

# Synthesis Brief

## *Increasing the Participation of Special Needs Students in NAEP*

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### **Background**

The National Assessment of Educational Progress (NAEP) started in 1969 and is referred to by the Department of Education as the “Nation’s Report Card,” the only nationally representative assessment of what America’s students know and can do in various subject areas. NAEP, a Congressionally mandated project of the National Center for Educational Statistics (NCES) of the U. S. Department of Education, tests samples of students at grades 4, 8, and 12. At the national level, NAEP is divided into two assessments: the main NAEP and the long-term trend NAEP. These different assessments use distinct data collection procedures, separate samples of students, and differing test instruments, and their results are reported separately. Since 1990 NAEP assessments have also been conducted on the state level for states that choose to participate.<sup>1</sup>

In 1996, a new set of criteria was established to guide schools in deciding on the participation of students with disabilities in NAEP, and the use of test accommodations was initiated. NCES designed research on the effects of these new test conditions on the math and science assessments conducted that

year. The results of that research are presented in the March 2000 NCES report, *Increasing the Participation of Special Needs Students in NAEP*. That report is the basis of this synthesis, and will be referred to subsequently as the NCES Report #2000-473.<sup>2</sup> This synthesis brief is part of Project FORUM’s Cooperative Agreement with the U. S. Department of Education, Office of Special Education Programs (OSEP).

### *Students with Disabilities in Large Scale Assessments*

The National Center on Educational Outcomes (NCEO), an OSEP funded project, began examining issues related to the inclusion of students with disabilities in assessments in the early 1990s, and has since carried out extensive research and convened meetings to seek solutions to the numerous problems that arise when attempts are made to include “all” students in assessments.<sup>3</sup> Their initial research documented that most national and state data collection programs exclude 40 to 50 percent of school-age students with disabilities, and that a

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<sup>1</sup> For more details on NAEP, see the NCES web site at: <http://nces.ed.gov/nationsreportcard/site/home.asp>

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<sup>2</sup> Although the NCES report also covers issues and findings related to students with limited English proficiency (LEP), this synthesis focuses exclusively on students with disabilities.

<sup>3</sup> The documents produced by NCEO are available on their web site at: [www.coled.umn.edu/nceo](http://www.coled.umn.edu/nceo)

sizable portion of excluded students could readily participate, some with accommodations and others without (McGrew, Thurlow, Shriner, & Spiegel, 1992).

The work of NCEO, in conjunction with many other efforts at the federal and state levels, contributed to new requirements in the 1997 amendments to the Individuals with Disabilities Education Act (IDEA). Specifically: “Children with disabilities are included in general State and district-wide assessment programs, with appropriate accommodations, where necessary.” [20 U.S.C. Chapter 33, §1412(17)]

### **Participation of Students with Disabilities in NAEP**

NCES Report #2000-473 notes that students are selected into the NAEP sample pool without regard to disability status. Decisions about student inclusion are made at the school level. The criteria NAEP provided to schools for involving students with disabilities before 1995 were written in terms of exclusion. Specifically, the “Old (1990-1994)” NAEP policy provided as follows:

**Exclude** if the student is mainstreamed less than 50 percent of the time in academic subjects and is judged incapable of participating meaningfully in the assessment, or if the IEP team or equivalent group determine that the student is incapable of participating meaningfully in the assessment (Olson & Goldstein, 1997, p.62).

When concern increased about the exclusion of students with disabilities from large scale assessments, NCES staff reviewed their policy and were also involved in many of the NCEO- and other OSEP-sponsored activities on this issue. Studies by the National Academy of Education on the 1992 and 1994 assessments revealed that many of the students with disabilities excluded from NAEP assessments were actually capable of participating (NCES Report #2000-473, p. 5).

As a result of all these efforts, new criteria were adopted by NAEP for the participation of students with disabilities in 1995 with the goal of increasing their participation:

**Include** if the student has an IEP, unless the IEP team or equivalent group determines that the student cannot participate, or if the student’s cognitive functioning is so severely impaired that he or she cannot participate even with accommodations.

These criteria were field tested that year and adopted for the math and science assessments in 1996.

### **Accommodations and Adaptations in NAEP**

When accommodations and adaptations for students with disabilities were first made available in 1996, the terms were defined as follows: *adaptations* are changes in the test format such as large print or Braille versions of the test, while *accommodations* refer to changes in the testing environment. Accommodations included one-on-one testing, small group testing, extended time, oral reading of directions, signing of

directions, use of magnifying equipment, and use of an aide to transcribe student responses onto answer sheets. The report notes that students who used accommodations in NAEP typically used some combination of accommodations and adaptations.

## Research Considerations

One of the fundamental components of NAEP research is the analysis of multi-year trends in test results. Changes in test conditions could make results significantly different from past assessments and make the analysis of student progress over time impossible. To address this concern and allow for analysis of the effects of the changes, three distinct samples of schools were identified for the 1996 math and science assessment. The samples were:

- **S1 Sample:** students with disabilities participated on the basis of the **pre-1995 criteria** but accommodations were **not** made available;
- **S2 Sample:** students with disabilities participated on the basis of the **revised criteria**, but testing accommodations were **not** made available; and,
- **S3 Sample:** students with disabilities participated on the basis of the **revised criteria**, and **accommodations** were made available.

In addition, at every participating school, a “knowledgeable school staff member” was asked to fill out a 30 item questionnaire for each student with a disability who was eligible for special education services under IDEA or Section 504 of the Rehabilitation Act regardless of whether or not the

student was included in the assessment. Items included type and degree of disability, percent of time in a special education program, grade level of the student’s instruction and performance, curriculum content, types of accommodations used in testing, and whether or not the student would use accommodations or adaptations in the NAEP assessment if they were available.

The authors specify some limitations of the study. First, the study involved only two subject areas, math and science, and questionnaires revealed that students with disabilities are more likely to be receiving grade-level instruction in those subjects than in reading. In addition, the study was done at the national level only, as accommodations were not offered in the state-level NAEP until 1998. State policies and practices in the inclusion of students in large scale assessments are evolving rapidly, and such changes will most likely have an effect on NAEP. Another limitation was that disparate groups were combined, such as those using different types of accommodations, because the sample sizes were small. This could have hidden differences that would be revealed if the accommodation had been studied separately. For example, recent studies by other researchers on Kentucky data resulted in conflicting findings for different accommodations (NCES Report #2000-473, p. 188). In addition, questions were raised by the researchers about the degree to which NAEP inclusion policies were actually implemented by schools, especially since, for substantial percentages of students, neither of the two reasons listed in the questionnaire—decision by the IEP team or severely impaired cognitive functioning—was given for exclusion.

## Findings

The NCES Report #2000-473 presents research from questionnaire and test data. A summary of the findings follows.

### *Characteristics of participating students with disabilities:*

According to the definition on the NAEP student questionnaire, “Students with a disability include those who have an IEP or equivalent classification, such as those identified as part of the 504 program” (NCES Report #2000-473, p. 210). NAEP samples do not include ungraded or special schools for the deaf and blind, which means that most of the students in the sample schools at all three grades had mild to moderate disabilities with very few identified as profoundly disabled. Learning disability was the most common disability classification. Questionnaire respondents reported that fewer than half of the students with disabilities received instruction at grade level in reading, and more than 75 percent were performing below grade level overall.

### *Effect of 1996 changed inclusion criteria on participation:*

For students in the S1 sample (old inclusion criteria, no accommodations) and the S2 sample (new inclusion criteria but no accommodations), the percentage of students with disabilities who were assessed ranged from 47 to 58 percent over the three grades. These inclusion rates are similar to the rates of previous NAEP assessments under the old criteria, leading researchers to conclude that revisions to inclusion criteria without the provision of accommodations are not likely to increase the participation of students with disabilities in NAEP.

*The use of accommodations:* Accommodations had to be specified in the student’s IEP or routinely used in the school in other testing situations in order for the student to use them in

NAEP. The most commonly provided accommodation was testing in a small group used by 17 percent of students with disabilities in fourth grade, 11 percent in eighth grade, and seven percent in twelfth grade. Sometimes students in these small group testing sessions also used other accommodations such as extended time and the reading of directions by an aide. Within the regular settings for NAEP testing, extended time was used by 5 to 8 percent, but very small percentages had material read to them in the regular setting. Almost no use was made of the adaptations offered for NAEP—Braille and large type versions.

### *Effect of the use of accommodations on participation:*

After comparing participation rates for students with disabilities in the S2 sample (new inclusion criteria but no accommodations) and S3 sample (new criteria and available accommodations), researchers concluded that the provision of accommodations did result in significantly increased participation in grades 4 and 8, although there were no significant differences found at grade 12. The researchers also note that substantial percentages of students reported to be receiving accommodations in school were included in the S1 and S2 NAEP samples under standard conditions without any accommodations. In addition, some students in the S3 sample (accommodations available) who were reported to be receiving accommodations in school were tested without the use of accommodations. Possible reasons for these inconsistencies include the unavailability of a specific accommodation or an incorrect entry on the questionnaire. These discrepancies also raise the possibility that some students tested with accommodations may not really need them.

*Students excluded from the 1996 NAEP:* For most students, decisions about their exclusion from NAEP were made based on what was stated in their IEP. The second most common reason provided for exclusion—severe cognitive impairment—

was used for 6 percent or less of the students. However, between 13 and 43 percent were excluded for neither of these two specific reasons according to questionnaire data. The researchers again mention a number of factors that may account for this finding including the lack of availability of needed accommodations and a desire on the part of parents, teachers and others to protect some students with disabilities from situations that are considered stressful for them.

*Effects of policy changes on NAEP scores:* The NCES Report #2000-473 addresses a number of technical issues concerning the effects of using test accommodations. Questions had been raised about the assessment data collected under nonstandard conditions. For example, can the data obtained from the students with disabilities tested with accommodations be fit with the same statistical models as the data obtained from students tested under standard NAEP conditions? According to the report, the data confirmed that the changes in conditions “had essentially no effect on the scales derived for reporting the results for the overall NAEP samples of students” (NCES Report #2000-473, p. 155), although some distinction was found between the effects of accommodations for certain items and the overall effect. In addition, the analysis verified that the presence of accommodations for some students had little or no effect on the mean scale score, thus posing no threat to the validity of comparisons of current NAEP results to those from previous assessments.

### **Concluding Observations**

The NCES Report #2000-473 emphasizes the importance of including students with disabilities in NAEP, noting that “only with equitable representation of students with disabilities and students of limited English proficiency can summary assessment

data be truly representative of the entire nation” (p. 179). As a result of the research findings, NAEP has already switched to using the revised criteria for its official reporting samples beginning in 1998. Also, accommodations are provided for reporting samples on certain NAEP tests.

It is important to note that most states are currently revising their assessment policies and procedures to align them with the 1997 amendments to the Individuals with Disabilities Education Act (IDEA). Such changes will have an effect on future participation in NAEP testing, even if only as a side effect of the new requirement that students with disabilities may no longer be excluded from state and district assessments except for those who need an alternate assessment. Thus, all but a very small percentage of students with disabilities will be included in NAEP and, most likely, there will be an increase in the number requiring the use of accommodations. It will also be interesting to find out from future studies what effect the inclusion of accommodated students has on NAEP scores at the state level where they will represent a larger proportion of the sample than at the national level.

Many aspects of including students with disabilities in large scale assessments have yet to be studied fully and remain controversial. For example, two studies on the same set of Kentucky data produced conflicting results, supporting the critical need for further research (p. 188-89). While it is important to have state-level research, the national nature of NAEP argues for the significant value of continued efforts by NCES to address remaining issues and concerns through carefully designed and conducted research studies such as those contained in the NCES Report #2000-473.

## References

Mazzeo, J., Carlson, J., Voelkl, K. & Lutkus, A. (2000). *Increasing the participation of special needs students in NAEP* (Statistical analysis Report. No. NCES 2000-473). Washington, D.C.: U. S. Department of Education, Office of Educational Research and Improvement.

McGrew, K. S., Thurlow, M. L., Shriner, J. G., and Spiegel, A. N. (1992). *Inclusion of students with disabilities in national and state data collection programs*. Minneapolis, MN: National Center on Educational Outcomes, University of Minnesota.

Olson, J. F. and Goldstein, A. A. (1997). *The inclusion of students with disabilities and limited English proficient students in large-scale assessments: A summary of recent progress* [NCES #97-482]. Washington, D.C: U. S. Department of Education, Office of Educational Research and Improvement.

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