP decisions to define a student’s participation in NAEP when NAEP has not been specifically considered should be rethought. It is essential that IEP teams carefully consider the purpose of NAEP as they make decisions about the participation of students in NAEP.

It is possible that IEP teams are going to have difficulty making decisions about participation in NAEP without the aid of specific information about the purpose, format, and uses of NAEP results, provided in ways that help teams understand whether or how students can participate. Early studies of students excluded from NAEP (Anderson, Jenkins, & Miller, 1996; Olson & Goldstein, 1997) showed that there were students who had been excluded who would have been able to participate in NAEP. It is time to conduct another study of excluded students, and to study approaches that will help IEP teams make informed decisions about participation in NAEP. One approach might be to check on the ways that students access information, to determine whether they are able to interact with NAEP items without the use of accommodations.

Addressing the challenges of students with disabilities who participate in regular state assessments, but not in NAEP is a top priority for NAEP. But, it is also important for NAEP to consider what it can do to ensure that it has full representation of students with disabilities, including those students with significant cognitive disabilities. NAEP has avoided this group of students, despite the fact that states are required to provide assessments for them. There are some unique issues that emerge because of the small numbers of students with significant cognitive disabilities, and the unique ways in which they are assessed. These issues make it difficult to report anything other than national data on these students. Nevertheless, it is important for NAEP to begin to consider ways to include students with significant cognitive disabilities via an alternate assessment. Like states, NAEP should determine ways to recognize that a small percentage of the total population of students can participate via an alternate assessment and be considered proficient, even though these students are not judged against the same performance standards as all other students. It is time for NAEP to convene a working group of experts on alternate assessments based on alternate achievement standards, experts in the education of students with significant cognitive disabilities, and experts in assessment, including NAEP tests, to brainstorm possible approaches to including students with the most significant cognitive disabilities in NAEP.

Accommodations in NAEP

Accommodations are a big part of NAEP’s participation problems. If an accommodation is listed on the student’s IEP that is not permitted for NAEP (e.g., audio presentation, calculator), the person who makes decisions about participation in NAEP seems unwilling to decide that the student can participate in NAEP, even when alternative ways of accommodating may in fact be appropriate both for the student and for the validity of results. This challenge can be addressed, in part, by working on the participation decision making process (e.g., via screening to determine who might not be able to respond at all the NAEP items). The need for such an approach is supported by research documenting the difficulties in IEP team decision making about accommodations (Helwig & Tindal, 2003), although I believe that decision making may be improving in many locations because of intensive training provided by states. However, it is also time for NAEP to revisit its accommodation
policies – to think carefully about exactly what each assessment is intended to measure, and specifically which accommodations result in invalid inferences. NAEP should look again at the research that has been conducted, and probably conduct its own research on accommodations considered to be the most challenging to NAEP (i.e., read aloud accommodation for the reading assessments).

I noted previously the many summaries of research on accommodations that are available. When one reads through the accommodations research, one find that the results are not straightforward, even when only the research on the read aloud accommodation in reading is examined. There are many reasons for this. Some research has included all students with disabilities, some has included only students with learning disabilities, and some has included only students with reading-based learning disabilities. These different groups of students are likely to produce different results because, as we have learned through research and state experiences, the specific accommodations that a student receives should be determined by the characteristics and needs of the student (e.g., ability to maintain attention, short-term memory challenges, etc.), not by a disability category label. Accommodation needs of students also may change over time, as they mature.

Appendix A provides a summary of some of the recent research on the read aloud accommodation for reading assessments. Research on this accommodation has gotten more sophisticated over time, so it is important to look as well at some of the latest research. Fletcher, Francis, Boudousquie, Copeland, Young, Kalinowski, and Vaughn (2006) explored a unique version of a read aloud and other accommodations for students with dyslexia, combined into a “bundle” (specifically including orally reading all proper nouns associated with each passage before students begin individual reading, orally reading all test questions and answer choices to students, and extending the testing time over a two-day period). With grade 3 students who were either “dyslexic” or average readers included in an experimental design, these researchers found that only students with decoding problems benefited from the accommodations, with an increase in average performance, and a 7-fold increase in the odds of passing the test. Like the approach taken by many states that allow a read aloud accommodation, the nature of the students who may participate in a reading assessment with the bundled accommodations that include a read aloud component is narrowly defined. This is something that NAEP could do as well – provide some type of read aloud accommodation, but only for a narrowly defined group of students. (Examples of the criteria for defining students for a read aloud or screen reader accommodation are included in Appendix B.)

Another study of interest, conducted recently by Laitusis (in press), supports the use of an audio presentation during a test of reading comprehension for students with reading-based learning disabilities. Specifically, her results showed that both students with reading-based learning disabilities and students without disabilities showed increases in scores on the audio version compared to the standard version of an assessment. But, at both grades 4 and 8, students with reading-based learning disabilities benefited differentially more than students without disabilities. Laitusis and her colleagues are moving their research forward to explore whether decoding and fluency processes can be assessed separately from understanding of text (comprehension) processes to produce one score that reflects both. This approach would eliminate the barrier created for students who must get through the gateway (i.e., barrier) of decoding before they can show their understanding of text. Novel approaches such as this also should be explored by NAEP.

State accommodations policies also provide insight into possible avenues for NAEP to pursue. States have been developing and refining their policies for some time now. In the early 1990s, when the 1994 working conference was held on inclusion and accommodations, only 21 states (Thurlow, Silverstein, & Ysseldyke, 2005) had accommodation policies. Today, every state has a policy on accommodations for students with disabilities during state testing (Christensen, Lazarus, Crone,
Thurlow, 2008). Over time, states have continually refined their accommodation policies (Thurlow, 2007). Studies of these policies have identified extreme variability among states and frequent shifts within states from year to year (Lazarus, Thurlow, Lail, & Christensen, in press). These shifts likely have been a result of growing recognition of the importance of accommodations for providing access to assessments for students with disabilities, legal pressures (i.e., lawsuits), state comparisons among themselves, and then, more recently, an attempt to ensure that accommodations maintain or increase the validity of results when they are used (Crawford, 2007; Thurlow, Lazarus, Thompson, & Morse, 2005; Thurlow, Thompson, & Johnstone, 2007).

As states have reviewed and revised their accommodation policies, they have paid increased attention to what their assessments are intended to measure. They have sometimes determined that the important things to measure vary by grade level. For example, having the student demonstrate decoding skills has generally been considered to be more important in the early grades, and less important in the later grades (Thompson, Johnstone, Thurlow, & Clapper, 2004). Thus, allowing students to use a read aloud accommodation, for example, has been more questionable at the early grades than at the later grades, where the interest is in understanding the information in reading passages. Some states have made this differentiation explicit in their policies, allowing the read aloud accommodation without consequences after grade 3.

As noted previously, another approach is to create an assessment that separates decoding items from those that explore other aspects of reading, such as understanding of text, author’s intent, and so on. In these situations, decoding items are scored separately from comprehension items, and the two scores are then combined. A large field test of the viability of such an approach is currently being explored by investigators of the Designing Accessible Reading Assessments Project (DARA; see www.narap.info to link to the DARA web site).

Providing the NAEP reading assessment on line would make it possible to explore these avenues more easily. By allowing students to use a screen reader, during NAEP, records could be kept of the extent to which decoding help was obtained during the assessment. Perhaps scores could be adjusted depending on the nature of the item for which the student accessed decoding help, or certain items would automatically receive a zero score while others would receive a full score if a student used a read aloud type of accommodation. These ideas certainly are deserving of further exploration. States are doing it, and so can NAEP.

**These and other ideas deserve a systematic line of research in NAEP.** First, perhaps, a group of experts in accommodations research, students with disabilities, and assessment could brainstorm research ideas. Then a systematic set of research studies could be pursued. Combining this approach with clarification of who the students are who most appropriately would access the accommodation could open up the accessibility of NAEP and at the same time reduce the major challenge that faces NAEP in the area of accommodations.

Given the prominent role NAEP has been given in federal policy, however, it is time to go beyond merely thinking about accommodations to ensure that students with disabilities are able to participate in ways that show their knowledge and skills. It is essential that NAEP incorporate the principles of universal design/accessibility when creating assessments. Steps and procedures should put in place during the item and test development process to ensure that NAEP assessments are **universally designed** to be as accessible as possible for students with disabilities (Thompson, Thurlow, & Malouf, 2004). In addition, researchers have been identifying what are believed to be critical principles to guide state assessments used for accountability (Thurlow, Quenemoen, Lazarus, Moen, Johnstone, Liu, Christensen, Albus, & Altmann, 2009) and reading assessments (National Accessible Reading Assessment Projects, 2009). NAEP should do no less than consider each of these principles and
ensure that it is meeting what the field has come to believe are important aspects of appropriate measurement of all students, including students with disabilities.

**Monitoring and Evaluation**

It is important to continuously evaluate the extent to which students with disabilities are included or excluded from NAEP, and to follow up on any questionable practices that are observed. NAEP should step up its monitoring and evaluation practices on students with disabilities, and make them a regular part of the NAEP administration. Specifically, the following recommendations, not too unlike those made 15 years ago, seem appropriate:

1. Each time NAEP is administered, follow-up on a random sample of those students with disabilities who were excluded from NAEP. Determine whether those students could have participated in NAEP, and regularly report on the results of these follow-ups. These should not be special studies, but rather a part of the regular NAEP process.
2. Report exclusion rates disaggregated by subgroup, rather than as a percentage of the total population. (The latter makes exclusion rates seem to be less than they are – 5% sounds relatively small, but it can translate to ½ or more of the population of student with disabilities.)
3. Provide a strong disincentive for the exclusion of students from NAEP. For example, a disincentive might be to not report NAEP scores if the percentage of students with disabilities excluded overall is greater than a minimal percentage of the population of students with disabilities (perhaps 20% of those sampled).
4. Continue to (a) consider ways to increase the accessibility of assessments, and (b) evaluate progress in moving toward greater participation of students with disabilities in NAEP.

**Conclusion**

There is much that has been done, and much more to do. Going back gives perspective on both the tremendous progress that has been made, and what is possible for the future. Some of the suggestions in this paper reflect longer-term pathways, and some reflect avenues that need to be pursued immediately.

All of the avenues are extremely important. NAEP has provided evidence to the field of increased performance of students with disabilities over time. This information must be the best that it can be. It is important and desperately needed at a time when students with disabilities are being blamed, unfairly, for the accountability problems of states. I urge the Ad Hoc Committee and NAGB to step forward and become the gold standard for the assessment of students with disabilities across the nation.
References


Appendix A
Summary of Recent Research on the Read Aloud Accommodation for Reading


Students were administered either the oral accommodation (OA) form or a regular form of an assessment. The sample consisted of 6,000 students with and without disabilities in grades 10 and 12. The reading portion of a secondary level statewide assessment was used as the dependent variable. The results indicate that a similar construct was measured among students with and without disabilities taking the regular form. The results also indicate that a similar construct was measured among students with and without disabilities taking the oral accommodation form.


This study examined differences in the types of errors made by students with disabilities on a multiple choice reading test administered under oral reading accommodations. The participants included 2,924 high school seniors. (65% of the sample had learning disabilities, 15% were educable mentally challenged, and 13% had no disability.) The study was based on statewide data from the 1996, 1997, and 1998 administration of the Oral Accommodation form of South Carolina’s statewide reading test. The study indicates that when errors are used as an extra factor in exploring the nature of proficiency, the reading construct varies only slightly across disability groups. The results indicate that it is safe to apply the same meaning to test scores for these groups even when the test is administered under different accommodations.


One group of students with disabilities received the read aloud accommodation. A majority of the students receiving the read aloud accommodation also received this accommodation with extended time and in a small group. Test data from four groups of students (third and fourth grade) were analyzed: Group A: A random sample of 1,000 general education students who took the test without an accommodation. Group B: Students with an individualized education plan (IEP) in reading who took the test without an accommodation. Group C: Students who had an IEP in reading and took the test under the read-aloud accommodation alone or in combination with extended time and/or small group administration. Group D: A random sample of 1,000 general education students who took the test without an accommodation and who were matched in ability to the group of students with an IEP in reading. The Missouri Assessment Program (MAP) third grade reading test and fourth grade math test were used as the dependent variables. Results indicated that the presence of the accommodation altered item difficulty estimation beyond the effect of the conditions controlled for (effect for ability and effect for disability status). About half of the items on the reading test were identified as having differential item functioning (DIF) when the accommodation was used, and about 1/5 of the items on the math test were identified as having differential item functioning when the read aloud accommodation was used.

The study investigated not only group-wide effects, but also the individualized impact of computer-based read-aloud testing accommodations on student test scores. Ten 11th and 12th grade students with learning disabilities participated. Each student was administered two equivalent forms of a US history and civics test, one a traditional paper and pencil test, and the other in a computer-based read-aloud format. The results of this study indicate a significant increase in scores on reading passages greater than 100 words using this technological aids. These results provide preliminary support for the potential benefits and usability of digital technologies in creating universally designed assessments that more fairly and accurately test students with disabilities.


This study was designed to test the interaction hypothesis which proposes that valid test accommodations benefit only those with disabilities. The participants (n=182) were 3rd graders who were dyslexic (50%) or average readers (50%) from the same class room. The participants were randomly assigned to take the same version of the Texas reading accountability assessment under accommodated and standard administrations. The accommodated administration was given in 2 sessions with oral reading of proper nouns and comprehension stems. Only students with decoding problems benefited from the accommodations, showing a significant increase in average performance and a 7-fold increase in the odds of passing the test. These results supported the interaction hypothesis, showing that accommodations designed for a clearly defined academic disability can enhance performance on a high-stakes assessment.


The study investigated the effect of oral administration on test structure and student performance. Participants were high school juniors who had taken the 2000 Pre-SAT. They took the Reading test of the South Carolina High School Exit Examination. Results indicated that the internal structure of the HSEE test remained stable across three student groups (SWD-oral administration, SWD-standard administration, Gen Ed.-standard administration). In addition, it was concluded that oral administration accommodations served to level the playing field for students whose disabilities were presumably severe enough to require oral accommodations.

Janson, I. (2002). The effects of testing accommodations on students' standardized test scores in a northeast Tennessee school system. *Dissertation Abstracts International, 63/02, 557*

Scores obtained by students who received special education services and did not receive accommodations in 1998 and/or 1999 were compared to scores obtained by the same students who did receive accommodations in later testing. Ninety-nine percent of students who received accommodations were given the read aloud accommodation. The sample consisted of 448 students in grades two through eight who received special education services. Performance on the Tennessee Comprehensive Assessment Program (TCAP) achievement test was used as the dependent variable. Results from the following years were analyzed: 1998, 1999, 2000, and/or 2001. Students who received special education services and received accommodations experienced significant gain scores in science and social studies in the year they were initially granted accommodations. There were substantial gains in science and social studies in 2000 for students initially receiving
accommodations. There were significant gains in social studies and math scores in 2001 for students initially receiving accommodations.


Students were provided an audiocassette recording of the items and choices read aloud on one form of the test. All students also completed a form of the test in the standard format. 17 students in general education (8 male, 9 female) and 15 students in special education (12 male, 3 female), in grades 3-5 participated. Eleven students from each group were white; three of the general education students and two of the special education students were African American, and the rest were of other ethnicities. Each student took two equivalent forms of the California Achievement Tests (CAT/5), Comprehension Survey. Information on student preferences for accommodations was also gathered. A significant interaction between accommodation effects by student status was not found. However, there was a moderate positive effect size for students with disabilities, while the effect size for students in the general population was minimal. Students in special education preferred the test with the accommodation, students in general education preferred the test without.


The purpose of this study was to test students’ performance on a reading test with and without read-aloud accommodations. Participants included 79 eighth-grade students from a junior high school. Forty of the students were selected based on having an educationally defined disability. The remaining 39 were general education students. Four special education teachers and one general education English teacher participated as well. Two forms of a research version of the TerraNova Multiple Assessments Reading test (eighth-grade level) were used in this study. After completing the test, students completed a survey about testing accommodations. Teachers also completed a survey about their perceptions of the effectiveness of testing with accommodations. The use of the read-aloud accommodation did not significantly improve the test performance of either group of students. More students without disabilities than with disabilities thought they did better when tested with read-aloud accommodations. However, more students with disabilities preferred the accommodated test. Teachers as a group had neutral attitudes about testing and testing accommodations.


Students were randomly assigned to two experimental conditions. In one condition the test was administered according to standard procedures; in the other condition the test was read aloud to the students. A total of 260 sixth, seventh, and eighth grade students (24% with a learning disability and 76% without such a disability) participated in this study. Participants were administered four tests from the Iowa Tests of Basic Skills (ITBS): Science, Usage and Expression, Math Problem-Solving, Data Interpretation, and Reading Comprehension. Analyses revealed that students in both groups (LD-R and non-LD) achieved significantly higher test scores with the read aloud test administration.
Appendix B
Examples of Criteria for Receiving a Read Aloud Accommodation

Georgia:

**Oral Reading of Reading Passages in English Only (#19):** The test administrator or assistive technology orally reads the reading passages of the Reading CRCT as identified by the IEP. The use of this conditional accommodation for the Reading CRCT should be restricted to grades 3 – 8 and may be considered when the following conditions apply:

1. The student has a specific disability that severely limits or prevents him or her from decoding text at any level of difficulty, even after varied and repeated attempts to teach the student to do so (i.e. the student is a non-reader, not simply reading below grade level);
2. The student has access to printed materials only through a reader or other electronic format during routine instruction.

The IEP team must explicitly address the reading of the reading passages. Reading of reading passages should be carefully considered and allowed only for those students with the most serious decoding disabilities.

Massachusetts:

1. The student has a specific disability that severely limits or prevents him or her from decoding text, or from comprehending decoded text, even after varied and repeated attempts to teach the student to do so. The student must be a virtual non-reader, not simply reading below grade level.
2. The student has access to printed materials only through a reader, and/or is provided with spoken text on audiotape, CD, video, or other electronic format during routine instruction, except while the student is actually being taught to decode.
3. The accommodation is documented in the student’s IEP or 504 plan, after the team has considered the conditions listed above and in Section C of this Chapter in determining whether the student is eligible for this accommodation.

Texas:

**Eligibility for Dyslexia Bundled Accommodations**

A student who meets the following criteria is eligible to receive the three bundled accommodations on English or Spanish TAKS, including TAKS (Accommodated), reading tests at grades 3–6, or English TAKS, including TAKS (Accommodated), reading tests at grades 7 and 8.

A student not receiving special education services must be identified with dyslexia. A student receiving special education services must either be identified with dyslexia or have a severe reading disability that exhibits the characteristics of dyslexia, causing the student to lack word-identification skills and to have difficulty reading words in isolation.

The student must routinely receive accommodations in classroom instruction and testing that address the difficulties he or she has reading words in isolation.

**Authority for Decision**

For a student with dyslexia not receiving special education services who meets both criteria above, the decision to provide the bundled accommodations must be made either by the student’s placement committee as required by Section 504 of the Rehabilitation Act of 1973 or by the committee of knowledgeable persons as outlined in *The Dyslexia Handbook*. In both of these
cases, the committee’s decision must be documented in writing in accordance with district policies and procedures.