



441 G St. N.W.
Washington, DC 20548

January 21, 2022

The Honorable Jack Reed
Chairman
The Honorable James M. Inhofe
Ranking Member
Committee on Armed Services
United States Senate

The Honorable Adam Smith
Chairman
The Honorable Mike Rogers
Ranking Member
Committee on Armed Services
House of Representatives

K-12 Education: Students in DOD Schools Generally Score Higher Than Public School Students on National Assessments

The Department of Defense Education Activity (DODEA) manages a federally-operated school system that provides pre-kindergarten through grade 12 education, primarily for the children of military service members and Department of Defense (DOD) civilian employees.¹

Section 589H of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 includes a provision for GAO to report on the educational outcomes of DODEA students compared to those of public school students.² This report examines the differences in student achievement between DODEA and public school students for mathematics and reading.

The only standardized test that allows for comparisons for public school student performance among states and DODEA is the National Assessment of Educational Progress (NAEP).³ This is a standards-based national test taken by a representative sample of students every other year

¹See 10 U.S.C. § 2164, 20 U.S.C. §§ 921-932. See also Department of Defense Directive 1342.20, *Department of Defense Education Activity (DoDEA)* (July 7, 2020).

²Pub. L. No. 116-283, div. A, tit. V, § 589H, 134 Stat. 3388, 3665 (2020).

³The Department of Education is required to conduct this assessment under 20 U.S.C. § 9622. The National Center for Education Statistics (NCES) within the U.S. Department of Education administers the test. Participation is voluntary on the part of students, schools, and local educational agencies. DODEA is treated as a state for the purposes of NAEP.

in the fourth, eighth, and 12th grades. We analyzed NAEP data from the fourth and eighth grade to compare DODEA student test results to other states' mathematics and reading results.⁴ Because NCES does not report 12th grade results at the state level, we could not include 12th grade results in our analyses. We analyzed data from 2011, 2013, 2015, 2017, and 2019.⁵ In addition, we compared test results for students with specific demographic characteristics, such as disability status and race and ethnicity, in DODEA schools to their public school counterparts.⁶ We spoke with Education officials who are knowledgeable about the data, and examined documentation about the data to assess its reliability, and we determined the data to be sufficiently reliable for the purposes of this work.

We conducted this performance audit from March 2021 to January 2022 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

DODEA is responsible for planning, directing, coordinating, and managing educational programs on behalf of DOD. All dependent children of U.S. military and DOD civilian employees living on a military installation with a school are eligible to attend. In 2021, 159 schools were organized into three regions that served almost 70,000 students (see fig.1).⁷

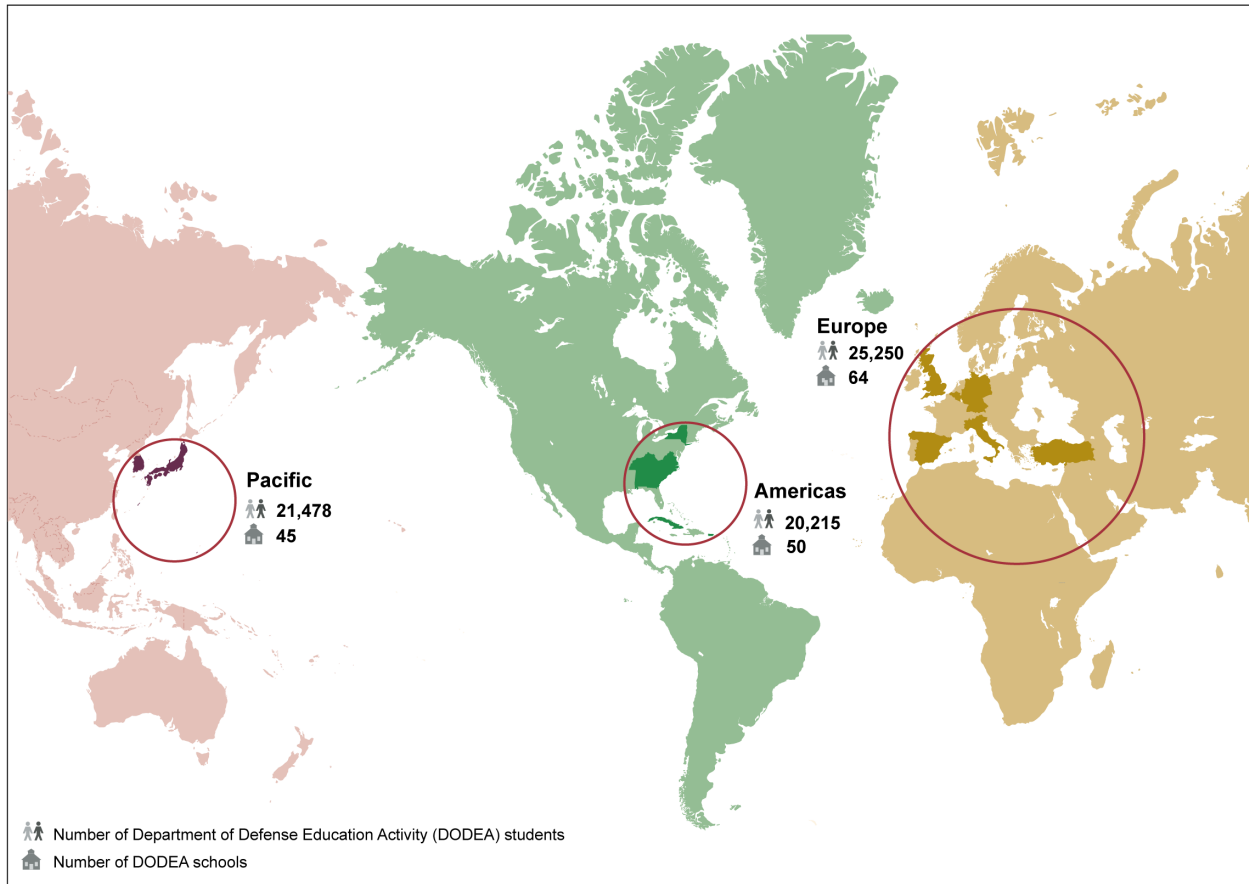
⁴The NAEP assessment is a sample so all estimates derived from it are subject to sampling error. Unless stated, all data comparisons are statistically significant. Because the design of NAEP used a probability procedure based on random selections, the sample is only one of a large number of samples that might have been drawn. Since each sample could have provided different estimates, a state could appear to have higher or lower scores than DODEA due only to the sampling and estimating process. To account for this uncertainty, we only identified a state estimate as differing from a DODEA estimate if the observed difference was "statistically significant," meaning the observed difference would be unlikely if DODEA and the state had the same underlying scores. We analyzed data on all 50 states and the District of Columbia. Throughout this report, we refer to the District of Columbia as a state.

⁵2019 is the most recent available data.

⁶We did not include students who receive free-and-reduced-price lunches, as DODEA does not report that information to NCES.

⁷These numbers do not reflect DODEA's virtual high school.

Figure 1: DODEA School and Student Locations, 2021



Source: GAO presentation of general locations of DOD schools, Map Resources (map). | GAO-22-105058

Since 1969, the NAEP has measured the academic achievement of students in the United States. These assessments are given to students in the fourth, eighth, and 12th grades on a number of subjects. Mathematics and reading are two of the most frequently assessed subjects across the three grade levels. The same assessments are administered in every state, and results are reported for both the aggregate and sub-groups of students (categorized by race and ethnicity, disability status, etc.), making it the largest nationally representative and continuing assessment of American students' knowledge. Results are reported nationally as average scores and as percentages of students reaching basic, proficient, and advanced achievement levels. In addition, fourth and eighth grade reading and mathematics results are reported by state.

DODEA Students Generally Earn among the Highest Scores Nationwide on the NAEP for Fourth and Eighth Grade Reading and Mathematics

Over the past decade, DODEA students in the fourth and eighth grades have generally received among the highest assessment scores nationwide in mathematics and reading, according to our analysis of NAEP data. For example, in 2019, DODEA's average scores for the fourth grade

mathematics and reading assessments were higher than 98 percent and 100 percent of states, respectively (see table 1). When less than 50 percent of states had lower scores than DODEA, it is most often because at least one-half of other states had a score that was not statistically different from DODEA. Please see enclosure 1 for data from 2011 through 2017.

Table 1: Percent of States with Lower Scores Than the Department of Defense Education Activity on the National Assessment of Educational Progress (NAEP) For Various Student Groups in Grades Four and Eight, Mathematics and Reading, 2019

Categories of students	Fourth grade math	Eighth grade math	Fourth grade reading	Eighth grade reading
All students	98	94	100	100
English learners	98	96	100	98
Students with Disabilities	98	92	98	100
White, non-Hispanic	73	82	90	98
African American, non-Hispanic	96	96	98	98
Hispanic, of any race	98	94	98	98
Asian, non-Hispanic	14	14	22	20
American Indian/Alaskan Native	-	11*	-	-
Multi-racial, non-Hispanic	70*	64*	74*	94*

Legend: "*" indicates from 46 to 50 states had data available for comparison to DODEA. A "-" indicates fewer than 46 states had high enough populations of specific student groups to compare to DODEA.

Source: GAO analysis of National Assessment of Educational Progress data. | GAO-22-105058

Notes: The Department of Defense Education Activity (DODEA) operates 160 schools for pre-kindergarten through 12th grade students living on military installations around the world. DODEA is considered a state for the purposes of NAEP. When less than 50 percent of states had lower scores than DODEA, it is most often because at least one-half of other states had a score that was not statistically different from DODEA. We did not include results when fewer than 46 states (90 percent) had reportable data. We also reviewed data for Native Hawaiian/Pacific Islander students, but fewer than 46 states had high enough populations of these students to compare to DODEA.

DODEA also generally had a higher percentage of students scoring at or above proficient on the fourth and eighth grade mathematics and reading assessments, compared to other states. For example, in 2019, the percentages of states with a lower percentage of students scoring at or above proficient on the fourth grade mathematics and reading assessments were 98 percent and 100 percent respectively (see table 2). When less than 50 percent of states had lower percentages of students scoring at or above proficient than DODEA, it is most often because at least one-half of other states had percentages of students scoring at or above proficient that were not statistically different from DODEA. Please see enclosure 1 for data from 2011 through 2017.

Table 2: Percent of States with a Lower Percentage of Students Scoring at or Above Proficient Than Department of Defense Education Activity on the National Assessment of Educational Progress (NAEP) For Various Student Groups in Grades Four and Eight, Mathematics and Reading, 2019

Categories of students	Fourth grade math	Eighth grade math	Fourth grade reading	Eighth grade reading
All students	98	80	100	100
English learners	92*	-	90*	-
Students with disabilities	92	34*	88	76*
White, non-Hispanic	75	67	90	98
African American, non-Hispanic	86*	53*	90*	83*
Hispanic, of any race	96	88	96	96
Asian, non-Hispanic	10	10	22*	24
Multi-racial, non-Hispanic	68*	38*	48*	80*

Legend: "*" indicates from 46 to 50 states had data available for comparison to DODEA. A "-" indicates fewer than 46 states had high enough populations of these students to compare to DODEA.

Source: GAO analysis of National Assessment of Educational Progress data. | GAO-22-105058

Notes: The Department of Defense Education Activity (DODEA) operates 160 schools for pre-kindergarten through 12th grade students living on military installations around the world. DODEA is considered a state for the purposes of NAEP. Proficiency levels are based on scores established by the National Center of Education Statistics. When less than 50 percent of states had lower percentages of students scoring at or above proficient than DODEA, it is most often because at least one-half of other states had percentages of students scoring at or above proficient that were not statistically different from DODEA. We did not include results when fewer than 46 states (90 percent) had reportable data. We also reviewed data for Native Hawaiian/Pacific Islander and American Indian/Alaskan Native students, but fewer than 46 states had high enough populations of these students to compare to DODEA.

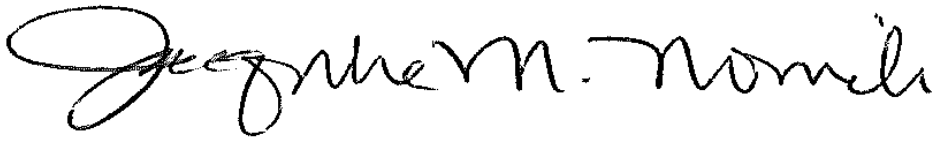
Agency Comments

We provided a draft of this report to the Department of Defense for review and comment. The Department of Defense had no comments. We also provided a draft to the Department of Education for technical review. We received technical suggestions from the Department of Education, which we incorporated as appropriate.

We are sending copies of this report to the appropriate congressional committees, the Secretary of Defense, the Secretary of Education, and other interested parties. In addition, the report will be available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (617) 788-0580 or nowickij@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report include Sara Schibanoff Kelly (Assistant Director), Mindy Bowman (Analyst in Charge),

and Kelsey Kreider. Additional assistance was provided by Susan Aschoff, John Mingus, Mimi Nguyen, James Rebbe, Monica Savoy, Brian Schwartz, and Kathleen van Gelder.

A handwritten signature in black ink that reads "Jacqueline M. Nowicki". The signature is written in a cursive style with a large initial 'J' and a distinct 'M'.

Jacqueline M. Nowicki, Director
Education, Workforce, and Income Security Issues

Enclosure – 1

Enclosure 1: Additional Data Tables

Table 3: Percent of States with Lower Scores Than Department of Defense Education Activity on the National Assessment of Educational Progress (NAEP) for Grade Four Mathematics, 2019, 2017, 2015, 2013, 2011

Categories of students

	Year				
	2019	2017	2015	2013	2011
All students	98	88	84	55	37
English learners	98	92	78	78	51
Students with disabilities	98	90	88	57	31
White, non-Hispanic	73	71	59	35	18
African American, non-Hispanic	96	90	82	76	37
Hispanic, of any race	98	92	96	78	55
Asian, non-Hispanic	14	8	16	2	2
American Indian/Alaskan Native	-	-	-	26*	-
Multi-racial, non-Hispanic	70*	67	49	43*	20*

Legend: "*" indicates from 46 to 50 states had data available for comparison to DODEA. A "-" indicates fewer than 46 states had high enough populations of these students to compare to DODEA.

Source: GAO analysis of National Assessment of Educational Progress data. | GAO-22-105058

Notes: The Department of Defense Education Activity (DODEA) operates 160 schools for pre-kindergarten through 12th grade students living on military installations around the world. DODEA is considered a state for the purposes of NAEP. When less than 50 percent of states had lower scores than DODEA, it is most often because at least one-half of other states had scores that were not statistically different from DODEA. We did not include results when fewer than 46 states (90 percent) had reportable data. We also reviewed data for Native Hawaiian/Pacific Islander students, but fewer than 46 states had high enough populations of these students to compare to DODEA.

Table 4: Percent of States with Lower Scores than Department of Defense Education Activity on the National Assessment of Educational Progress (NAEP) for Various Student Groups in Grade Eight Mathematics, 2019, 2017, 2015, 2013, 2011

Categories of students	Year				
	2019	2017	2015	2013	2011
All students	94	90	86	67	57
English learners	96	92	84	73	80
Students with disabilities	92	90	71	78	51
White, non-Hispanic	82	71	78	59	49
African American, non-Hispanic	96	84	76	78	73
Hispanic, of any race	94	96	96	78	80
Asian, non-Hispanic	14	18	6	14	0
American Indian/Alaskan Native	11*	49*	-	2*	-
Multi-racial, non-Hispanic	64*	61	31	41*	8*

Legend: "*" indicates from 46 to 50 states had data available for comparison to DODEA. A "-" indicates fewer than 46 states had high enough populations of these students to compare to DODEA.

Source: GAO analysis of National Assessment of Educational Progress data. | GAO-22-105058

Notes: The Department of Defense Education Activity (DODEA) operates 160 schools for pre-kindergarten through 12th grade students living on military installations around the world. DODEA is considered a state for the purposes of NAEP. When less than 50 percent of states had lower scores than DODEA, it is most often because at least one-half of other states had scores that were not statistically different from DODEA. We did not include results when fewer than 46 states (90 percent) had reportable data. We also reviewed data for Native Hawaiian/Pacific Islander students, but fewer than 46 states had high enough populations of these students to compare to DODEA.

Table 5: Percent of States with Lower Scores Than Department of Defense Education Activity on the National Assessment of Educational Progress (NAEP) for Various Student Groups in Grade Four Reading, 2019, 2017, 2015, 2013, 2011

Categories of students	Year				
	2019	2017	2015	2013	2011
All students	100	96	96	92	88
English learners	100	94	92	96	88
Students with disabilities	98	94	96	94	90
White, non-Hispanic	90	86	71	78	67
African American, non-Hispanic	98	96	96	92	92
Hispanic, of any race	98	98	94	96	94
Asian, non-Hispanic	22	12	16	16	14
American Indian/Alaskan Native	-	9*	-	23*	30*
Multi-racial, non-Hispanic	74*	69	71	65*	37*

Legend: "*" indicates from 46 to 50 states had data available for comparison to DODEA. A "-" indicates fewer than 46 states had high enough populations of these students to compare to DODEA.

Source: GAO analysis of National Assessment of Educational Progress data. | GAO-22-105058

Notes: The Department of Defense Education Activity (DODEA) operates 160 schools for pre-kindergarten through 12th grade students living on military installations around the world. DODEA is considered a state for the purposes of NAEP. When less than 50 percent of states had lower scores than DODEA, it is most often because at least one-half of other states had scores that were not statistically different from DODEA. We did not include results when fewer than 46 states (90 percent) had reportable data. We also reviewed data for Native Hawaiian/Pacific Islander students, but fewer than 46 states had high enough populations of these students to compare to DODEA.

Table 6: Percent of States with Lower Scores Than Department of Defense Education Activity on the National Assessment of Educational Progress (NAEP) for Various Student Groups in Grade Eight Reading, 2019, 2017, 2015, 2013, 2011

Categories of students	Year				
	2019	2017	2015	2013	2011
All students	100	98	98	94	82
English learners	98	90	86	73	90
Students with disabilities	100	96	92	94	76
White, non-Hispanic	98	90	88	88	78
African American, non-Hispanic	98	92	100	92	84
Hispanic, of any race	98	98	94	94	92
Asian, non-Hispanic	20	22	8	14	8
American Indian/Alaskan Native	-	-	-	54*	-
Multi-racial, non-Hispanic	94*	84	63	47*	29*

Legend: "*" indicates from 46 to 50 states had data available for comparison to DODEA. A "-" indicates fewer than 46 states had high enough populations of these students to compare to DODEA.

Source: GAO analysis of National Assessment of Educational Progress data. | GAO-22-105058

Notes: The Department of Defense Education Activity (DODEA) operates 160 schools for pre-kindergarten through 12th grade students living on military installations around the world. DODEA is considered a state for the purposes of NAEP. When less than 50 percent of states had lower scores than DODEA, it is most often because at least one-half of other states had scores that were not statistically different from DODEA. We did not include results when fewer than 46 states (90 percent) had reportable data. We also reviewed data for Native Hawaiian/Pacific Islander students, but fewer than 46 states had high enough populations of these students to compare to DODEA.

Table 7: Percent of States with a Lower Percentage of Students Scoring at or Above Proficient Than Department of Defense Education Activity on the National Assessment of Educational Progress (NAEP) for Grade Four Mathematics, 2019, 2017, 2015, 2013, 2011

Categories of students	Year				
	2019	2017	2015	2013	2011
All students	98	82	75	51	20
English learners	92*	83*	49*	47*	38*
Students with disabilities	92	71	49	22	10
White, non-Hispanic	75	65	49	31	18
African American, non-Hispanic	86*	86*	76*	33	24
Hispanic, of any race	96	90	80	61	43
Asian, non-Hispanic	10	4	4	4	2
Multi-racial, non-Hispanic	68*	59	24*	41*	15*

Legend: "*" indicates from 46 to 50 states had data available for comparison to DODEA. A "-" indicates fewer than 46 states had high enough populations of these students to compare to DODEA.

Source: GAO analysis of National Assessment of Educational Progress data. | GAO-22-105058

Notes: The Department of Defense Education Activity (DODEA) operates 160 schools for pre-kindergarten through 12th grade students living on military installations around the world. DODEA is considered a state for the purposes of NAEP. Proficiency levels are based on scores established by the National Center of Education Statistics. When less than 50 percent of states had lower percentages of students scoring at or above proficient than DODEA, it is most often because at least one-half of other states had percentages of students scoring at or above proficient that were not statistically different from DODEA. We did not include results when fewer than 46 states (90 percent) had reportable data. We also reviewed data for Native Hawaiian/Pacific Islander and American Indian/Alaskan Native students, but fewer than 46 states had high enough populations of these students to compare to DODEA.

Table 8: Percent of States with a Lower Percentage of Students Scoring at or Above Proficient Than Department of Defense Education Activity on the National Assessment of Educational Progress (NAEP) for Grade Eight Mathematics, 2019, 2017, 2015, 2013, 2011

Categories of students	Year				
	2019	2017	2015	2013	2011
All students	80	71	67	53	41
Students with disabilities	34*	53*	27*	70*	37
White, non-Hispanic	67	53	65	47	41
African American, non-Hispanic	53*	68*	27*	57	28*
Hispanic, of any race	88	84	86	57	64*
Asian, non-Hispanic	10	18	6	16	0
Multi-racial, non-Hispanic	38*	48*	11*	33*	-

Legend: "*" indicates from 46 to 50 states had data available for comparison to DODEA. A "-" indicates fewer than 46 states had high enough populations of these students to compare to DODEA.

Source: GAO analysis of National Assessment of Educational Progress data. | GAO-22-105058

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Table 9: Percent of States with a Lower Percentage of Students Scoring at or Above Proficient Than Department of Defense Education Activity on the National Assessment of Educational Progress (NAEP) for Grade Four Reading, 2019, 2017, 2015, 2013, 2011

Categories of students	Year				
	2019	2017	2015	2013	2011
All students	100	96	90	80	71
English learners	90*	-	-	-	-
Students with disabilities	88	65	63	88	67
White, non-Hispanic	90	80	65	63	53
African American, non-Hispanic	90*	82*	88	82*	73
Hispanic, of any race	96	90	90	88	88*
Asian, non-Hispanic	22*	2	4	6	8
Multi-racial, non-Hispanic	48*	30*	63	43*	16*

Legend: "*" indicates from 46 to 50 states had data available for comparison to DODEA. A "-" indicates fewer than 46 states had high enough populations of these students to compare to DODEA.

Source: GAO analysis of National Assessment of Educational Progress data. | GAO-22-105058

Notes: The Department of Defense Education Activity (DODEA) operates 160 schools for pre-kindergarten through 12th grade students living on military installations around the world. DODEA is considered a state for the purposes of NAEP. Proficiency levels are based on scores established by the National Center of Education Statistics. When less than 50 percent of states had lower percentages of students scoring at or above proficient than DODEA, it is most often because at least one-half of other states had percentages of students scoring at or above proficient that were not statistically different from DODEA. We did not include results when fewer than 46 states (90 percent) had reportable data. We also reviewed data for Native Hawaiian/Pacific Islander and American Indian/Alaskan Native students, but fewer than 46 states had high enough populations of these students to compare to DODEA.

Table 10: Percent of States with a Lower Percentage of Students Scoring at or Above Proficient Than Department of Defense Education Activity on the National Assessment of Educational Progress (NAEP) for Grade Eight Reading, 2019, 2017, 2015, 2013, 2011

Categories of students	Year				
	2019	2017	2015	2013	2011
All students	100	98	96	84	57
Students with disabilities	76*	50*	33*	33*	29*
White, non-Hispanic	98	88	88	82	67
African American, non-Hispanic	83*	85*	96*	73	57
Hispanic, of any race	96	100	88	90	66*
Asian, non-Hispanic	24	12	6	12*	4
Multi-racial, non-Hispanic	80*	65*	59*	15*	-

Legend: "*" indicates from 46 to 50 states had data available for comparison to DODEA. A "-" indicates fewer than 46 states had high enough populations of these students to compare to DODEA.

Source: GAO analysis of National Assessment of Educational Progress data. | GAO-22-105058

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