

# National Indian Education Study 2007

## PART II

The Educational Experiences of American Indian and  
Alaska Native Students in Grades 4 and 8  
Statistical Analysis Report



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Student Artwork on the cover:  
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The National Indian Education Study (NIES) is a two-part study designed to describe the condition of education for American Indian and Alaska Native students in the United States. The study is sponsored by the Office of Indian Education and conducted by the National Center for Education Statistics for the U.S. Department of Education. NIES is authorized under Executive Order 13336, *American Indian and Alaska Native Education*, which was enacted in 2004 to improve education efforts for American Indian and Alaska Native students nationwide. (See <http://www.whitehouse.gov/news/releases/2004/04/20040430-10.html> for details.)

Part II of the NIES is a survey that provides information on the educational experiences of the fourth- and eighth-grade American Indian and Alaska Native students who participated in the National Assessment of Educational Progress (NAEP) assessments. The survey is reported separately from Part I and includes information on the integration of native language and culture into school and classroom activities.

Part I of the NIES is conducted through NAEP and provides in-depth information on the academic performance of fourth- and eighth-grade American Indian and Alaska Native students in reading and mathematics.

Conducted in 2005 and 2007, NIES provides data on nationally representative samples of American Indian and Alaska Native students from public, private, and Bureau of Indian Education schools. It is a reliable source of data on American Indian and Alaska Native students, especially for researchers, educators, administrators, and policymakers who address the educational needs of these students. NIES is advised by a technical review panel; its members (listed on the back of this report) come from across the country and include educators and researchers selected for their expertise in American Indian and Alaska Native education.

NAEP is a congressionally authorized project of the National Center for Education Statistics (NCES) within the Institute of Education Sciences of the U.S. Department of Education. The Commissioner of Education Statistics is responsible for carrying out the NAEP project. The National Assessment Governing Board oversees and sets policy for NAEP.

NAEP is an integral part of our nation's evaluation of the condition and progress of education. Only information related to academic achievement and relevant variables is collected. The privacy of individual students and their families is protected, and the identities of participating schools are not released.



# Executive Summary

This report presents information about the educational, home, and community experiences of American Indian and Alaska Native (AI/AN) fourth- and eighth-grade students that was collected during the National Indian Education Study (NIES) of 2007. AI/AN students represent about 1 percent of the student population in the United States. Approximately 10,000 AI/AN students in 1,700 schools at grade 4 and 11,000 AI/AN students from 1,800 schools at grade 8 participated in the study. Surveys were completed by students, their teachers, and their school administrators.

The three major areas of findings that are described in this report include: characteristics of AI/AN students, characteristics of their teachers and schools, and the integration of native language and culture in their homes and schools. Some of the major findings are highlighted below.

## Social and demographic information provides insights into the AI/AN student population

**Location.** Higher percentages of AI/AN fourth-graders (56 percent) and eighth-graders (54 percent) attended schools in the South Central and Mountain regions than in other regions. In the Mountain region, higher percentages of AI/AN students (40 to 46 percent across grades) attended schools in which at least 25 percent of the students were AI/AN (“high density” schools) than attended low density schools (19 percent).

**Families and Homes.** A higher percentage of AI/AN students (about 58 percent) were eligible for free school lunch compared to their non-AI/AN peers (about 34 percent). A lower percentage of AI/AN students (about 75 percent) than non-AI/AN students (about 89 percent) said they had access to a computer in their homes.

**Language.** A higher percentage of AI/AN students in high density schools (about 20 percent) than in low density schools (about 10 percent) reported that a language other than English was spoken in their homes all or most of the time. A higher percentage of students in Bureau of Indian Education (BIE) schools (35 percent) than in public schools (about 12 percent) reported the same.

## Teachers and school administrators describe the context in which AI/AN students learn

**Teachers’ Backgrounds.** While nearly 80 percent of AI/AN students overall were taught by teachers who identified themselves as White, a higher percentage of AI/AN students in BIE schools (about 40 to 60 percent across grades) than in public schools (5 to 9 percent) were taught by AI/AN teachers. Also, a higher percentage of students in BIE schools (20 to 29 percent) than in public schools (about 3 percent) were taught by teachers who said they were fluent native language speakers.

**School Characteristics and Climate.** A higher percentage of AI/AN students in high density schools (55 to 64 percent across grades) than in low density schools (12 to 21 percent) attended schools where more than three-quarters of the student body was eligible for free/reduced-price school lunch. Higher percentages of students in high density schools (15 to 35 percent) than in low density schools (2 to 12 percent) had administrators who indicated serious problems with student absenteeism, student tardiness, lack of family involvement, and low expectations.

## Homes, communities, and schools provide opportunities for integration of AI/AN language and culture

**Homes and Communities.** Exposure to native language at home most of the time occurred more frequently for students in BIE schools (about 41 percent) than for students in public schools (about 17 percent). A higher percentage of eighth-graders in high density schools (44 percent) than in low density schools (27 percent) said that they participated in AI/AN ceremonies or gatherings several times a year.

**Teachers and Schools.** Although nearly 90 percent of AI/AN students overall had teachers who provided instruction entirely in English, a higher percentage of students in high density schools (16 to 20 percent) than in low density schools (about 2 percent) had teachers who reported occasional use of AI/AN language in their instruction. A higher percentage of students in BIE schools (72 to 97 percent) than in public schools (26 to 63 percent) had school administrators who said that students received instruction on a variety of topics related to their native cultures.

# Introduction

This report, Part II of the National Indian Education Study (NIES), presents the results gathered from questionnaires completed by American Indian and Alaska Native (AI/AN) students at grades 4 and 8, their teachers, and the administrators of the schools that serve them. The findings provide a snapshot of the educational experiences of AI/AN fourth- and eighth-graders.

## Context and Purpose

In response to Executive Order 13336 of 2004, the inaugural two-part NIES was conducted in 2005 under the direction of the National Center for Education Statistics (NCES) on behalf of the U.S. Department of Education, Office of Indian Education (OIE). The 2005 NIES reports (Rampey, Lutkus, and Weiner 2006; Stancavage et al. 2006), along with *Status and Trends in the Education of American Indians and Alaska Natives* (Freeman and Fox 2005), marked significant milestones for NCES in reporting the academic achievement and educational experiences of AI/AN students. This current report, along with its companion Part I (which focuses on the performance results of AI/AN students on the NAEP 2007 reading and mathematics assessments), extends the NIES project and its goal of accurately reporting on the education status and progress of American Indian and Alaska Native students.

Concordant with the explicit purpose of the Executive Order,<sup>1</sup> the primary purpose of Part II is to present data related to tribal traditions, languages, and cultures that might affect students' educational attainment. In addition, the NIES reports present findings that are of interest to education researchers and are potentially relevant to the research capacity and collaborative provisions of the Executive Order.<sup>2</sup>

## Collection of Data

The NIES survey administered questionnaires for the following participant groups:

- grade 4 students,
- grade 8 students,
- teachers of the participating students at each grade level, and
- administrators of the schools from which the students were selected.

The survey included questions to measure the extent to which AI/AN students were exposed to native languages and cultures. In addition, a space was provided at the end of each survey for respondents' comments.

For further information about the questionnaires and how they were administered, refer to the Technical Notes of this report. The questionnaires can be viewed online at [http://nces.ed.gov/nationsreportcard/nies/nies\\_2007/n0004.asp](http://nces.ed.gov/nationsreportcard/nies/nies_2007/n0004.asp).

## Participation

The NIES Part II sample was designed to produce information representative of the target population of all fourth- and eighth-grade AI/AN students in the United States. The sample selection for NIES took place in conjunction with the sampling activities for the 2007 NAEP assessments at grades 4 and 8. Sampling proceeded in two stages: first, schools were selected, and then fourth- and eighth-grade students were selected at

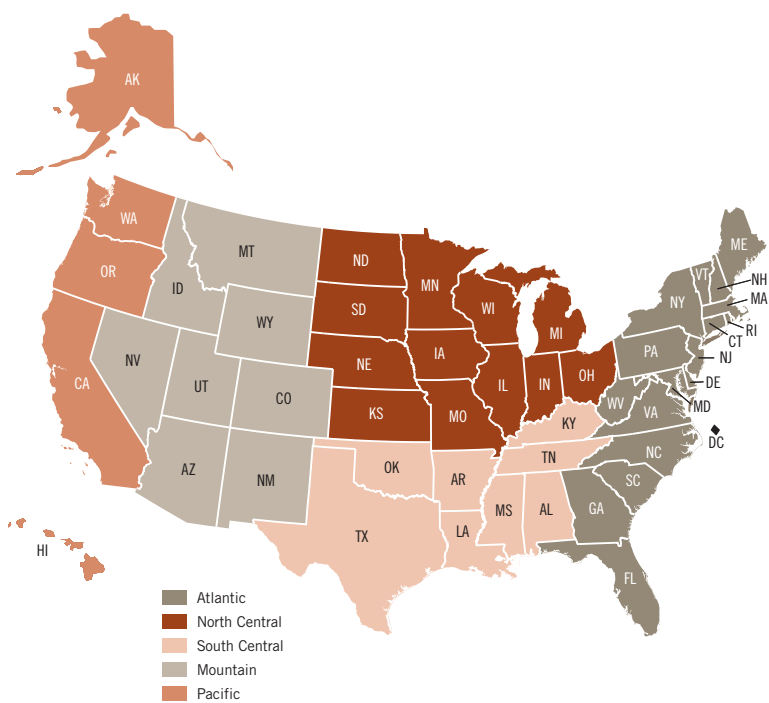
<sup>1</sup> The purpose of this order is to assist American Indian and Alaska Native students in meeting the challenging academic standards of the No Child Left Behind Act of 2001 (Public Law 107-110) in a manner that is consistent with tribal traditions, languages, and cultures.

<sup>2</sup> Sec. 4. Enhancement of Research Capabilities of Tribal-Level Educational Institutions. The Secretary of Education and the Secretary of the Interior shall consult with the entities set forth in section 2(a) of this order and tribally controlled colleges and universities to seek ways to develop and enhance the capacity of tribal governments, tribal universities and colleges, and schools and educational programs serving American Indian and Alaska Native students and communities to carry out, disseminate, and implement education research, as well as to develop related partnerships or collaborations with non-tribal universities, colleges, and research organizations.

each school. Approximately 41,000 fourth-graders and 49,000 eighth-graders across the United States were identified by official school records as AI/AN; these students comprised the NIES sampling frame.

The NAEP sample included about 13,000 AI/AN students from approximately 1,900 schools at grade 4 and 15,000 AI/AN students from 2,000 schools at grade 8. The three types of schools in the sample were public, private, and Bureau of Indian Education (BIE) schools. The sample consisted of approximately 94 percent public schools, 1 percent private schools, and 5 to 6 percent BIE schools at grades 4 and 8. All BIE schools in the United States were included in this study.

NIES did not obtain information on the locations of students' homes. However, students are described in terms of the locations (regions and community types) of the schools they attended. The five regions shown on the map below were defined for the NIES study and are based on Census divisions or aggregations of Census divisions.



NIES questionnaires were completed by about 10,000 grade 4 students from 1,700 schools and 11,000 grade 8 students from 1,800 schools (table 1). Also responding to the survey were about 3,000 grade 4 teachers, 4,600 grade 8 teachers, 1,700 grade 4 school administrators, and 1,800 grade 8 school administrators associated with these students. Some school administrators responded for both grade 4 and grade 8.

The weighted school response rates were 88 percent at grade 4 and 90 percent at grade 8. The weighted school response rates by school type were as follows: at fourth grade, 90 percent for public schools and 80 percent for BIE schools; at eighth grade, 91 percent for public schools and 88 percent for BIE schools. Private school results were not reported for either grade 4 or grade 8 due to insufficient sample size.

The weighted student response rates were 85 percent at grade 4 and 82 percent at grade 8. The weighted student response rates by school type were as follows: at fourth grade, 85 percent for public schools and 85 percent for BIE schools; at eighth grade, 82 percent for public schools and 83 percent for BIE schools. Nonresponse bias analyses were conducted because the unrounded student response rates for both grades 4 and 8 failed to meet the NCES standard of 85 percent. These analyses concluded that the potential effect of nonresponse bias on the survey estimates would be very slight. See the Technical Notes for additional information.

Table 1. Number of completed NIES questionnaires, by grade and respondent type: 2007

Respondent type	Grade 4	Grade 8
Students	10,000	11,000
Teachers	3,000	4,600
School administrators	1,700	1,800

NOTE: The numbers of students are rounded to the nearest thousand, and the numbers of teachers and school administrators are rounded to the nearest hundred. SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

## Presentation of Results

This report presents findings in three major chapters:

- *American Indian and Alaska Native Students* focuses on basic demographic information about AI/AN students, including geographic location, the types of schools they attend, socioeconomic and learning factors, and home support for learning.
- *Teachers and Schools of American Indian and Alaska Native Students* provides information about the teachers and schools that serve AI/AN students, including the racial/ethnic and linguistic backgrounds of teachers, and the characteristics of the schools, including staffing and school climate.

- *Integration of American Indian and Alaska Native Language and Culture* presents survey results showing the extent of students' knowledge of their tribe or group, the use of tribal languages within the home and at school, teachers' integration of culture and language into the classroom, and students' exposure to their AI/AN community and culture.

The data for this report come from the responses to survey questions, and the results are presented as percentages. The unit of analysis is always the student; therefore, the findings are presented as percentages of students. Because the sample was not designed to be representative of teachers or school administrators, the results from the teachers' and schools' survey questions are presented in terms of their students: for example, "The percentage of grade 4 AI/AN students whose teachers speak and understand a native language."

In addition, results are disaggregated by grade (4 or 8) and in some instances by subject (reading/language arts or mathematics) depending upon the specific questionnaire item being discussed.

This report compares the results for AI/AN students attending high density schools (those in which at least 25 percent of the students are AI/AN) with those for students attending low density schools (those in which less than 25 percent of the students are AI/AN), and makes comparisons between the results for AI/AN students attending public and BIE schools.

To provide readers with a broader context, the first two chapters of this report compare results for AI/AN students with those of their non-AI/AN counterparts. These particular comparisons are based on information collected as part of the 2007 NAEP assessments at grades 4 and 8. The reader should note that although questionnaire results are available from the 2005 NIES study, this report does not compare 2007 results to 2005. In 2005, NIES questionnaires were administered to students in a subsample of NAEP schools. The 2005 NIES administration occurred after the NAEP administration window. In 2007, on the other hand, NIES questionnaires were administered during the same time period as NAEP to AI/AN students in all NAEP schools (not just a subsample). Because of these changes and the revision of

many of the questionnaire items between 2005 and 2007, the two years' results are not directly comparable.

Findings are reported based on a statistical significance level set at .05 with appropriate adjustments for multiple comparisons. In the tables and figures of this report, the symbol (\*) is used to indicate that one percentage is significantly different from another; that is, the difference is greater than the margin of error.<sup>3</sup> Where the text indicates a difference between two percentages (e.g., one percentage is higher or lower than another), that difference is statistically significant. The reader is cautioned to rely on the reported differences in the text and tables rather than on the apparent magnitude of any difference. Some of the percentages reported in the text are constructed by combining data across two or more of the categories shown in the accompanying tables or figures. The combined percentages may differ slightly from the table values due to rounding.

## Cautions in Interpretation

Although comparisons are made between the results for AI/AN students attending high density and low density schools, for AI/AN students attending public and BIE schools, and for AI/AN and non-AI/AN students, this should not be interpreted as evidence that the density of the AI/AN school population, the school type, or the race/ethnicity of the students are the causes of any significant differences in other student, teacher, and school characteristics. There are many reasons why students, teachers, and school programs may differ, including ones that are not examined in the current report or measured in the NAEP or NIES surveys. This report is purely descriptive in nature, and readers are cautioned not to draw causal inferences based solely on the results presented here.

This report is based on NIES Part II survey results, not an experimental or quasi-experimental study. The survey information, however, characterizes the extent to which tribal languages and cultures are integrated into the education of AI/AN students. Thus, NIES provides a context for further study and understanding of AI/AN students' educational experiences.

<sup>3</sup> All BIE schools serving fourth- and/or eighth-grade students were included in this study; they are census samples. For comparisons between a group within the BIE census and a group in a non-census sample (e.g., the public school sample), single-population *t*-tests are conducted reflecting the fact that only one of the estimates is subject to uncertainty.





## Chapter 1

### American Indian and Alaska Native Students

This chapter presents a demographic snapshot of American Indian and Alaska Native (AI/AN) students in the United States. AI/AN students are described with respect to three categories of social and demographic characteristics: geographic factors, socioeconomic and home factors, and learning factors.

Comparisons are made between AI/AN students and non-AI/AN students in fourth and eighth grades. Two additional types of comparisons offer a more detailed look at AI/AN student characteristics by school density (based on the proportion of AI/AN students attending) and school type (public or BIE).

## Geographic Factors

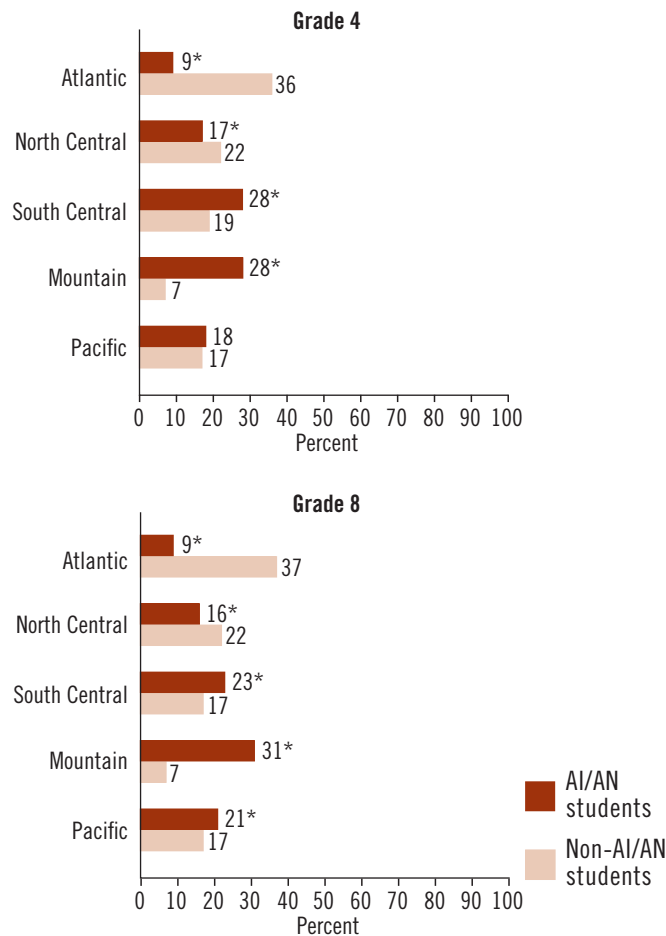
### How are AI/AN students distributed across the regions of the United States?

AI/AN students were not evenly distributed across the five regions in which the schools they attended were located. Fifty-six percent of fourth-grade and 54 percent of eighth-grade AI/AN students attended schools in the South Central and Mountain regions (figure 1-1).

Forty percent of fourth-grade and 46 percent of eighth-grade AI/AN students attending high density schools were concentrated in the Mountain region (figure 1-2).

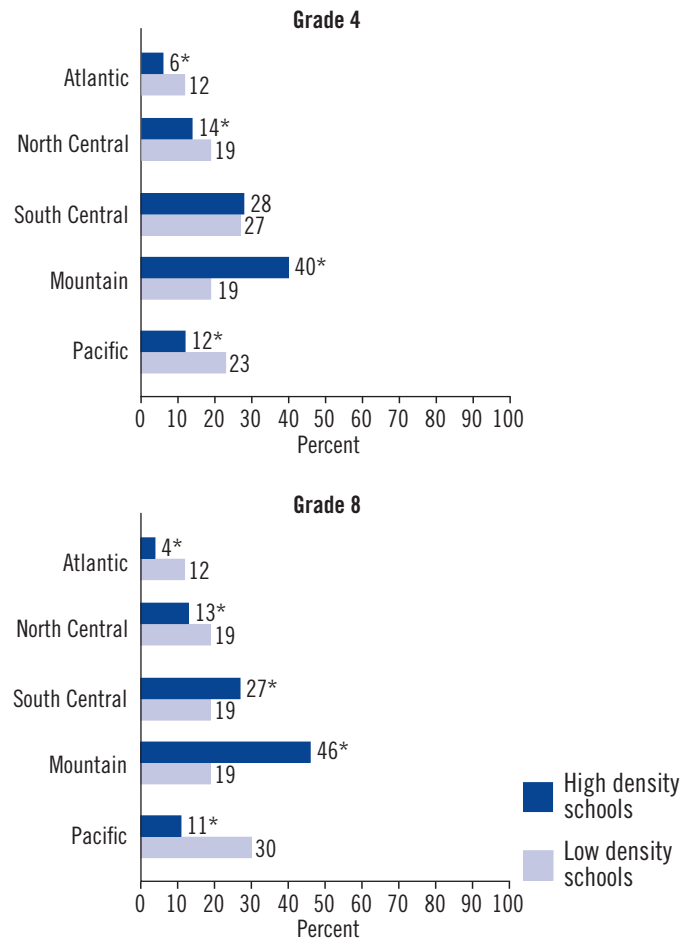
AI/AN students attending BIE schools were also concentrated in the Mountain region—66 percent at grade 4 and 59 percent at grade 8 (table 1-1).

Figure 1-1. Percentage of fourth- and eighth-grade students, by region and student group: 2007



\* Significantly different ( $p < .05$ ) from non-AI/AN students.  
 NOTE: AI/AN = American Indian/Alaska Native. Regions are defined in the Technical Notes. Detail may not sum to totals because of rounding.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.

Figure 1-2. Percentage of fourth- and eighth-grade AI/AN students, by region and school density: 2007



\* Significantly different ( $p < .05$ ) from low density schools.  
 NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Regions are defined in the Technical Notes. Detail may not sum to totals because of rounding.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.

Table 1-1. Percentage of AI/AN students, by grade, type of school, and region: 2007

Region	Grade 4		Grade 8	
	Type of school		Type of school	
	Public	BIE	Public	BIE
Atlantic	10	1*	9	#*
North Central	17	24*	15	31*
South Central	30	5*	25	6*
Mountain	24	66*	27	59*
Pacific	19	4*	24	4*

# Rounds to zero.  
 \* Significantly different ( $p < .05$ ) from public schools.  
 NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. Regions are defined in the Technical Notes. Detail may not sum to totals because of rounding.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.





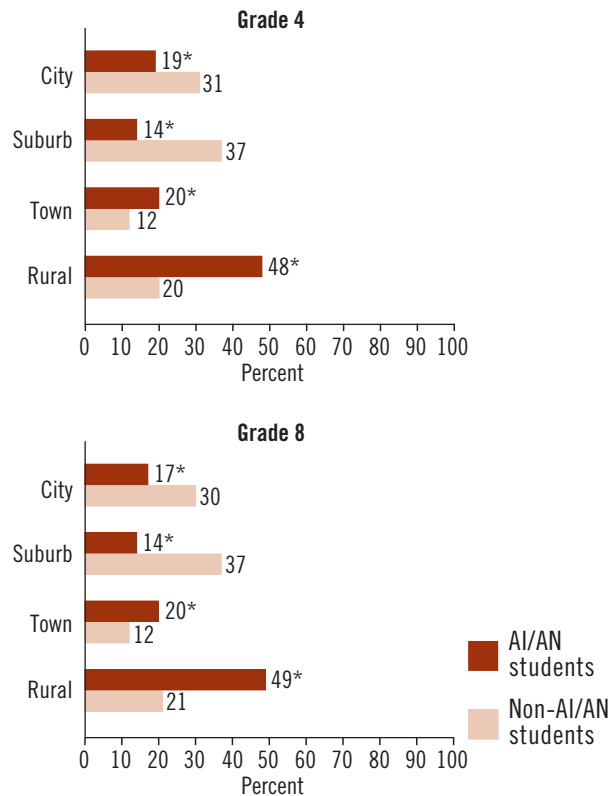
## In what types of community locations do AI/AN students go to school?

Four mutually exclusive categories of school locations are presented here: city, suburb, town, and rural. Details on how these categories were defined are presented in the Technical Notes. Note that the location of a student's school is not necessarily indicative of where that student's home was located, since students may travel to attend school.

Across the United States, 48 and 49 percent of AI/AN fourth- and eighth-graders, respectively, attended schools in rural communities (figure 1-3).

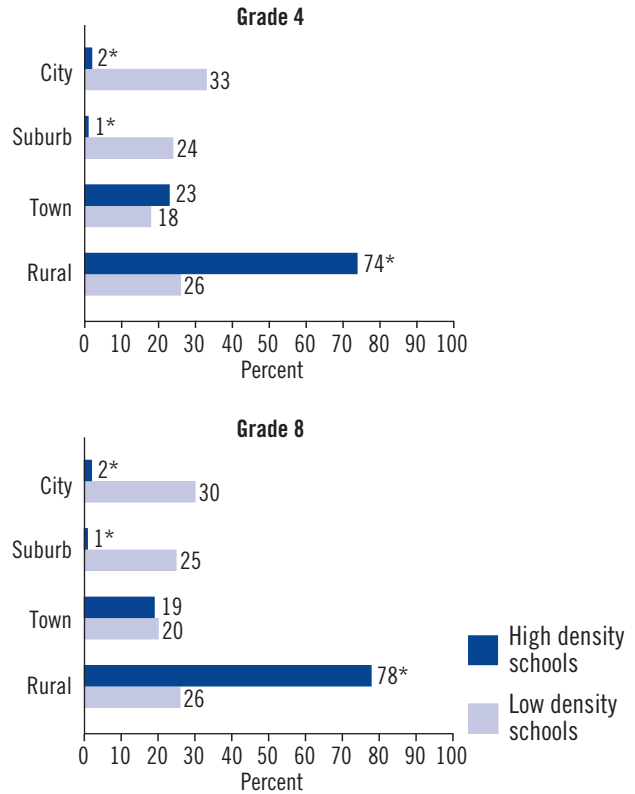
AI/AN students attending high density schools were concentrated in rural school locations (74 percent at grade 4 and 78 percent at grade 8). When compared to AI/AN fourth- and eighth-graders attending low density schools, lower percentages of AI/AN students from high density schools were located in cities (figure 1-4).

Figure 1-3. Percentage of fourth- and eighth-grade students, by school location and student group: 2007



\* Significantly different ( $p < .05$ ) from non-AI/AN students.  
 NOTE: AI/AN = American Indian/Alaska Native. Detail may not sum to totals because of rounding.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.

Figure 1-4. Percentage of fourth- and eighth-grade AI/AN students, by school location and school density: 2007



\* Significantly different ( $p < .05$ ) from low density schools.  
 NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because of rounding.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.

AI/AN students attending BIE schools did so almost exclusively in rural communities—93 percent at grade 4 and 92 percent at grade 8, compared to 43 and 45 percent of AI/AN fourth- and eighth-grade students attending public schools, respectively (table 1-2).

Table 1-2. Percentage of AI/AN students, by grade, type of school, and school location: 2007

School location	Grade 4		Grade 8	
	Type of school		Type of school	
	Public	BIE	Public	BIE
City	20	#	17	#
Suburb	15	4*	15	3*
Town	22	2*	22	5*
Rural	43	93*	45	92*

# Rounds to zero.  
 \* Significantly different ( $p < .05$ ) from public schools.  
 NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. Detail may not sum to totals because of rounding.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.

## Socioeconomic and Home Factors

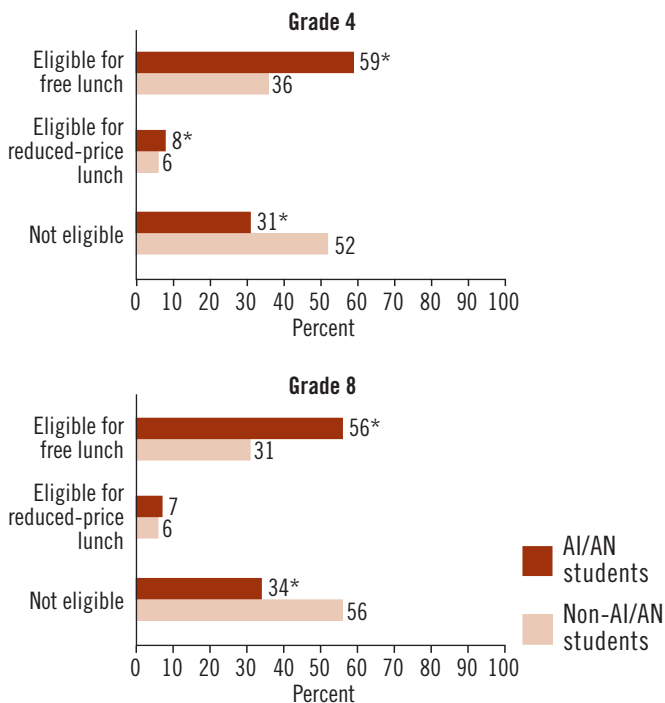
### What is the socioeconomic status of AI/AN students?

A student's eligibility for free or reduced-price school lunch under the National School Lunch Program is used as an indicator of socioeconomic status. The program and its eligibility criteria are described in the Technical Notes.

Higher percentages of AI/AN students were eligible for free lunch (59 percent at grade 4 and 56 percent at grade 8) than their non-AI/AN peers (figure 1-5). Thirty-six and 31 percent of non-AI/AN students at grades 4 and 8, respectively, qualified for free school lunch.

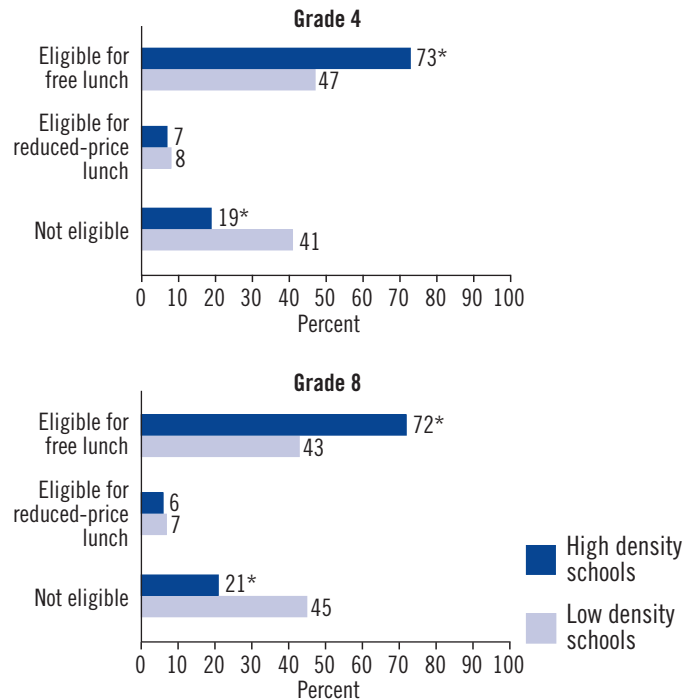
Within the AI/AN student population, there were higher percentages of students eligible for free lunch at high density schools than at low density schools (figure 1-6). For instance, at fourth grade, 73 percent of students from high density schools were eligible for free lunch, compared to 47 percent from low density schools. Similar patterns were observed for eighth-grade AI/AN students.

Figure 1-5. Percentage of fourth- and eighth-grade students, by eligibility for free or reduced-price school lunch and student group: 2007



\* Significantly different ( $p < .05$ ) from non-AI/AN students.  
 NOTE: AI/AN = American Indian/Alaska Native. Detail may not sum to totals because the "Information not available" category is not shown.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.

Figure 1-6. Percentage of fourth- and eighth-grade AI/AN students, by eligibility for free or reduced-price school lunch and school density: 2007



\* Significantly different ( $p < .05$ ) from low density schools.  
 NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because the "Information not available" category is not shown.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.

Nearly all students attending BIE schools were eligible for free lunch—91 percent of fourth-graders and 90 percent of eighth-graders (table 1-3).

Table 1-3. Percentage of AI/AN students, by grade, type of school, and eligibility for free or reduced-price school lunch: 2007

Eligibility status	Grade 4		Grade 8	
	Type of school		Type of school	
	Public	BIE	Public	BIE
Eligible for free lunch	58	91*	54	90*
Eligible for reduced-price lunch	8	3*	7	3*
Not eligible	33	4*	37	5*

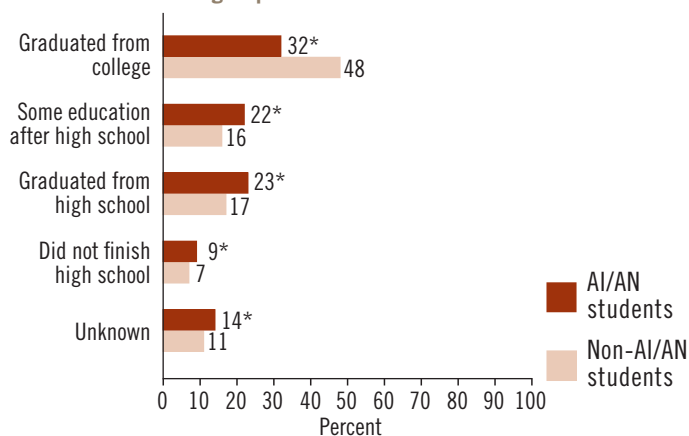
\* Significantly different ( $p < .05$ ) from public schools.  
 NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. Detail may not sum to totals because the "Information not available" category is not shown.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.



## What are the levels of parental education?

Parental education has been shown to be a predictor of student achievement (Hampden-Thompson and Johnston 2006). Only eighth-grade students were asked to report the highest education level attained by their parents. Overall, 77 percent of AI/AN students reported that one or both of their parents had at least a high school diploma, compared to 82 percent of their non-AI/AN peers (figure 1-7). A lower percentage of AI/AN students (32 percent) than non-AI/AN students (48 percent) reported that a parent had graduated from college.

Figure 1-7. Percentage of eighth-grade students, by student-reported highest level of parental education and student group: 2007

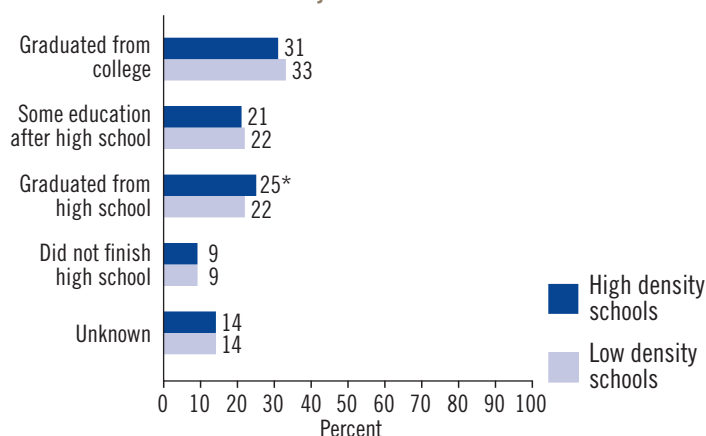


\* Significantly different ( $p < .05$ ) from non-AI/AN students.  
 NOTE: AI/AN = American Indian/Alaska Native. Detail may not sum to totals because of rounding.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.



Within the AI/AN student population, there were no significant differences between the percentages of students from high density and low density schools who reported having a parent with education beyond high school (figure 1-8).

Figure 1-8. Percentage of eighth-grade AI/AN students, by student-reported highest level of parental education and school density: 2007



\* Significantly different ( $p < .05$ ) from low density schools.  
 NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because of rounding.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.

Twenty-four percent of eighth-graders attending BIE schools reported that a parent had graduated from college, compared to 32 percent of AI/AN eighth-graders attending public schools (table 1-4).

Table 1-4. Percentage of eighth-grade AI/AN students, by type of school and student-reported highest level of parental education: 2007

Parental education level	Type of school	
	Public	BIE
Graduated from college	32	24*
Some education after high school	21	18*
Graduated from high school	23	27*
Did not finish high school	9	11*
Unknown	14	19*

\* Significantly different ( $p < .05$ ) from public schools.  
 NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. Detail may not sum to totals because of rounding.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.



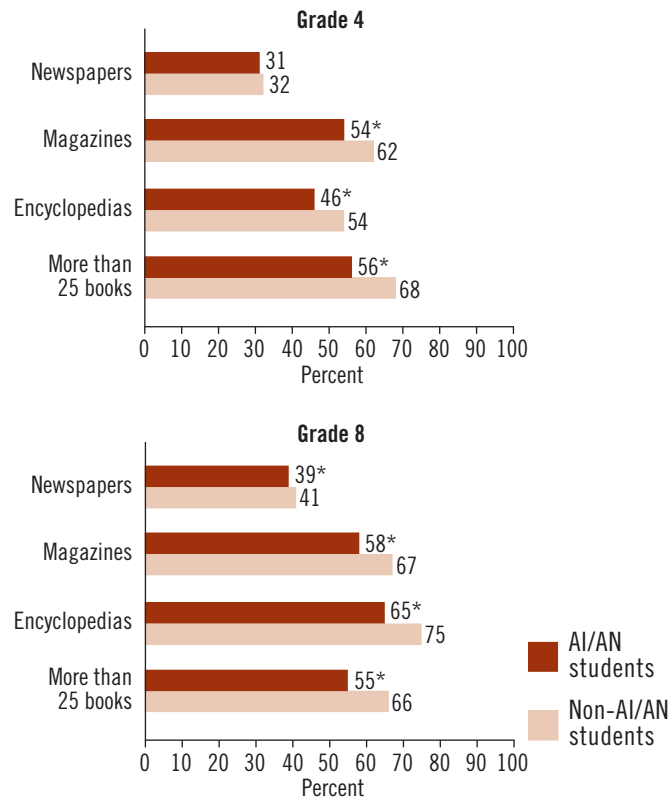
## What literacy materials are available in the home?

The availability of literacy materials in the home has been reported to be related to student achievement (Shaughnessy, Nelson, and Norris 1998). Students were asked about the presence of reading materials (newspapers, magazines, encyclopedias, and books) in their homes. See the Technical Notes for more information about the four categories reported.

At grade 4, lower percentages of AI/AN students than non-AI/AN students reported having magazines, encyclopedias, or more than 25 books available in their homes (figure 1-9). At grade 8, compared to non-AI/AN students, lower percentages of AI/AN students reported having each type of literacy materials in their homes.

Compared to AI/AN students attending low density schools, lower percentages of fourth- and eighth-grade AI/AN students from high density schools reported having encyclopedias and more than 25 books in their homes (figure 1-10).

Figure 1-9. Percentage of fourth- and eighth-grade students, by types of literacy materials in their homes and student group: 2007

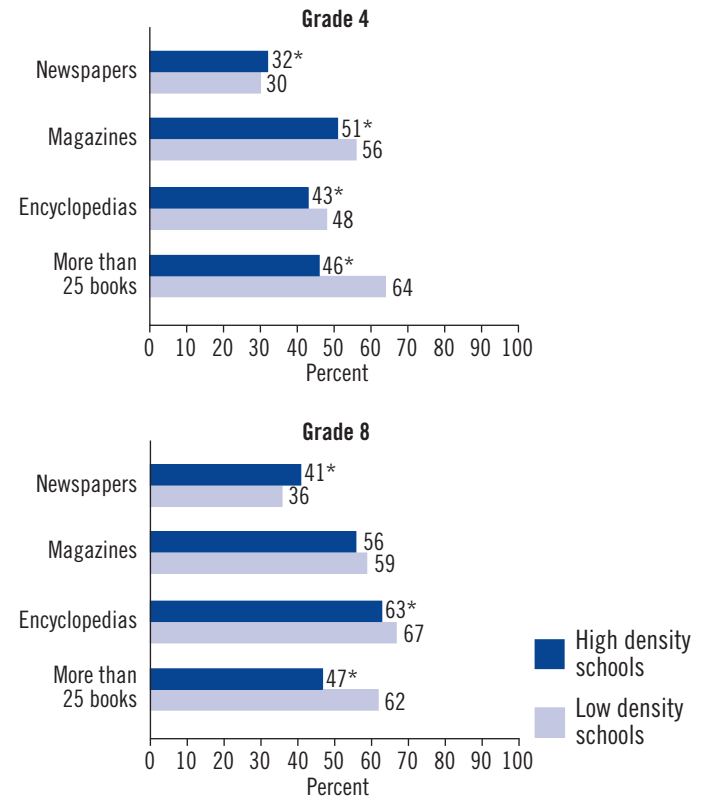


\* Significantly different ( $p < .05$ ) from non-AI/AN students.

NOTE: AI/AN = American Indian/Alaska Native.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.

Figure 1-10. Percentage of fourth- and eighth-grade AI/AN students, by types of literacy materials in their homes and school density: 2007



\* Significantly different ( $p < .05$ ) from low density schools.

NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.

In comparison to their peers attending public schools, higher percentages of BIE school students at both grades reported receiving a newspaper at home, while lower percentages reported having magazines, encyclopedias, or more than 25 books (table 1-5).

Table 1-5. Percentage of AI/AN students, by grade, type of school, and types of literacy materials in their homes: 2007

Types of literacy materials at home	Grade 4		Grade 8	
	Type of school		Type of school	
	Public	BIE	Public	BIE
Newspapers	31	34*	38	43*
Magazines	54	45*	57	53*
Encyclopedias	46	38*	66	54*
More than 25 books	58	36*	56	37*

\* Significantly different ( $p < .05$ ) from public schools.

NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools.

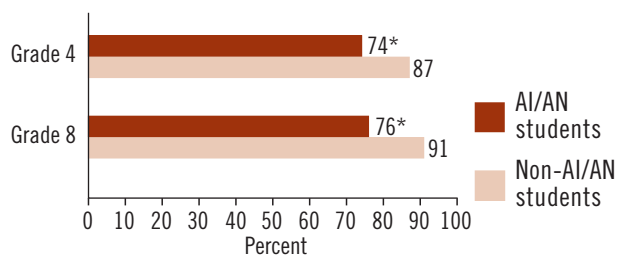
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.



## Do students have access to a computer at home?

Students were asked about having access to a computer at home because it is typically an indicator of family resources. Seventy-four percent of AI/AN students at grade 4 and 76 percent at grade 8 reported having a computer at home that they can use, compared to 87 percent and 91 percent of non-AI/AN students at grades 4 and 8, respectively (figure 1-11).

Figure 1-11. Percentage of fourth- and eighth-grade students who reported the availability of a computer at home that they can use, by student group: 2007



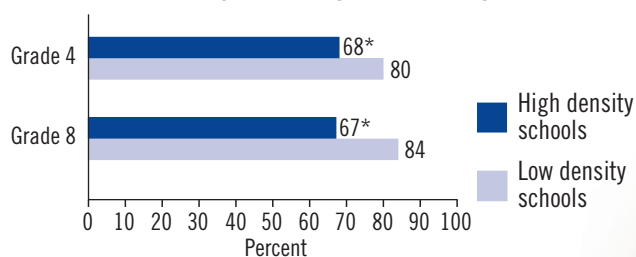
\* Significantly different ( $p < .05$ ) from non-AI/AN students.

NOTE: AI/AN = American Indian/Alaska Native.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.

AI/AN students' access to a home computer differed by school density. Lower percentages of fourth- and eighth-grade AI/AN students attending high density schools reported the availability of a computer at home than AI/AN students at the same grade levels attending low density schools (figure 1-12).

Figure 1-12. Percentage of fourth- and eighth-grade AI/AN students who reported the availability of a computer at home that they can use, by school density: 2007



\* Significantly different ( $p < .05$ ) from low density schools.

NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.

Fifty-seven percent of fourth-grade and 56 percent of eighth-grade students attending BIE schools reported having access to a computer at home (table 1-6). Home computer access was reported by higher percentages of their AI/AN peers attending public schools—75 percent at grade 4 and 78 percent at grade 8.

Table 1-6. Percentage of AI/AN students who reported the availability of a computer at home that they can use, by type of school and grade: 2007

Grade	Type of school	
	Public	BIE
Grade 4	75	57*
Grade 8	78	56*

\* Significantly different ( $p < .05$ ) from public schools.

NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.

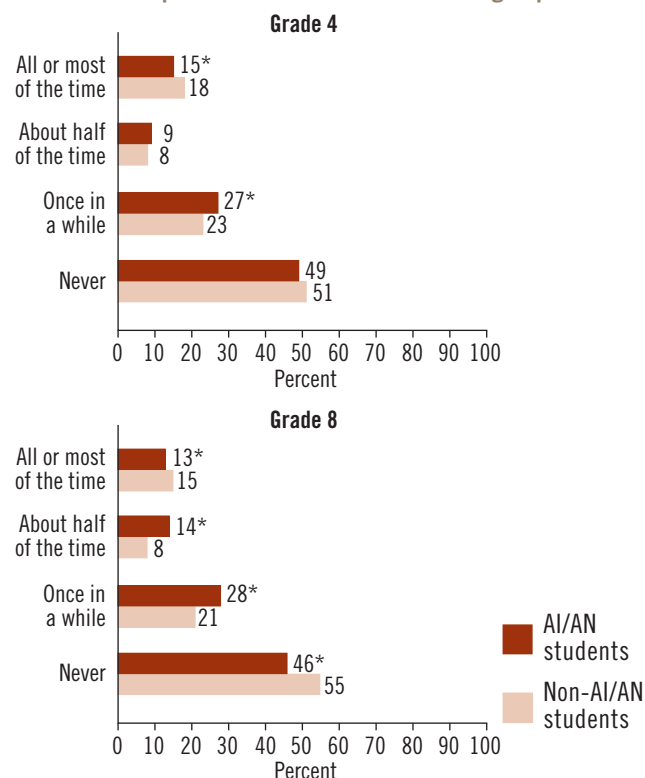


## What is the extent of use of languages other than English in the home?

Students were asked to indicate the extent to which a language other than English is spoken in their homes. Note that students were not asked to name which non-English language(s) are spoken at home. At both grades, lower percentages of AI/AN students than non-AI/AN students overall reported speaking a language other than English at home “all or most of the time” (figure 1-13).

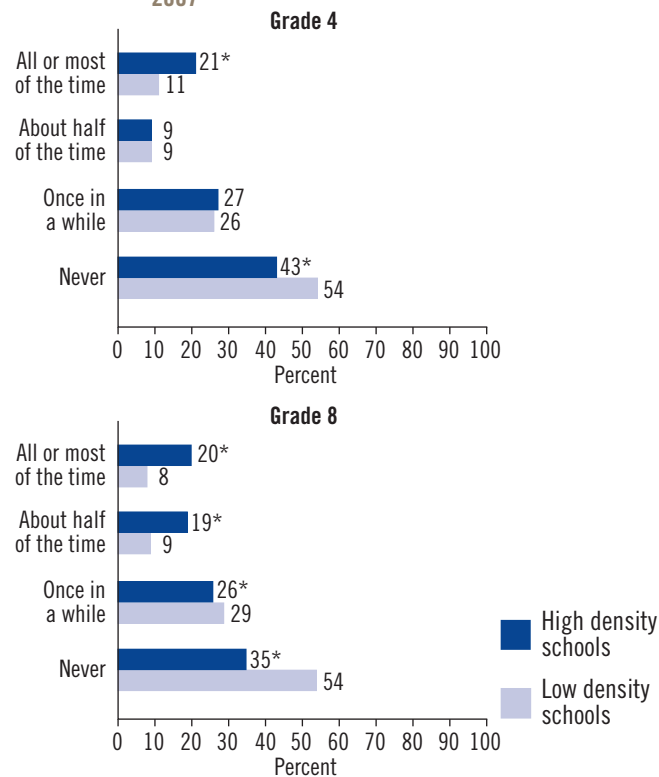
Twenty-one percent of fourth-grade AI/AN students attending high density schools reported the use of a non-English language at home “all or most of the time,” compared to 11 percent of fourth-graders from low density schools (figure 1-14). A similar pattern was observed for eighth-grade students.

Figure 1-13. Percentage of fourth- and eighth-grade students, by the extent to which a language other than English is spoken in their homes and student group: 2007



\* Significantly different ( $p < .05$ ) from non-AI/AN students.  
 NOTE: AI/AN = American Indian/Alaska Native. Detail may not sum to totals because of rounding.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.

Figure 1-14. Percentage of fourth- and eighth-grade AI/AN students, by the extent to which a language other than English is spoken in their homes and school density: 2007



\* Significantly different ( $p < .05$ ) from low density schools.  
 NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because of rounding.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.

Thirty-five percent of AI/AN fourth- and eighth-grade students from BIE schools reported speaking a language other than English at home “all or most of the time,” compared to 13 and 11 percent of AI/AN fourth- and eighth-grade students attending public schools, respectively (table 1-7).

Table 1-7. Percentage of AI/AN students, by grade, type of school, and the extent to which a language other than English is spoken in their homes: 2007

Extent a language other than English is spoken at home	Grade 4		Grade 8	
	Type of school		Type of school	
	Public	BIE	Public	BIE
All or most of the time	13	35*	11	35*
About half of the time	9	12*	12	23*
Once in a while	26	30*	27	26
Never	53	23*	50	16*

\* Significantly different ( $p < .05$ ) from public schools.  
 NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. Detail may not sum to totals because of rounding.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.



## Learning Factors

### How much reading are students assigned?

Fourth- and eighth-grade students were asked about the number of pages of reading assigned to them each day. Some differences were observed when comparing AI/AN students to non-AI/AN students. At grade 4, a higher percentage of AI/AN students reported having 5 or fewer pages a day of assigned reading (table 1-8). However, this pattern was not observed at grade 8, where the quantity of reading assigned to AI/AN and non-AI/AN students did not differ significantly.

Twenty-six percent of fourth-grade AI/AN students attending high density schools reported having more than 20 pages of assigned reading, compared to 32 percent of their peers in low density schools (table 1-9). At grade 8, there were no significant differences in the quantity of reading assigned to AI/AN students in high and low density schools.

Table 1-8. Percentage of students, by student group, grade, and student-reported number of pages a day they have to read in school and for homework: 2007

Grade and number of pages read a day	Student group	
	AI/AN	Non-AI/AN
<b>Grade 4</b>		
More than 20	30	30
16–20	13*	15
11–15	13	15
6–10	20	20
5 or fewer	24*	22
<b>Grade 8</b>		
More than 20	20	19
16–20	12	12
11–15	15	15
6–10	23	24
5 or fewer	30	30

\* Significantly different ( $p < .05$ ) from non-AI/AN students.

NOTE: AI/AN = American Indian/Alaska Native. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.

Table 1-9. Percentage of AI/AN students, by school density, grade, and student-reported number of pages a day they have to read in school and for homework: 2007

Grade and number of pages read a day	School density	
	High	Low
<b>Grade 4</b>		
More than 20	26*	32
16–20	12	13
11–15	13	13
6–10	22*	19
5 or fewer	26	23
<b>Grade 8</b>		
More than 20	21	20
16–20	11	12
11–15	14	15
6–10	23	23
5 or fewer	31	30

\* Significantly different ( $p < .05$ ) from low density schools.

NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.

The percentage of fourth-grade students from BIE schools who reported having more than 20 pages of assigned reading each day (25 percent) was lower than the percentage of AI/AN students from public schools who reported the same quantity of assigned reading (30 percent). This difference was not observed at grade 8 (table 1-10).

Table 1-10. Percentage of AI/AN students, by type of school, grade, and student-reported number of pages a day they have to read in school and for homework: 2007

Grade and number of pages read a day	Type of school	
	Public	BIE
<b>Grade 4</b>		
More than 20	30	25*
16–20	13	10*
11–15	13	11*
6–10	20	21
5 or fewer	24	34*
<b>Grade 8</b>		
More than 20	20	21
16–20	12	12
11–15	14	16*
6–10	23	24*
5 or fewer	30	27*

\* Significantly different ( $p < .05$ ) from public schools.

NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.

## What do students report about their school attendance?

The NAEP student survey included the question, “How many days were you absent from school in the last month?” At both grade levels, higher percentages of AI/AN students than non-AI/AN students of any race/ethnicity reported having missed “3 or 4 days,” “5 to 10 days,” and “more than 10 days” of school in the last month (table 1-11).

Compared to AI/AN students from low density schools, lower percentages of students attending high density schools (38 percent at grade 4 and 31 percent at grade 8) reported having no absences from school in the past month (table 1-12).

Reports of 10 or more absences in the past month were made by 8 and 6 percent of BIE school students at grades 4 and 8, respectively, compared to 5 percent of fourth-grade and 4 percent of eighth-grade AI/AN students attending public schools (table 1-13).

Table 1-11. Percentage of students, by race/ethnicity, grade, and student-reported number of days they were absent from school in the last month: 2007

Grade and number of days absent from school in the last month	Race/ethnicity				
	AI/AN	Black	Hispanic	White	Asian/Pacific Islander
<b>Grade 4</b>					
More than 10 days	5	4*	4*	2*	2*
5 to 10 days	7	5*	5*	5*	4*
3 or 4 days	16	13*	13*	11*	7*
1 or 2 days	31	29	30	31	23*
None	40	49*	49*	51*	65*
<b>Grade 8</b>					
More than 10 days	4	3*	3*	2*	2*
5 to 10 days	9	6*	6*	5*	3*
3 or 4 days	18	15*	14*	12*	7*
1 or 2 days	36	32*	34	36	23*
None	33	44*	43*	45*	65*

\* Significantly different ( $p < .05$ ) from AI/AN students.

NOTE: AI/AN = American Indian/Alaska Native. Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.

Table 1-12. Percentage of AI/AN students, by school density, grade, and student-reported number of days they were absent from school in the last month: 2007

Grade and number of days absent from school in the last month	School density	
	High	Low
<b>Grade 4</b>		
More than 10 days	6	4
5 to 10 days	7	8
3 or 4 days	17	16
1 or 2 days	33	30
None	38*	42
<b>Grade 8</b>		
More than 10 days	3	4
5 to 10 days	9	9
3 or 4 days	20*	17
1 or 2 days	36	36
None	31*	35

\* Significantly different ( $p < .05$ ) from low density schools.

NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.

Table 1-13. Percentage of AI/AN students, by type of school, grade, and student-reported number of days they were absent from school in the last month: 2007

Grade and number of days absent from school in the last month	Type of school	
	Public	BIE
<b>Grade 4</b>		
More than 10 days	5	8*
5 to 10 days	8	8
3 or 4 days	16	18*
1 or 2 days	31	28*
None	40	38*
<b>Grade 8</b>		
More than 10 days	4	6*
5 to 10 days	9	11*
3 or 4 days	19	20
1 or 2 days	35	32*
None	34	32*

\* Significantly different ( $p < .05$ ) from public schools.

NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.

## What are AI/AN students' college aspirations?

Eighth-grade students were asked to indicate which of the following statements best described them: "I'll probably go to college," "I'll probably graduate from high school, but not go to college," "I probably won't graduate from high school," or "I don't know." Overall, 78 percent of AI/AN students indicated that they planned to go to college, with a lower percentage of students attending high density schools than low density schools indicating so (table 1-14).

Table 1-14. Percentage of eighth-grade AI/AN students, by school density and students' responses to a question about their future education: 2007

Think about different kinds of schools that people go to and select the statement that describes you best.	Total	School density	
		High	Low
I'll probably go to college.	78	74*	82
I'll probably graduate from high school, but not go to college.	11	13*	9
I probably won't graduate from high school.	2	2	1
I don't know.	10	12*	8

\* Significantly different ( $p < .05$ ) from low density schools.  
 NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because of rounding.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

The percentage of eighth-graders from BIE schools who reported they planned to go to college was lower than the percentage of AI/AN students from public schools who reported aspirations for college (table 1-15).

Table 1-15. Percentage of eighth-grade AI/AN students, by type of school and students' responses to a question about their future education: 2007

Think about different kinds of schools that people go to and select the statement that describes you best.	Type of school	
	Public	BIE
I'll probably go to college.	79	69*
I'll probably graduate from high school, but not go to college.	10	14*
I probably won't graduate from high school.	2	2*
I don't know.	9	15*

\* Significantly different ( $p < .05$ ) from public schools. The percentage of BIE school students who responded that they probably won't graduate from high school (2.22 percent) is higher than the corresponding percentage for public school students (1.61 percent).  
 NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. Detail may not sum to totals because of rounding.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

Eighth-graders were also asked to indicate the number of times they talked with a teacher or school counselor about classes or plans after high school.

For those students who indicated that they planned to go to college, the percentage who talked with a teacher or counselor two or more times was lower for students attending high density schools compared to their peers in low density schools (table 1-16).

Table 1-16. Percentage of eighth-grade AI/AN students, by students' responses to a question about their future education, school density, and their responses to a question about discussions with a teacher or school counselor: 2007

Since you have been in 8th grade, how many times have you talked to a teacher or a school counselor about the classes you should take in high school or about what you want to do after high school?	Students who reported that they will probably go to college		
	Total	School density	
		High	Low
Two or more times	25	23*	27
One time or never	53	50*	55

\* Significantly different ( $p < .05$ ) from low density schools.  
 NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Results are not shown for students' other responses to the question about future education.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

Compared to AI/AN students attending public schools, a lower percentage of college-aspiring eighth-graders from BIE schools reported speaking with a teacher or counselor two or more times (table 1-17).

Table 1-17. Percentage of eighth-grade AI/AN students, by students' responses to a question about their future education, type of school, and their responses to a question about discussions with a teacher or school counselor: 2007

Since you have been in 8th grade, how many times have you talked to a teacher or a school counselor about the classes you should take in high school or about what you want to do after high school?	Students who reported that they will probably go to college	
	Type of school	
	Public	BIE
Two or more times	25	21*
One time or never	54	48*

\* Significantly different ( $p < .05$ ) from public schools.  
 NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. Results are also not shown for students' other responses to the question about future education.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.





## Chapter 2

# Teachers and Schools of American Indian and Alaska Native Students

Teachers and schools have an important role in the educational experiences of students (Wayne and Youngs 2003). This chapter discusses the responses of teachers and school administrators to questions about aspects of the school environment that may be related to learning. Teachers were asked about their backgrounds and instructional practices, and administrators were asked about school characteristics, personnel, and school climate. Reported data are compared for AI/AN students and non-AI/AN students, and for AI/AN students attending schools of varying density and type.

## Teachers of American Indian and Alaska Native Students

### What are the racial/ethnic backgrounds of teachers of AI/AN students?

Overall, most AI/AN students (79 percent of grade 4 students, 77 percent of grade 8 reading/language arts students, and 76 percent of grade 8 mathematics students) were taught by teachers who identified themselves as White only (table 2-1). At both fourth and eighth grades, 13 percent or less of AI/AN students were taught by teachers who identified themselves as AI/AN only. (See the Technical Notes for more information about these race/ethnicity categories.)

However, some variation was seen based on school density and school type. Higher percentages of AI/AN students at high density schools had teachers who identified themselves as AI/AN only when compared to students at low density schools (table 2-2). For example, 27 percent of fourth-grade AI/AN students in high density schools had teachers who identified themselves as AI/AN only. This was true for 1 percent of their peers attending low density schools.

The percentages of AI/AN students being taught by teachers who identified themselves as AI/AN only

Table 2-1. Percentage of students, by teachers' race/ethnicity, grade, and student group: 2007

Grade and student group	Teachers' race/ethnicity			
	AI/AN only	AI/AN and other	White only	Other
<b>Grade 4</b>				
AI/AN students	13*	2*	79*	7*
Non-AI/AN students	#	1	83	17
<b>Grade 8 reading/language arts</b>				
AI/AN students	12*	3*	77*	9*
Non-AI/AN students	#	1	84	15
<b>Grade 8 mathematics</b>				
AI/AN students	11*	2*	76*	10*
Non-AI/AN students	#	#	82	17

# Rounds to zero.

\* Significantly different ( $p < .05$ ) from non-AI/AN students.

NOTE: AI/AN = American Indian/Alaska Native. The race categories of "AI/AN only" and "White only" exclude teachers who also reported Hispanic origin. The "AI/AN and other" category includes teachers who selected AI/AN and at least one other race/ethnicity category including Hispanic. The "Other" category includes teachers who selected one or more of the following categories: Hispanic or Latino, Black or African American, Asian, or Native Hawaiian or other Pacific Islander. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Reading and Mathematics Assessments.

Table 2-2. Percentage of AI/AN students, by teachers' race/ethnicity, grade, and school density: 2007

Grade and school density	Teachers' race/ethnicity			
	AI/AN only	AI/AN and other	White only	Other
<b>Grade 4</b>				
High	27*	2	66*	4*
Low	1	1	89	8
<b>Grade 8 reading/language arts</b>				
High	24*	4	64*	8
Low	2	2	86	10
<b>Grade 8 mathematics</b>				
High	23*	4	64*	10
Low	1	1	87	11

\* Significantly different ( $p < .05$ ) from low density schools.

NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. The race categories of "AI/AN only" and "White only" exclude teachers who also reported Hispanic origin. The "AI/AN and other" category includes teachers who selected AI/AN and at least one other race/ethnicity category including Hispanic. The "Other" category includes teachers who selected one or more of the following categories: Hispanic or Latino, Black or African American, Asian, or Native Hawaiian or other Pacific Islander. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Reading and Mathematics Assessments.

differed for public and BIE schools (table 2-3). Across the two grades, between 36 and 60 percent of AI/AN students attending BIE schools were taught by AI/AN-only teachers. In public schools, the percentages of students taught by AI/AN-only teachers ranged from 8 to 11 percent.

Table 2-3. Percentage of AI/AN students, by teachers' race/ethnicity, grade, and type of school: 2007

Grade and type of school	Teachers' race/ethnicity			
	AI/AN only	AI/AN and other	White only	Other
<b>Grade 4</b>				
Public	10	2	82	7
BIE	60*	5*	30*	5*
<b>Grade 8 reading/language arts</b>				
Public	11	2	77	9
BIE	36*	9*	46*	9
<b>Grade 8 mathematics</b>				
Public	8	2	78	11
BIE	46*	5*	42*	7*

\* Significantly different ( $p < .05$ ) from public schools.

NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. The race categories of "AI/AN only" and "White only" exclude teachers who also reported Hispanic origin. The "AI/AN and other" category includes teachers who selected AI/AN and at least one other race/ethnicity category including Hispanic. The "Other" category includes teachers who selected one or more of the following categories: Hispanic or Latino, Black or African American, Asian, or Native Hawaiian or other Pacific Islander. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Reading and Mathematics Assessments.

## Do teachers speak AI/AN languages?

Teachers were asked about the extent to which they speak any of the native languages spoken by the AI/AN students attending their schools. Overall, the majority of AI/AN students at both grades (77 percent of fourth-graders and 80 percent of eighth-graders) were taught by teachers who indicated not speaking their students' native languages at all (see the "total" column in table 2-4).

The picture changes somewhat for AI/AN students attending high density schools. Most are taught by teachers who speak native languages either not at all or to a small extent. However, compared to their peers in low density schools, lower percentages of students in high density schools at both grades were taught by teachers who reported not speaking a native AI/AN language at all. Furthermore, 11 percent of fourth-grade AI/AN students in high density schools were taught by teachers who said they were fluent native speakers, as compared to 1 percent of students in low density schools.

Table 2-4. **Percentage of AI/AN students, by school density, grade, and the extent to which their teachers speak any of the native languages spoken by students in school: 2007**

Grade and extent teachers speak students' native language	Total	School density	
		High	Low
<b>Grade 4</b>			
Fluent native speaker	5	11*	1
Large extent	1	3*	#
Moderate extent	1	2*	#
Small extent	15	31*	2
Not at all	77	54*	97
<b>Grade 8</b>			
Fluent native speaker	3	6	#
Large extent	1	3	#
Moderate extent	3	5*	1
Small extent	13	25*	2
Not at all	80	61*	97

# Rounds to zero.

\* Significantly different ( $p < .05$ ) from low density schools.

NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

Differences were also significant when comparing AI/AN students attending public and BIE schools (table 2-5). Twenty-nine percent of fourth-graders and 20 percent of eighth-graders in BIE schools had teachers who described themselves as fluent native speakers. In comparison, 4 percent of fourth-graders and 2 percent of eighth-graders attending public schools had teachers who described themselves in this manner.

Table 2-5. **Percentage of AI/AN students, by type of school, grade, and the extent to which their teachers speak any of the native languages spoken by students in school: 2007**

Grade and extent teachers speak students' native language	Type of school	
	Public	BIE
<b>Grade 4</b>		
Fluent native speaker	4	29*
Large extent	1	11*
Moderate extent	1	5*
Small extent	12	29*
Not at all	83	27*
<b>Grade 8</b>		
Fluent native speaker	2	20*
Large extent	1	5*
Moderate extent	2	10*
Small extent	9	36*
Not at all	86	29*

\* Significantly different ( $p < .05$ ) from public schools.

NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.



## What kind of teaching certificates do teachers hold?

Regular or advanced teaching certificates are awarded to teachers who have met the full requirements for certification in their states and/or districts (Goldhaber and Brewer 2000). Teachers who do not meet the full requirements for certification may be awarded a probationary, provisional, or temporary certificate that is subject to specific conditions or time limitations. A higher percentage of AI/AN fourth-graders (93 percent) than non-AI/AN fourth-graders (89 percent) were taught by teachers holding regular or advanced certificates (table 2-6). At grade 8, however, there were no significant differences between the percentages of AI/AN and non-AI/AN students being taught by teachers with such certificates.

No significant differences were found between AI/AN students in high density and low density schools based on the type of certificate their teachers held (table 2-7).

At both grades, lower percentages of AI/AN students attending BIE schools than public schools were taught by teachers with regular or advanced teaching certificates (table 2-8).

Table 2-6. Percentage of students, by teachers' type of teaching certificate, grade, and student group: 2007

Grade and student group	Type of teaching certificate			
	Regular or advanced	Probationary	Provisional	Temporary
<b>Grade 4</b>				
AI/AN students	93*	4	2*	1
Non-AI/AN students	89	5	3	1
<b>Grade 8 reading/language arts</b>				
AI/AN students	87	4*	4	1*
Non-AI/AN students	86	6	4	2
<b>Grade 8 mathematics</b>				
AI/AN students	87	4*	4	1
Non-AI/AN students	85	6	4	2

\* Significantly different ( $p < .05$ ) from non-AI/AN students.

NOTE: AI/AN = American Indian/Alaska Native. Detail may not sum to totals because the "Emergency certificate or waiver" and "No certificate" categories are not shown.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Reading and Mathematics Assessments.

Table 2-7. Percentage of AI/AN students, by teachers' type of teaching certificate, grade, and school density: 2007

Grade and school density	Type of teaching certificate			
	Regular or advanced	Probationary	Provisional	Temporary
<b>Grade 4</b>				
High	93	3	3	#
Low	93	5	1	1
<b>Grade 8 reading/language arts</b>				
High	86	3	5	#
Low	88	5	3	1
<b>Grade 8 mathematics</b>				
High	85	3	3	1
Low	88	4	4	1

# Rounds to zero.

NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because the "Emergency certificate or waiver" and "No certificate" categories are not shown.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Reading and Mathematics Assessments.

Table 2-8. Percentage of AI/AN students, by teachers' type of teaching certificate, grade, and type of school: 2007

Grade and type of school	Type of teaching certificate			
	Regular or advanced	Probationary	Provisional	Temporary
<b>Grade 4</b>				
Public	93	4	2	#
BIE	90*	1*	6*	1*
<b>Grade 8 reading/language arts</b>				
Public	90	5	3	1
BIE	86*	1*	9*	1
<b>Grade 8 mathematics</b>				
Public	89	4	4	1
BIE	86*	3	2*	3*

# Rounds to zero.

\* Significantly different ( $p < .05$ ) from public schools.

NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. Detail may not sum to totals because the "Emergency certificate or waiver" and "No certificate" categories are not shown.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Reading and Mathematics Assessments.



## How experienced are the teachers of AI/AN students?

In addition to the type of certification held, teachers were asked to indicate their years of teaching experience. The majority of both AI/AN and non-AI/AN students in fourth and eighth grades were taught by teachers who said they have taught for at least 10 years (55 to 63 percent of AI/AN students and 54 percent of non-AI/AN students).

Some differences were observed between the two groups of students (table 2-9). For example, as compared to non-AI/AN students, a lower percentage of AI/AN eighth-graders were taught mathematics by teachers with 20 or more years of experience.

Table 2-9. Percentage of students, by the number of years their teachers have worked as elementary or secondary teachers, grade, and student group: 2007

Grade and student group	Total years of teaching experience			
	20 or more	10–19	5–9	0–4
<b>Grade 4</b>				
AI/AN students	28	35*	19*	18*
Non-AI/AN students	26	28	25	21
<b>Grade 8 reading/language arts</b>				
AI/AN students	25	35*	21	19
Non-AI/AN students	26	28	24	22
<b>Grade 8 mathematics</b>				
AI/AN students	22*	33*	21*	24
Non-AI/AN students	26	28	24	22

\* Significantly different ( $p < .05$ ) from non-AI/AN students.  
 NOTE: AI/AN = American Indian/Alaska Native. Detail may not sum to totals because of rounding.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Reading and Mathematics Assessments.



The same information is disaggregated for AI/AN students in high density and low density schools in table 2-10. Here, there were no significant differences between the percentages of students in high density and low density schools taught by teachers with 10 to 19 years or at least 20 years of experience.

Table 2-10. Percentage of AI/AN students, by the number of years their teachers have worked as elementary or secondary teachers, grade, and school density: 2007

Grade and school density	Total years of teaching experience			
	20 or more	10–19	5–9	0–4
<b>Grade 4</b>				
High	30	38	16*	16
Low	27	32	21	20
<b>Grade 8 reading/language arts</b>				
High	23	37	21	19
Low	27	33	21	19
<b>Grade 8 mathematics</b>				
High	20	37	20	23
Low	23	31	21	25

\* Significantly different ( $p < .05$ ) from low density schools.  
 NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because of rounding.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Reading and Mathematics Assessments.

There was some variation between public and BIE school students in the years of experience reported by their teachers, as shown in table 2-11. For example, 40 percent of fourth-grade AI/AN students in BIE schools had teachers with at least 20 years of experience, compared to 28 percent of their peers in public schools.

Table 2-11. Percentage of AI/AN students, by the number of years their teachers have worked as elementary or secondary teachers, grade, and type of school: 2007

Grade and type of school	Total years of teaching experience			
	20 or more	10–19	5–9	0–4
<b>Grade 4</b>				
Public	28	34	20	19
BIE	40*	25*	18	17
<b>Grade 8 reading/language arts</b>				
Public	26	35	20	19
BIE	25	30*	19	26*
<b>Grade 8 mathematics</b>				
Public	22	33	22	24
BIE	33*	32	14*	21

\* Significantly different ( $p < .05$ ) from public schools.  
 NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. Detail may not sum to totals because of rounding.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Reading and Mathematics Assessments.

## How do teachers prepare themselves to teach AI/AN students?

Although not traditionally part of teachers' preservice training, information about culturally relevant teaching practices is viewed as an important component of preparation for teachers of AI/AN students (Reyhner and Jacobs 2002). The teachers of participating students were asked a series of questions about sources of information they have used and the courses, classes, or workshops they have attended to prepare themselves specifically to teach AI/AN students. The percentages of students whose teachers indicated preparing themselves through these

resources to a moderate extent and to a large extent for teaching AI/AN students are shown here.

Generally, at both grades, higher percentages of AI/AN students in high density schools than their peers in low density schools were taught by teachers who had used these resources to a moderate or large extent for acquiring knowledge, skills, and information specific to teaching AI/AN students (tables 2-12 and 2-13). For example, 22 percent of fourth-graders attending high density schools had teachers who used, to a moderate extent, a locally sponsored AI/AN cultural orientation program, compared to 7 percent of their peers in low density schools.

Table 2-12. Percentage of fourth-grade AI/AN students, by the extent to which their teachers have acquired knowledge, skills, and information specific to teaching AI/AN students, school density, and various types of resources/classes used: 2007

Resource or class	Moderate extent			Large extent		
	Total	School density		Total	School density	
		High	Low		High	Low
Independent reading and study	24	32*	17	15	27*	5
Living and working in an AI/AN community	12	17*	7	28	54*	4
Locally sponsored AI/AN cultural orientation program	14	22*	7	10	20*	2
Your own personal or family background and experiences	17	22	12	20	38*	5
College courses, or other classes or workshops with a specific focus on teaching AI/AN students	18	27*	10	9	17*	3
College courses, or other classes or workshops with a general focus on multicultural education	31	36	27	14	21*	9

\* Significantly different ( $p < .05$ ) from low density schools.

NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Percentages within each resource or class do not sum to 100 because results are not shown for the "Not at all" and "Small extent" categories.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

Table 2-13. Percentage of eighth-grade AI/AN students, by the extent to which their teachers have acquired knowledge, skills, and information specific to teaching AI/AN students, school density, and various types of resources/classes used: 2007

Resource or class	Moderate extent			Large extent		
	Total	School density		Total	School density	
		High	Low		High	Low
Independent reading and study	30	42*	19	11	19*	5
Living and working in an AI/AN community	16	25*	9	26	49*	7
Locally sponsored AI/AN cultural orientation program	12	21*	5	7	13*	2
Your own personal or family background and experiences	18	22*	15	21	38*	7
College courses, or other classes or workshops with a specific focus on teaching AI/AN students	19	29*	10	9	17*	4
College courses, or other classes or workshops with a general focus on multicultural education	28	31*	24	14	20*	9

\* Significantly different ( $p < .05$ ) from low density schools.

NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Percentages within each resource or class do not sum to 100 because results are not shown for the "Not at all" and "Small extent" categories.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

## Schools That Serve American Indian and Alaska Native Students

### What types of schools do AI/AN students attend?

Overall, the majority of AI/AN students attended public schools (89 percent at grade 4 and 88 percent at grade 8), while 7 percent of fourth-graders and 6 percent of eighth-graders attended BIE schools (shown in the “total” column of table 2-14). When broken out by school density, a lower percentage of AI/AN students attended high density public schools (80 percent of fourth-graders and 79 percent of eighth-graders) than low density public schools (97 and 96 percent, respectively). Note that all BIE schools are high density schools.

Table 2-14. Percentage of AI/AN students, by school density, grade, and type of school: 2007

Grade and type of school	Total	School density	
		High	Low
<b>Grade 4</b>			
Public	89	80*	97
BIE	7	16	†
Other	3	4	3
<b>Grade 8</b>			
Public	88	79*	96
BIE	6	14	†
Other	6	7	4

† Not applicable.

\* Significantly different ( $p < .05$ ) from low density schools.

NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. The “Other” type of school category includes Department of Defense and private schools.

School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.

### What proportion of the schools’ student body is low income?

In addition to the socioeconomic status of AI/AN students, as indicated by eligibility for free or reduced-price school lunch under the National School Lunch Program (see the Technical Notes for information on eligibility criteria), information was also collected about the socioeconomic condition of the schools attended by AI/AN students. One important characteristic of any school is the proportion of low-income students it serves. For this reason, school administrators were asked to view their student enrollment as a whole and indicate the percentage of students in their school who were eligible during the current year.

Overall, 36 percent of AI/AN fourth-graders and eighth-graders attended schools where more than three-quarters of the student body was eligible for free/reduced-price lunch (table 2-15). Higher percentages of students in high density schools attended schools with this concentration of eligible students, as compared to their peers in low density schools.

The majority of fourth- and eighth-grade AI/AN students were eligible for free or reduced-price school lunch and attended schools in which more than 50 percent of students were eligible.

Table 2-15. Percentage of AI/AN students, by school density, grade, and percentage of students in school who are eligible for free/reduced-price school lunch: 2007

Grade and percentage of eligible students	Total	School density	
		High	Low
<b>Grade 4</b>			
76–100	36	55*	21
51–75	32	35	30
26–50	20	8*	31
0–25	11	2*	19
<b>Grade 8</b>			
76–100	36	64*	12
51–75	25	26	24
26–50	27	8*	43
0–25	12	2*	21

\* Significantly different ( $p < .05$ ) from low density schools.

NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.



## What is the AI/AN staff presence in schools that serve AI/AN students?

School administrators were asked to indicate the proportion of AI/AN teachers and other staff within their schools. The tables on this page show the percentages of AI/AN students who attended schools with varying concentrations of AI/AN teachers and other staff.

Overall, 83 percent of fourth-grade and 82 percent of eighth-grade AI/AN students attended schools where administrators reported that 25 percent or less of the teachers were AI/AN (shown in the “total” column of table 2-16). However, 13 percent of fourth- and eighth-grade students attending high density schools had administrators who reported that over 75 percent of the school’s teachers were AI/AN.

Table 2-16. **Percentage of AI/AN students, by school density, grade, and percentage of AI/AN teachers in school: 2007**

Grade and percentage of AI/AN teachers	Total	School density	
		High	Low
<b>Grade 4</b>			
76–100	6	13	#
51–75	5	10*	#
26–50	7	16	1
0–25	83	61*	99
<b>Grade 8</b>			
76–100	6	13*	#
51–75	5	10	#
26–50	8	18	#
0–25	82	59	100

# Rounds to zero.

\* Significantly different ( $p < .05$ ) from low density schools.

NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

The percentages of AI/AN students attending schools with varying concentrations of AI/AN staff other than teachers are shown in table 2-17. Overall, 74 and 72 percent of fourth- and eighth-grade students, respectively, attended schools where 25 percent or fewer of non-teaching staff were AI/AN. Compared to their peers in low density schools, higher percentages of students in high density schools at both grades were in schools with more than 75 percent non-teaching AI/AN staff.

Table 2-17. **Percentage of AI/AN students, by school density, grade, and percentage of AI/AN staff (other than teachers) in school: 2007**

Grade and percentage of AI/AN staff	Total	School density	
		High	Low
<b>Grade 4</b>			
76–100	16	35*	1
51–75	4	9	#
26–50	6	14	1
0–25	74	42*	98
<b>Grade 8</b>			
76–100	15	32*	2
51–75	6	14	#
26–50	7	15	#
0–25	72	39*	98

# Rounds to zero.

\* Significantly different ( $p < .05$ ) from low density schools.

NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.





## What are the types of funding sources for schools that serve AI/AN students?

School funding for AI/AN education comes from a variety of sources. School administrators were asked to identify from a list of possible funding sources those that had been used for the current year to provide educational services and support for American Indian or Alaska Native students.

Federal funding sources include the following:

- Title I provides for the academic achievement of the disadvantaged;
- Title II supports the training and recruitment of high quality teachers and principals;
- Title III addresses language instruction for English language learners and immigrant students; and

- Title VII supports American Indian, Native Hawaiian, and Alaska Native education.

The remaining federal sources that were surveyed in the NIES school questionnaire were Individuals with Disabilities Education Act (IDEA) funds, Impact Aid, Johnson-O'Malley Grant, and Alaska Native Education Programs. School administrators were also asked if tribal or village funds provided educational services and support for AI/AN students.

The percentages of AI/AN students overall and in high or low density schools by the types of funding sources reported by school administrators are shown in table 2-18. At both grades, the top funding sources were Title I, Title II, and IDEA. With few exceptions, AI/AN funding sources were reported by administrators for a higher percentage of students from high density schools than from low density schools.

Table 2-18. Percentage of AI/AN students, by school density, grade, and various sources of school funding for AI/AN education: 2007

Grade and sources of school funding	Total	School density	
		High	Low
<b>Grade 4</b>			
Title I funds (Compensatory Education)	81	94*	69
Title II funds (Professional Improvement)	67	84*	52
Title III or other bilingual or ESL/ELL funds	46	50	43
Title VII, Indian Education Formula Grant	56	80*	34
Title VII, Discretionary Grant under Indian Education	20	30*	12
Individuals with Disabilities Education Act (IDEA) funds	71	85*	59
Impact Aid Program	38	65*	14
Johnson-O'Malley Grant	43	69*	19
Alaska Native Education Programs	3	4	2
Tribal or Village funds	12	17*	7
Other funding sources related to American Indian or Alaska Native education (e.g., grants, donations, tuition, etc.)	16	26*	8
<b>Grade 8</b>			
Title I funds (Compensatory Education)	71	93*	50
Title II funds (Professional Improvement)	61	79*	43
Title III or other bilingual or ESL/ELL funds	50	58*	42
Title VII, Indian Education Formula Grant	51	73*	30
Title VII, Discretionary Grant under Indian Education	25	38*	12
Individuals with Disabilities Education Act (IDEA) funds	69	82*	57
Impact Aid Program	41	65*	19
Johnson-O'Malley Grant	39	65*	14
Alaska Native Education Programs	2	3	2
Tribal or Village funds	11	14	7
Other funding sources related to American Indian or Alaska Native education (e.g., grants, donations, tuition, etc.)	19	30*	9

\* Significantly different ( $p < .05$ ) from low density schools.

NOTE: AI/AN = American Indian/Alaska Native. ESL/ELL = English as a Second Language/English language learners. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

## What is the school climate for AI/AN students?

To gather information about school climate, school administrators were asked to indicate the degree to which certain factors were a problem in their schools. Table 2-19 shows the percentages of AI/AN students whose school administrators indicated that these factors were a moderate problem or a serious problem.

For many of the factors presented in the questionnaire, a higher percentage of AI/AN students in high density

schools, compared to their peers in low density schools, had administrators who indicated that they were moderate or serious problems. Specifically, compared to their peers in low density schools, a higher percentage of AI/AN fourth- and eighth-grade students in high density schools had administrators who indicated serious problems with student absenteeism, student tardiness, lack of family involvement, and low expectations.

Table 2-19. Percentage of AI/AN students, by the severity of problems reported by school administrators, school density, grade, and various types of problems in school: 2007

Grade and type of problem	Moderate problem			Serious problem		
	Total	School density		Total	School density	
		High	Low		High	Low
<b>Grade 4</b>						
Student absenteeism	24	34*	17	9	16*	5
Student tardiness	29	37*	24	12	18*	7
Student health problems	17	29*	8	1	1	1
Lack of family involvement	38	42	35	17	30*	8
Student misbehavior in class	17	22*	13	2	3	2
Physical conflicts among students	8	11*	6	1	1	1
Drug or alcohol use by students	3	6*	1	1	1	#
Low expectations	21	31*	14	8	15*	2
<b>Grade 8</b>						
Student absenteeism	31	40*	24	12	22*	5
Student tardiness	30	37*	24	9	15*	4
Student health problems	15	23*	8	1	3	#
Lack of family involvement	44	47	41	23	35*	12
Student misbehavior in class	30	35	26	6	11*	1
Physical conflicts among students	12	13	12	3	5	1
Drug or alcohol use by students	16	25*	9	4	8*	#
Low expectations	32	39*	26	10	18*	4

# Rounds to zero.

\* Significantly different ( $p < .05$ ) from low density schools.

NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students.

Low density schools have less than 25 percent. Percentages within each type of problem at each grade level do not sum to 100 because results are not shown for the "Not a problem" and "Minor problem" categories.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.



## How do schools communicate with families?

School administrators were asked how often their schools provided various types of communication with families during the school year. Fourteen percent of fourth-grade and 23 percent of eighth-grade AI/AN students attended schools that offered teacher/family conferences 5 or more times a school year (table 2-20).

When examined by school density, there were a few differences in the frequency of these activities. For example, a lower percentage of fourth-grade students attending high density schools (81 percent) than their peers attending low density schools (91 percent) had information sent home by their schools 5 or more times a year.

Table 2-20. Percentage of AI/AN students, by grade, school density, and school administrators' responses to questions about opportunities for communication between schools and families: 2007

Question and response choices	Grade 4			Grade 8		
	Total	School density		Total	School density	
		High	Low		High	Low
In a typical school year, how often does your school have teacher/family conferences (individual or group)?						
5 or more times	14	17	12	23	17*	28
3 or 4 times	41	56*	29	36	51*	25
1 or 2 times	45	27*	59	40	31*	47
Never	#	#	#	1	1	#
In a typical school year, how often is information sent home about school such as expectations, procedures, calendars of events, etc.?						
5 or more times	87	81*	91	75	71	78
3 or 4 times	7	10*	5	18	20	16
1 or 2 times	6	9*	4	7	9	6
Never	#	#	#	#	#	#

# Rounds to zero.

\* Significantly different ( $p < .05$ ) from low density schools.

NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

Some differences between public and BIE schools in the frequency of communication with students' families are shown in table 2-21. For example, administrators of 21 percent of fourth-grade students attending BIE schools reported that teacher/family

conferences were offered by their schools 5 or more times a year. A lower percentage of fourth-graders attending public schools (14 percent) had administrators who reported the same level of communication.

Table 2-21. Percentage of AI/AN students, by grade, type of school, and school administrators' responses to questions about opportunities for communication between schools and families: 2007

Question and response choices	Grade 4		Grade 8	
	Type of school		Type of school	
	Public	BIE	Public	BIE
In a typical school year, how often does your school have teacher/family conferences (individual or group)?				
5 or more times	14	21*	24	23
3 or 4 times	40	63*	33	60*
1 or 2 times	46	15*	43	17*
Never	#	#	#	#
In a typical school year, how often is information sent home about school such as expectations, procedures, calendars of events, etc.?				
5 or more times	87	81*	74	82*
3 or 4 times	7	10*	19	12*
1 or 2 times	6	10*	7	5*
Never	#	#	#	1

# Rounds to zero.

\* Significantly different ( $p < .05$ ) from public schools.

NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

## How experienced are the principals serving AI/AN students?

As part of the school questionnaire, information was gathered about the number of years that the principals or heads of schools had been in their current positions. Overall, 55 percent of AI/AN fourth-graders and 61 percent of AI/AN eighth-graders had principals with less than 5 years of experience in their current positions (table 2-22). There were no significant differences between the students attending high density and low density schools in the distribution of students by principal's experience.

Table 2-22. **Percentage of AI/AN students, by school density, grade, and the number of years their principals or the head of their schools have held the position: 2007**

Grade and number of years as principal or head of school	Total	School density	
		High	Low
<b>Grade 4</b>			
20 or more	2	2	2
10–19	15	15	15
5–9	29	25	31
0–4	55	58	52
<b>Grade 8</b>			
20 or more	2	1	3
10–19	13	12	14
5–9	24	24	24
0–4	61	63	60

NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

Principals' years of experience varied for public and BIE schools. For example, 80 percent of fourth-grade AI/AN students attending BIE schools had principals with less than 5 years of experience in their current positions (table 2-23). Fifty-three percent of fourth-grade AI/AN students in public schools were served by principals with comparable years of experience.

Table 2-23. **Percentage of AI/AN students, by type of school, grade, and the number of years their principals or the head of their schools have held the position: 2007**

Grade and number of years as principal or head of school	Type of school	
	Public	BIE
<b>Grade 4</b>		
20 or more	2	1
10–19	15	7*
5–9	30	12*
0–4	53	80*
<b>Grade 8</b>		
20 or more	2	#
10–19	12	16*
5–9	23	19*
0–4	63	65

# Rounds to zero.

\* Significantly different ( $p < .05$ ) from public schools.

NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education.

Results are not shown for Department of Defense and private schools. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.







## Chapter 3

# Integration of American Indian and Alaska Native Language and Culture

One purpose of NIES was to collect information about how native language and culture are integrated into AI/AN students' homes and schools. The findings in this chapter are based on the questionnaire responses of students, teachers, and school administrators, and describe the extent of AI/AN students' exposure to native language and culture in two broad contexts: homes and communities, and teachers and schools.

## How do AI/AN students describe their race/ethnicity?

All students selected for NIES were identified as AI/AN on school records collected at the time of the survey. The school records identify each student in one race/ethnicity category. However, students were also asked to self-report their race/ethnicity, including the option to identify more than one race (described in the Technical Notes). These two sources of student race/ethnicity data are cross-tabulated in table 3-1.

Twenty-six percent of fourth-graders and 17 percent of eighth-graders did not identify themselves as AI/AN (or AI/AN plus another race/ethnicity), but were classified as AI/AN by their schools. For other racial/ethnic groups, the percentages of fourth-graders whose self-identified race/ethnicity did not match school records ranged from 6 to 20 percent, and the percentages of eighth-graders ranged from 3 to 7 percent. Thus, AI/AN students, compared to students from other racial/ethnic groups, were less likely to identify themselves as their school-reported race/ethnicity.

Table 3-1. Percentage of students, by self-identified race/ethnicity, grade, and school-reported race/ethnicity: 2007

Grade and school-reported race/ethnicity	Self-identified race/ethnicity		
	AI/AN only	AI/AN and other <sup>1</sup>	Non-AI/AN
<b>Grade 4</b>			
AI/AN	47	27	26
Black, not Hispanic	72	20	7
Hispanic	†	89	11
White, not Hispanic	79	15	6
Asian/Pacific Islander	64	17	20
<b>Grade 8</b>			
AI/AN	53	31	17
Black, not Hispanic	79	18	3
Hispanic	†	97	3
White, not Hispanic	84	11	5
Asian/Pacific Islander	80	13	7

† Not applicable. Students who self-identified their ethnicity as Hispanic but did not respond to the race question are included in the "Hispanic and other" category.

<sup>1</sup> Includes students who selected AI/AN and Hispanic or AI/AN and at least one other race.

<sup>2</sup> Includes students who selected Black and Hispanic or Black and at least one other race.

<sup>3</sup> Includes students who selected Hispanic and at least one race category.

<sup>4</sup> Includes students who selected White and Hispanic or White and at least one other race.

<sup>5</sup> Includes students who selected Asian/Pacific Islander and Hispanic or Asian/Pacific Islander and at least one other race.

NOTE: AI/AN = American Indian/Alaska Native. Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin. Results are not shown for students whose school-reported race/ethnicity was "Other." Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 National Indian Education Study.

## Do students who self-identify as AI/AN know the name of their tribe or group?

Students were asked if they knew the name of their tribe or group. Responses are presented in table 3-2 for only those students who identified themselves as AI/AN or AI/AN plus another race. Higher percentages of students who identified themselves as AI/AN only said they knew the name of their AI/AN group, compared to fourth- and eighth-graders who identified themselves as AI/AN and another race.

Table 3-2. Percentage of self-identified AI/AN students, by grade and students' responses to a question about the name of their AI/AN group: 2007

Do you know the name of your American Indian or Alaska Native group? (You may call your group a tribe, a nation, a village, a band, or a community.)	Grade 4		Grade 8	
	AI/AN only	AI/AN and other	AI/AN only	AI/AN and other
Yes	39*	23	50*	29
No	6*	3	3*	2
Not sure	19*	10	9*	6

\* Significantly different ( $p < .05$ ) from students in the "AI/AN and other" category.

NOTE: AI/AN = American Indian/Alaska Native. The "AI/AN and other" category includes students who identified themselves as AI/AN and at least one other race. Detail may not sum to totals because of rounding.

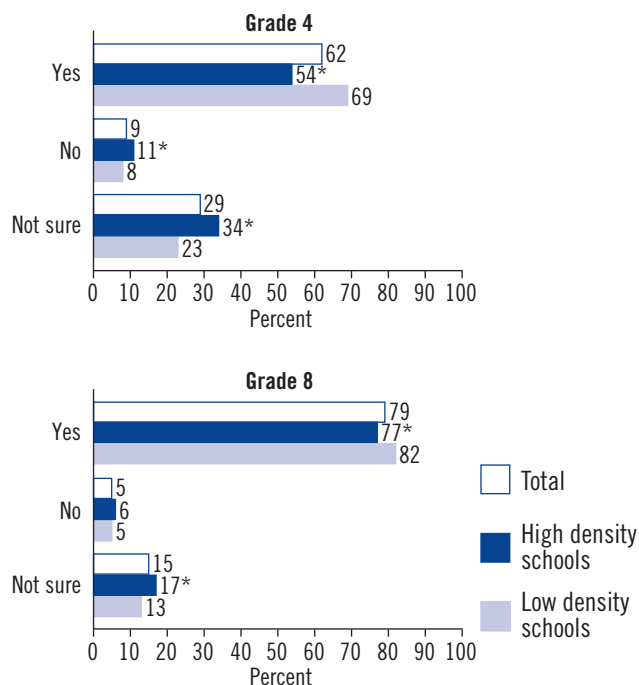
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

## Do AI/AN students know the name of their tribe or group?

Among self-identified AI/AN fourth-graders (those who identified themselves as AI/AN only or AI/AN and another race), 54 percent attending high density schools indicated knowing the name of their AI/AN group, as did 69 percent of their peers attending low density schools (figure 3-1). A higher percentage of fourth-grade students in high density schools than in low density schools indicated that they were “not sure.” Among self-identified AI/AN eighth-graders, 77 percent attending high density schools reported knowing the name of their tribe or group, as did 82 percent of their peers in low density schools.

Figure 3-1. **Percentage of fourth- and eighth-grade self-identified AI/AN students’ responses to a question about the name of their AI/AN group, by school density: 2007**

Do you know the name of your American Indian or Alaska Native group? (You may call your group a tribe, a nation, a village, a band, or a community.)



\* Significantly different ( $p < .05$ ) from low density schools.  
 NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because of rounding.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

Compared to 63 percent of self-identified AI/AN fourth-graders in public schools, 49 percent of their peers attending BIE schools indicated that they knew the name of their AI/AN group (table 3-3). Among self-identified AI/AN eighth-graders, 79 percent of public school students and 76 percent of BIE school students answered “yes” to this question.

Table 3-3. **Percentage of self-identified AI/AN students, by grade, type of school, and students’ responses to a question about the name of their AI/AN group: 2007**

Do you know the name of your American Indian or Alaska Native group? (You may call your group a tribe, a nation, a village, a band, or a community.)	Grade 4		Grade 8	
	Type of school		Type of school	
	Public	BIE	Public	BIE
Yes	63	49*	79	76*
No	10	12*	6	5
Not sure	28	39*	15	19*

\* Significantly different ( $p < .05$ ) from public schools.  
 NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. Detail may not sum to totals because of rounding.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.



## Homes and Communities

### To what extent are students exposed to their AI/AN language at home?

Students come into contact with their cultural heritage in a variety of ways, including through the home and community. Sixty-one percent of fourth-graders and approximately 59 percent of eighth-graders who identified themselves as AI/AN or AI/AN plus another race reported being exposed to their native language at home at least once in a while (figure 3-2).

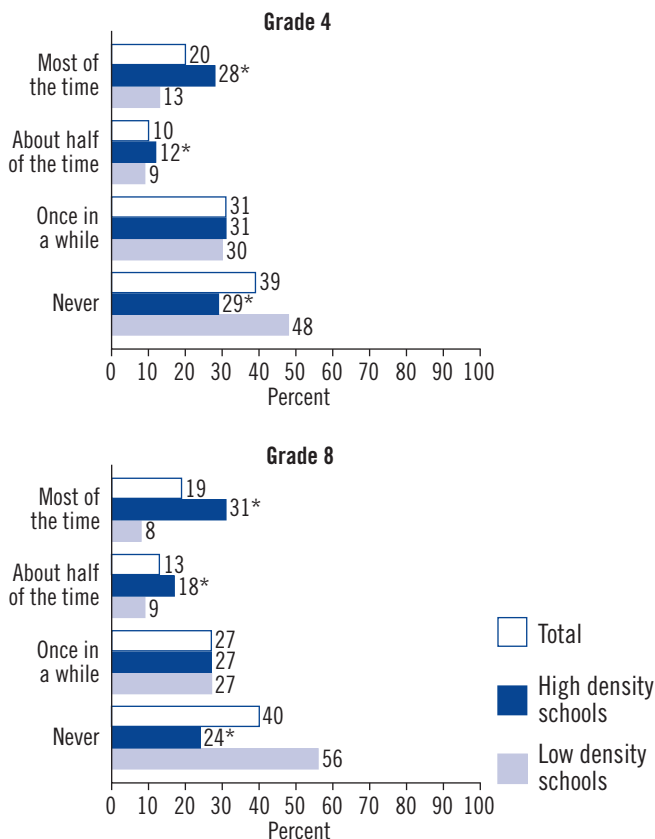
At both grades, the percentage of self-identified AI/AN students reporting that family members talked to each other in their native language “most of the

time” was higher for students attending high density schools than for their peers in low density schools.

Exposure to their native language at home occurred more frequently for self-identified AI/AN students attending BIE schools than for students attending public schools (table 3-4). For example, 41 and 42 percent of self-identified AI/AN students in BIE schools at grades 4 and 8, respectively, indicated that their native language was used at home “most of the time,” compared to 18 percent of fourth-graders and 16 percent of eighth-graders attending public schools.

Figure 3-2. Percentage of fourth- and eighth-grade self-identified AI/AN students’ responses to a question about exposure to their AI/AN language at home, by school density: 2007

How often do members of your family talk to each other in your American Indian or Alaska Native language?



\* Significantly different ( $p < .05$ ) from low density schools.  
 NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because of rounding.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

Table 3-4. Percentage of self-identified AI/AN students, by grade, type of school, and students’ responses to a question about exposure to their AI/AN language at home: 2007

How often do members of your family talk to each other in your American Indian or Alaska Native language?	Grade 4		Grade 8	
	Type of school		Type of school	
	Public	BIE	Public	BIE
Most of the time	18	41*	16	42*
About half of the time	10	15*	12	19*
Once in a while	31	29*	27	24*
Never	41	15*	45	14*

\* Significantly different ( $p < .05$ ) from public schools.  
 NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. Detail may not sum to totals because of rounding.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.



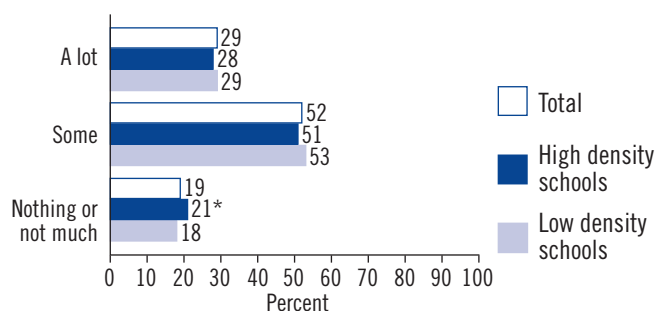


## How much do AI/AN students know about their tribe or group?

AI/AN students were asked how much they knew about their own tribe or group. One question was asked of fourth-graders, and two separate questions were asked of eighth-graders. Results are presented here for only those students who identified themselves as AI/AN only or AI/AN plus another race. Overall, 29 percent of self-identified AI/AN students in fourth grade reported that they knew “a lot” about their tribe or group (figure 3-3).

Figure 3-3. Percentage of fourth-grade self-identified AI/AN students’ responses to a question about knowledge of their AI/AN group, by school density: 2007

How much do you know about your American Indian tribe or Alaska Native group?



\* Significantly different ( $p < .05$ ) from low density schools.

NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

Among self-identified AI/AN fourth-graders, 30 percent in both BIE schools and public schools reported that they knew “a lot” about their tribe or group (table 3-5).

Table 3-5. Percentage of fourth-grade self-identified AI/AN students, by type of school and students’ responses to a question about knowledge of their AI/AN group: 2007

How much do you know about your American Indian tribe or Alaska Native group?	Type of school	
	Public	BIE
A lot	30	30
Some	52	48*
Nothing or not much	19	21*

\* Significantly different ( $p < .05$ ) from public schools.

NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

Eighth-graders were asked more detailed questions about the extent of their knowledge of their culture. Thirty-six percent of eighth-grade self-identified AI/AN

students attending high density schools reported that they knew “a lot” about their AI/AN history, with the corresponding 37 percent for AI/AN traditions. In both cases, these were higher percentages of students than in low density schools (table 3-6).

Table 3-6. Percentage of eighth-grade self-identified AI/AN students, by school density and students’ responses to questions about knowledge of their AI/AN history and traditions: 2007

Question and response choices	Total	School density	
		High	Low
How much do you know about your American Indian or Alaska Native history?			
A lot	32	36*	28
Some	54	50*	57
Nothing or not much	14	13	15
How much do you know about your American Indian or Alaska Native traditions?			
A lot	31	37*	26
Some	44	45	44
Nothing or not much	24	18*	30

\* Significantly different ( $p < .05$ ) from low density schools.

NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

A higher percentage of self-identified AI/AN eighth-graders in BIE schools than in public schools said they knew “a lot” about their AI/AN history (40 percent compared to 30 percent) and their AI/AN traditions (45 percent compared to 29 percent).

Table 3-7. Percentage of eighth-grade self-identified AI/AN students, by type of school and students’ responses to questions about knowledge of their AI/AN history and traditions: 2007

Question and response choices	Type of school	
	Public	BIE
How much do you know about your American Indian or Alaska Native history?		
A lot	30	40*
Some	55	47*
Nothing or not much	15	13*
How much do you know about your American Indian or Alaska Native traditions?		
A lot	29	45*
Some	45	42*
Nothing or not much	26	13*

\* Significantly different ( $p < .05$ ) from public schools.

NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. Detail may not sum to totals because of rounding.

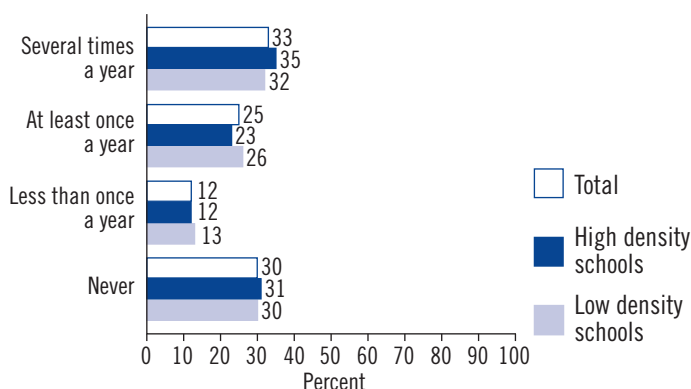
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

## To what extent do students participate in AI/AN ceremonies or gatherings?

When fourth-graders were asked about their attendance at AI/AN ceremonies and gatherings, 33 percent of self-identified AI/AN students reported attending such events “several times a year” (figure 3-4). Participation in these events did not differ significantly for self-identified AI/AN fourth-graders attending high and low density schools.

Figure 3-4. Percentage of fourth-grade self-identified AI/AN students’ responses to a question about attendance at AI/AN ceremonies and gatherings, by school density: 2007

How often do you go to American Indian or Alaska Native ceremonies or gatherings?



NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

Compared to their peers in public schools, a higher percentage of self-identified AI/AN fourth-graders in BIE schools reported attending AI/AN ceremonies or gatherings “several times a year” (42 percent compared to 32 percent, as shown in table 3-8).

Table 3-8. Percentage of fourth-grade self-identified AI/AN students, by type of school and students’ responses to a question about attendance at AI/AN ceremonies and gatherings: 2007

How often do you go to American Indian or Alaska Native ceremonies or gatherings?	Type of school	
	Public	BIE
Several times a year	32	42*
At least once a year	25	16*
Less than once a year	13	13
Never	30	29

\* Significantly different ( $p < .05$ ) from public schools.

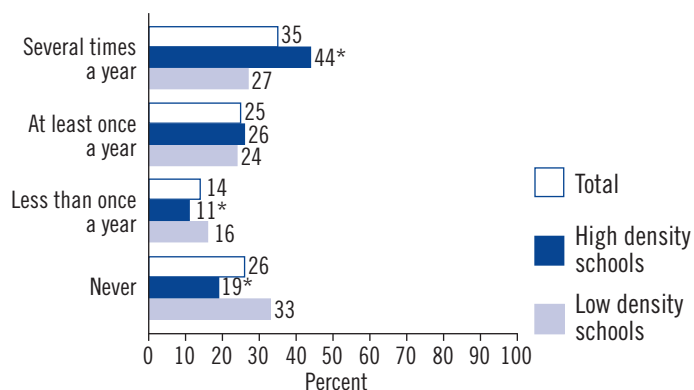
NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

A more specific question was asked at grade 8 about participation in ceremonies and gatherings for people from the students’ own AI/AN group. A higher percentage of self-reported AI/AN eighth-graders in high density schools than in low density schools reported that they participated in such events “several times a year” (figure 3-5). Conversely, a lower percentage indicated that they “never” participated in AI/AN ceremonies and gatherings.

Figure 3-5. Percentage of eighth-grade self-identified AI/AN students’ responses to a question about participation in AI/AN ceremonies and gatherings, by school density: 2007

How often have you participated in ceremonies and gatherings for people from your American Indian or Alaska Native group?



\* Significantly different ( $p < .05$ ) from low density schools.

NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

A higher percentage of eighth-graders in BIE schools than their peers in public schools reported that they participated “several times a year” in ceremonies or gatherings for people from their AI/AN group (54 percent compared to 32 percent), and a lower percentage indicated that they “never” participated (table 3-9).

Table 3-9. Percentage of eighth-grade self-identified AI/AN students, by type of school and students’ responses to a question about participation in AI/AN ceremonies and gatherings: 2007

How often have you participated in ceremonies and gatherings for people from your American Indian or Alaska Native group?	Type of school	
	Public	BIE
Several times a year	32	54*
At least once a year	26	20*
Less than once a year	14	11*
Never	28	15*

\* Significantly different ( $p < .05$ ) from public schools.

NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

## How do AI/AN students describe their reading preferences?

Fourth- and eighth-grade AI/AN students were asked, “How often do you read for fun on your own time?” They were given four responses from which to choose: “Almost every day,” “Once or twice a week,” “Once or twice a month,” and “Never or hardly ever.” The data collected from the first two response categories are combined into “once a week or more,” and the data from the last two response categories are combined into “twice a month or less.” Responses are presented in tables 3-10 and 3-11 for only those students who identified themselves as AI/AN or AI/AN and another race.

Among self-identified AI/AN fourth-graders, a lower percentage of students attending high density schools (30 percent) than low density schools (43 percent) reported reading for fun “once a week or more” and answered “this is a lot like me” when asked whether they enjoyed reading about American Indians and Alaska Natives (table 3-10).

Students were also asked whether they enjoyed reading about people who are different from them. Lower percentages of self-identified AI/AN eighth-graders attending high density schools than low density schools reported reading for fun “once a week or more” or “twice a month or less” and answered “this is a lot like me.”

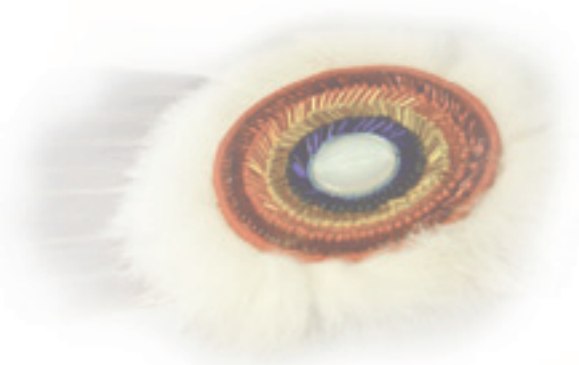
Table 3-10. Percentage of self-identified AI/AN students, by frequency in which they read for fun on their own time, school density, grade, and students’ responses to statements about reading: 2007

Grade, statements, and response choices	Frequency students read for fun on their own time					
	Once a week or more			Twice a month or less		
	Total	School density		Total	School density	
		High	Low		High	Low
<b>Grade 4</b>						
I enjoy reading about American Indians and Alaska Natives.						
This is a lot like me.	37	30*	43	12	12	12
This is a little like me.	25	25	24	10	11*	9
This is not like me.	10	13*	7	7	9*	5
I enjoy reading about people who are different from me.						
This is a lot like me.	28	27	28	7	8	6
This is a little like me.	30	27*	32	11	12*	10
This is not like me.	14	15	13	11	11	11
<b>Grade 8</b>						
I enjoy reading about American Indians and Alaska Natives.						
This is a lot like me.	24	22*	25	21	20	22
This is a little like me.	19	20	19	22	21	22
This is not like me.	5	6	5	9	11*	8
I enjoy reading about people who are different from me.						
This is a lot like me.	20	18*	22	10	8*	11
This is a little like me.	23	23	22	27	28	27
This is not like me.	6	7	4	15	17*	13

\* Significantly different ( $p < .05$ ) from low density schools.

NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.



Responses to the same questions for self-identified AI/AN students attending public schools and those attending BIE schools are shown in table 3-11. A lower percentage of fourth-grade students attending BIE schools (33 percent) than public schools (38 percent) reported reading for fun on their own time “once a week or more” and answered “this is a lot like me” when asked whether they enjoyed reading about American Indians and Alaska Natives.

A different pattern was evident at grade 8. The percentages of self-identified AI/AN students in BIE schools (24 percent) and in public schools (23 percent) who reported reading for fun on their own time “once a week or more” and answered “this is a lot like me” when asked whether they enjoyed reading about American Indians and Alaska Natives did not differ significantly.

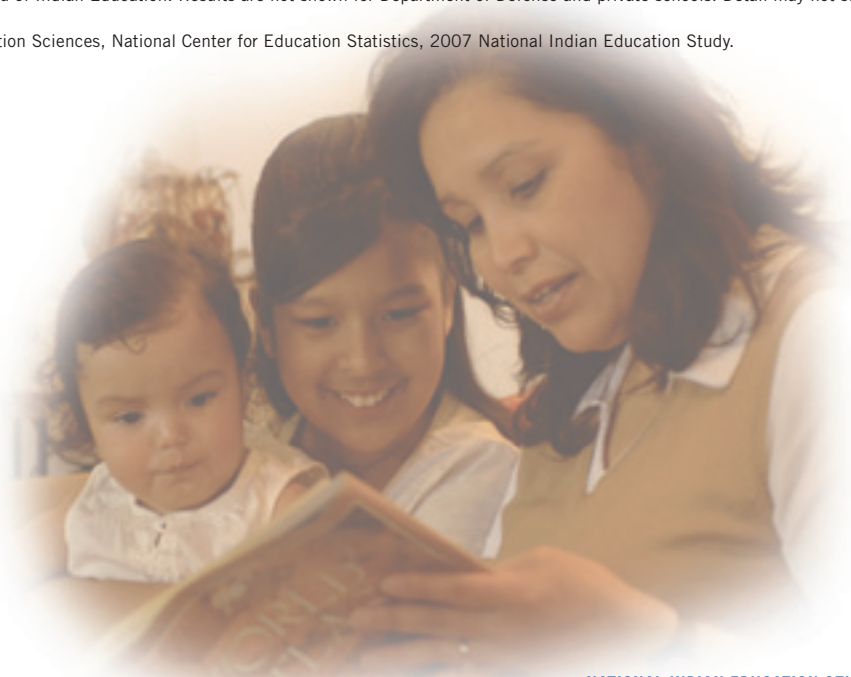
Table 3-11. Percentage of self-identified AI/AN students, by frequency in which they read for fun on their own time, type of school, grade, and students’ responses to statements about reading: 2007

Grade, statements, and response choices	Frequency students read for fun on their own time			
	Once a week or more		Twice a month or less	
	Type of school		Type of school	
	Public	BIE	Public	BIE
<b>Grade 4</b>				
I enjoy reading about American Indians and Alaska Natives.				
This is a lot like me.	38	33*	12	8*
This is a little like me.	24	25	10	11*
This is not like me.	9	14*	7	9*
I enjoy reading about people who are different from me.				
This is a lot like me.	27	26	7	6*
This is a little like me.	30	27*	11	11
This is not like me.	14	19*	10	11
<b>Grade 8</b>				
I enjoy reading about American Indians and Alaska Natives.				
This is a lot like me.	23	24	20	20
This is a little like me.	19	22*	23	20*
This is not like me.	5	6	9	9
I enjoy reading about people who are different from me.				
This is a lot like me.	20	21	9	8*
This is a little like me.	22	24	28	25*
This is not like me.	5	7*	15	16

\* Significantly different ( $p < .05$ ) from public schools.

NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.





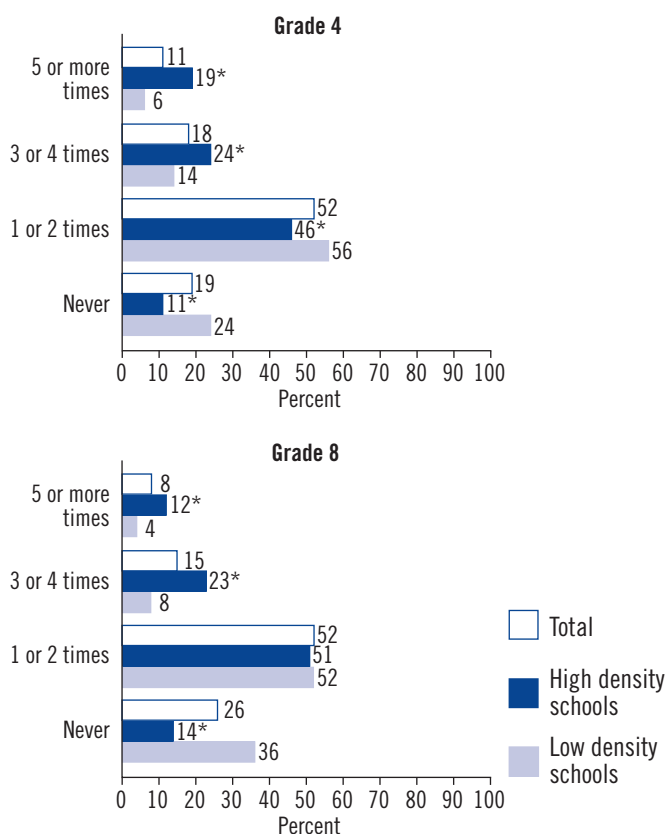
## How often do schools ask families to share histories and traditions as part of instruction?

The NIES school questionnaire asked school administrators how often in a typical school year their schools provided opportunities for families to share AI/AN histories and traditions as part of their school's instructional program.

Opportunities for sharing native histories and traditions differed by school density (figure 3-6). For example, school administrators of 43 percent of fourth-graders in high density schools reported that such opportunities occurred at least 3 times a year, compared to 20 percent of fourth-graders in low density schools.

Figure 3-6. Percentage of fourth- and eighth-grade AI/AN students, by school administrators' responses to a question about the use of students' native/family histories and traditions in instructional programs and school density: 2007

In a typical school year, how often does your school provide opportunities for students' families to share native or family histories and traditions as part of the instructional program?



\* Significantly different ( $p < .05$ ) from low density schools.  
 NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because of rounding.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

Responses from school administrators are shown in table 3-12 for students in public schools and BIE schools. At both grades 4 and 8, a higher percentage of students in BIE schools (about 59 and 63 percent) than in public schools (28 and 20 percent) had administrators who indicated that these opportunities occurred at least 3 times a year.

Table 3-12. Percentage of AI/AN students, by grade, type of school, and school administrators' responses to a question about the use of students' native/family histories and traditions in instructional programs: 2007

In a typical school year, how often does your school provide opportunities for students' families to share native or family histories and traditions as part of the instructional program?	Grade 4		Grade 8	
	Type of school		Type of school	
	Public	BIE	Public	BIE
5 or more times	11	23*	6	31*
3 or 4 times	17	36*	14	32*
1 or 2 times	53	30*	52	30*
Never	19	10*	28	7*

\* Significantly different ( $p < .05$ ) from public schools.  
 NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. Detail may not sum to totals because of rounding.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

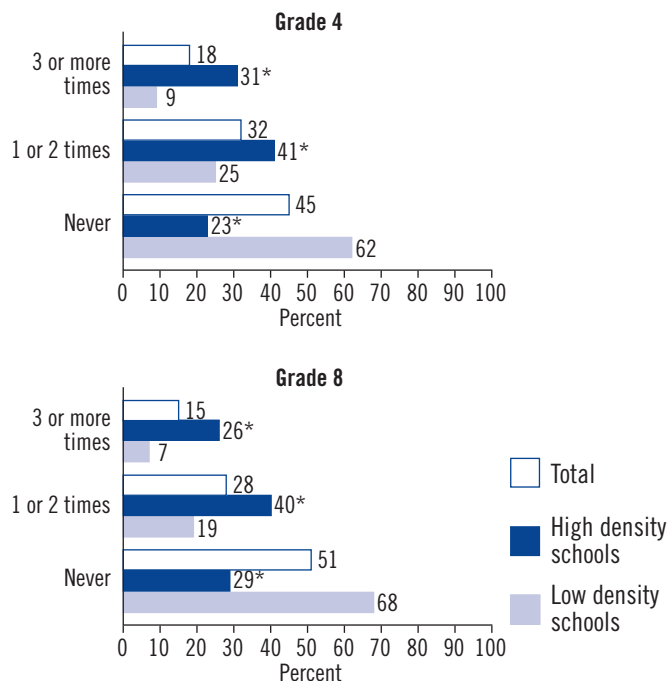


## How often do schools ask community representatives to share traditions and culture with students and staff?

School administrators also were asked how often representatives from the AI/AN community visited their schools to share AI/AN traditions and culture. At grade 4, administrators of 31 percent of students attending high density schools reported that such opportunities occurred in their schools “3 or more times” in the school year, compared to 9 percent for low density schools (figure 3-7).

A similar pattern between high and low density schools is seen at grade 8. Administrators of 26 percent of eighth-grade students attending high density schools reported opportunities for tribal or community representatives to share traditions and culture occurred “3 or more times” in the school year, compared to 7 percent for low density schools.

Figure 3-7. Percentage of fourth- and eighth-grade AI/AN students, by school administrators’ responses to a question about local tribe or AI/AN community involvement with school and school density: 2007



\* Significantly different ( $p < .05$ ) from low density schools.  
 NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because the response choice “I don’t know” is not shown.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

At both grades, administrators of a higher percentage of BIE school students than public school students reported 3 or more visits from local tribe or community representatives during the school year (table 3-13).

Table 3-13. Percentage of AI/AN students, by grade, type of school, and school administrators’ responses to a question about local tribe or AI/AN community involvement with school: 2007

So far this school year, how many times has a representative of a local tribe or AI/AN community visited the school to share AI/AN traditions and culture with students and staff?	Grade 4		Grade 8	
	Type of school		Type of school	
	Public	BIE	Public	BIE
3 or more times	17	34*	12	42*
1 or 2 times	32	29	28	28
Never	45	33*	54	21*

\* Significantly different ( $p < .05$ ) from public schools.  
 NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. Detail may not sum to totals because the response choice “I don’t know” is not shown.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.



## Teachers and Schools

### To what extent do teachers of AI/AN students use native languages during instruction?

In addition to the cultural influences of their families and communities, students may also encounter their language and culture within their educational settings. Overall, 87 percent of fourth-grade students, 87 percent of eighth-grade reading/language arts students, and 90 percent of eighth-grade mathematics students had teachers who provided instruction entirely in English (figure 3-8). At both grades, however, a higher percentage of students in high density schools than in low density schools had teachers who reported “occasional use of AI/AN language(s)” in their instruction.

At both grades, a higher percentage of students in BIE schools than in public schools had teachers who reported “frequent use of AI/AN language(s)” to teach core subjects (table 3-14). For instance, 16 percent of fourth-grade BIE school students had teachers who used AI/AN language frequently, compared to 1 percent of public school students.

Table 3-14. Percentage of AI/AN students, by type of school, grade, and teachers’ responses to a question about the use of students’ AI/AN language(s) in class: 2007

To what extent do you use your students’ American Indian or Alaska Native language(s) to teach core subjects?	Type of school	
	Public	BIE
<b>Grade 4</b>		
Frequent use of AI/AN language(s)	1	16*
Occasional use of AI/AN language(s)	9	41*
Instruction entirely in English	90	43*
<b>Grade 8 reading/language arts</b>		
Frequent use of AI/AN language(s)	2	27*
Occasional use of AI/AN language(s)	7	33*
Instruction entirely in English	91	39*
<b>Grade 8 mathematics</b>		
Frequent use of AI/AN language(s)	2	14*
Occasional use of AI/AN language(s)	4	39*
Instruction entirely in English	94	47*

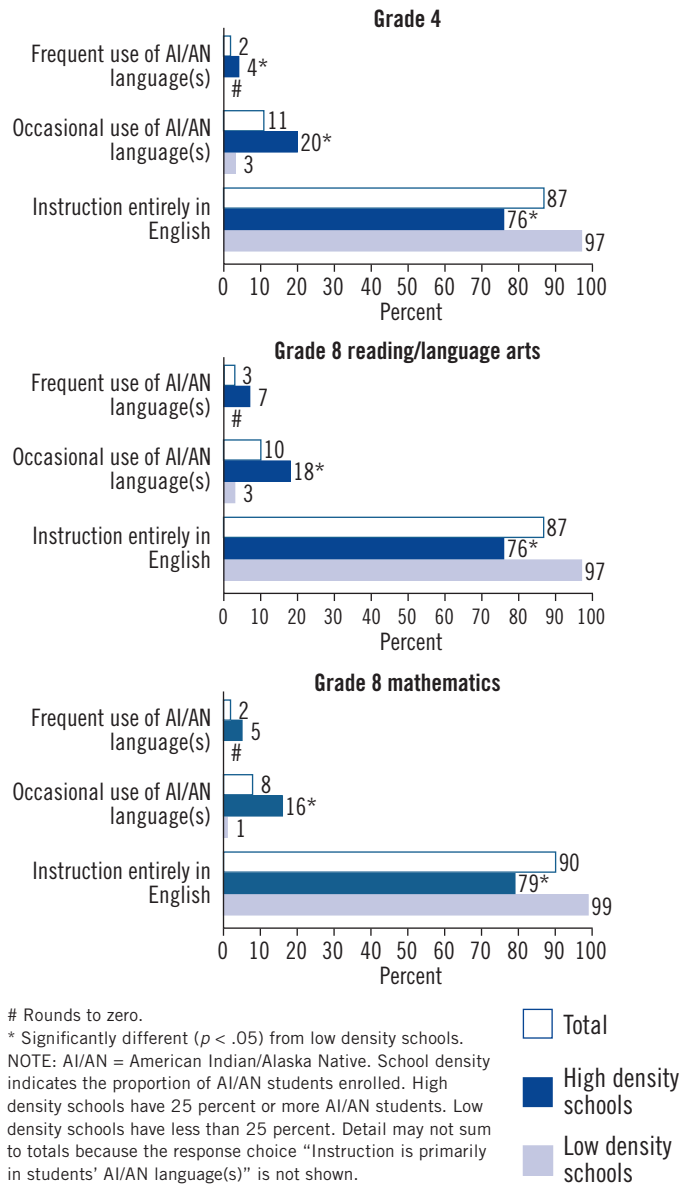
\* Significantly different ( $p < .05$ ) from public schools.

NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. Detail may not sum to totals because the response choice “Instruction is primarily in students’ AI/AN language(s)” is not shown.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

Figure 3-8. Percentage of fourth- and eighth-grade AI/AN students, by teachers’ responses to a question about the use of students’ AI/AN language(s) in class and school density: 2007

To what extent do you use your students’ American Indian or Alaska Native language(s) to teach core subjects?



## How often are AI/AN culture and history integrated into the curriculum?

Teachers were asked about the extent to which they integrated AI/AN culture and history into their curriculum. When compared to fourth- and eighth-grade AI/AN students attending low density schools, higher percentages of students attending high density schools had teachers who reported that they integrated AI/AN culture and history into their curriculum “at least once a week” (figure 3-9).

Higher percentages of BIE school students than public school students had teachers who reported integrating AI/AN culture and history into their curriculum. For example, higher percentages of fourth- and eighth-graders in BIE schools than in public schools had teachers who said the integration of AI/AN culture and history into their curriculum occurred “almost every day” (table 3-15).

Table 3-15. Percentage of AI/AN students, by type of school, grade, and teachers’ responses to a question about the integration of AI/AN culture and history in their curriculum: 2007

To what extent do you integrate American Indian or Alaska Native culture and history into your curriculum?	Type of school	
	Public	BIE
<b>Grade 4</b>		
Almost every day	5	19*
At least once a week	12	34*
At least once a month	20	30*
At least once a grading period	51	13*
Never	12	4*
<b>Grade 8 reading/language arts</b>		
Almost every day	4	31*
At least once a week	5	30*
At least once a month	14	31*
At least once a grading period	49	8*
Never	27	#*
<b>Grade 8 mathematics</b>		
Almost every day	1	10*
At least once a week	5	33*
At least once a month	5	20*
At least once a grading period	16	24*
Never	74	13*

# Rounds to zero.

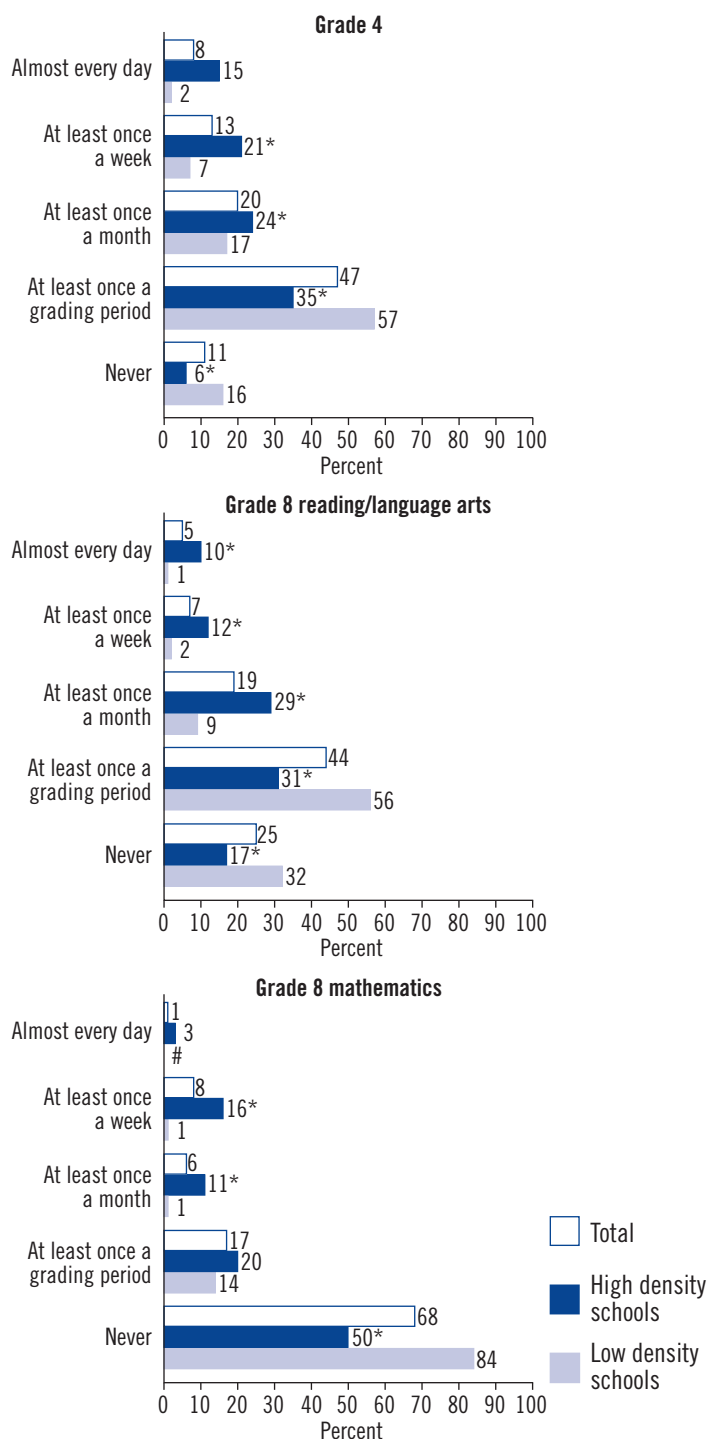
\* Significantly different ( $p < .05$ ) from public schools.

NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

Figure 3-9. Percentage of fourth- and eighth-grade AI/AN students, by teachers’ responses to a question about the integration of AI/AN culture and history in their curriculum and school density: 2007

To what extent do you integrate American Indian or Alaska Native culture and history into your curriculum?



# Rounds to zero.

\* Significantly different ( $p < .05$ ) from low density schools.

NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.



## To what extent is reading/language arts instruction influenced by AI/AN content or cultural standards?

Teachers were asked the extent to which they rely on AI/AN content or cultural standards to plan their reading/language arts lessons. Overall, 3 percent of fourth-graders and 2 percent of eighth-graders had teachers who reported that they used AI/AN content or cultural standards “a lot” in planning reading/language arts lessons (table 3-16).

At both grades, higher percentages of students in high density schools than in low density schools had teachers who reported that they used AI/AN content or cultural standards either “some” or “a lot.”

Table 3-16. Percentage of AI/AN students, by school density, grade, and teachers’ responses to a question about the use of AI/AN content or cultural standards in planning reading/language arts lessons: 2007

How much do you rely on American Indian or Alaska Native content or cultural standards in planning reading/language arts lessons?	Total	School density	
		High	Low
<b>Grade 4</b>			
A lot	3	5*	#
Some	11	18*	5
A little	17	24*	10
Not at all/unaware of standards	70	53*	85
<b>Grade 8</b>			
A lot	2	4*	#
Some	10	17*	4
A little	16	24*	8
Not at all/unaware of standards	72	54*	88

# Rounds to zero.

\* Significantly different ( $p < .05$ ) from low density schools.

NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

Teachers’ reliance on AI/AN content or cultural standards for reading/language arts instruction was reported for higher percentages of BIE school students than for their peers in public schools (table 3-17). For example, 17 percent of eighth-grade BIE school students had teachers who reported using AI/AN content or cultural standards “a lot” when planning their reading/language arts lessons compared to 1 percent of their peers in public schools.

Table 3-17. Percentage of AI/AN students, by type of school, grade, and teachers’ responses to a question about the use of AI/AN content or cultural standards in planning reading/language arts lessons: 2007

How much do you rely on American Indian or Alaska Native content or cultural standards in planning reading/language arts lessons?	Type of school	
	Public	BIE
<b>Grade 4</b>		
A lot	2	9*
Some	10	27*
A little	16	30*
Not at all/unaware of standards	72	34*
<b>Grade 8</b>		
A lot	1	17*
Some	9	35*
A little	13	25*
Not at all/unaware of standards	76	22*

\* Significantly different ( $p < .05$ ) from public schools.

NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education.

Results are not shown for Department of Defense and private schools. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

## To what extent is mathematics instruction influenced by AI/AN content or cultural standards?

Teachers were also asked the extent to which their mathematics instruction was influenced by AI/AN content or cultural standards. Overall, approximately 10 percent of fourth-graders and 6 percent of eighth-graders had teachers who reported that they used AI/AN content or cultural standards either “some” or “a lot” in planning mathematics lessons (table 3-18).

At both grades, higher percentages of students in high density schools than in low density schools had teachers who reported that they used “some” AI/AN content or

Table 3-18. Percentage of AI/AN students, by school density, grade, and teachers’ responses to a question about the use of AI/AN content or cultural standards in planning mathematics lessons: 2007

How much do you rely on American Indian or Alaska Native content or cultural standards in planning mathematics lessons?	Total	School density	
		High	Low
<b>Grade 4</b>			
A lot	2	4*	#
Some	8	15*	3
A little	15	24*	8
Not at all/unaware of standards	74	57*	89
<b>Grade 8</b>			
A lot	1	3	#
Some	5	9*	2
A little	9	15*	4
Not at all/unaware of standards	84	74*	93

# Rounds to zero.

\* Significantly different ( $p < .05$ ) from low density schools.

NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

cultural standards. A higher percentage of fourth-graders attending high density schools had teachers who reported using AI/AN content “a lot,” compared to fourth-graders in low density schools.

Compared to students attending public schools, a higher percentage of students in both grades who attended BIE schools had teachers who reported that they used AI/AN content or cultural standards either “some” or “a lot” to plan their mathematics lessons (table 3-19).

Table 3-19. Percentage of AI/AN students, by type of school, grade, and teachers’ responses to a question about the use of AI/AN content or cultural standards in planning mathematics lessons: 2007

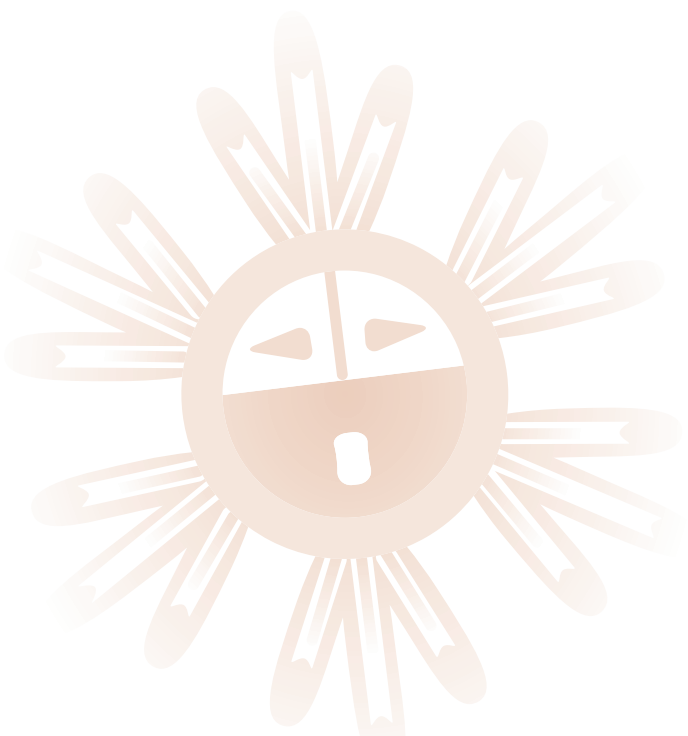
How much do you rely on American Indian or Alaska Native content or cultural standards in planning mathematics lessons?	Type of school	
	Public	BIE
<b>Grade 4</b>		
A lot	2	8*
Some	8	21*
A little	15	32*
Not at all/unaware of standards	76	39*
<b>Grade 8</b>		
A lot	1	4*
Some	4	24*
A little	9	26*
Not at all/unaware of standards	86	47*

\* Significantly different ( $p < .05$ ) from public schools.

NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education.

Results are not shown for Department of Defense and private schools. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.



## Do AI/AN students receive instruction about their native cultures?

School administrators were asked whether AI/AN students in their schools received instruction on a variety of topics and issues related to their native cultures. For example, instruction on one such topic, culture and traditions, was provided to 65 percent of all AI/AN fourth-graders and 57 percent of eighth-graders (figure 3-10).

Differences between high and low density schools were seen across the two grades. For example, a higher percentage of AI/AN fourth-graders in high density schools had administrators who reported that their schools provided instruction about native “oral and written language” (70 percent), compared to fourth-graders in low density schools (23 percent).

A comparison of administrators’ responses for students attending public schools and those attending BIE schools is provided in table 3-20. Differences are again seen for both grades. Ninety-four percent of fourth-graders and 91 percent of eighth-graders attending BIE schools had administrators who said their students received instruction about native “oral and written language.” These percentages are higher than those for students attending public schools (39 and 35 percent).

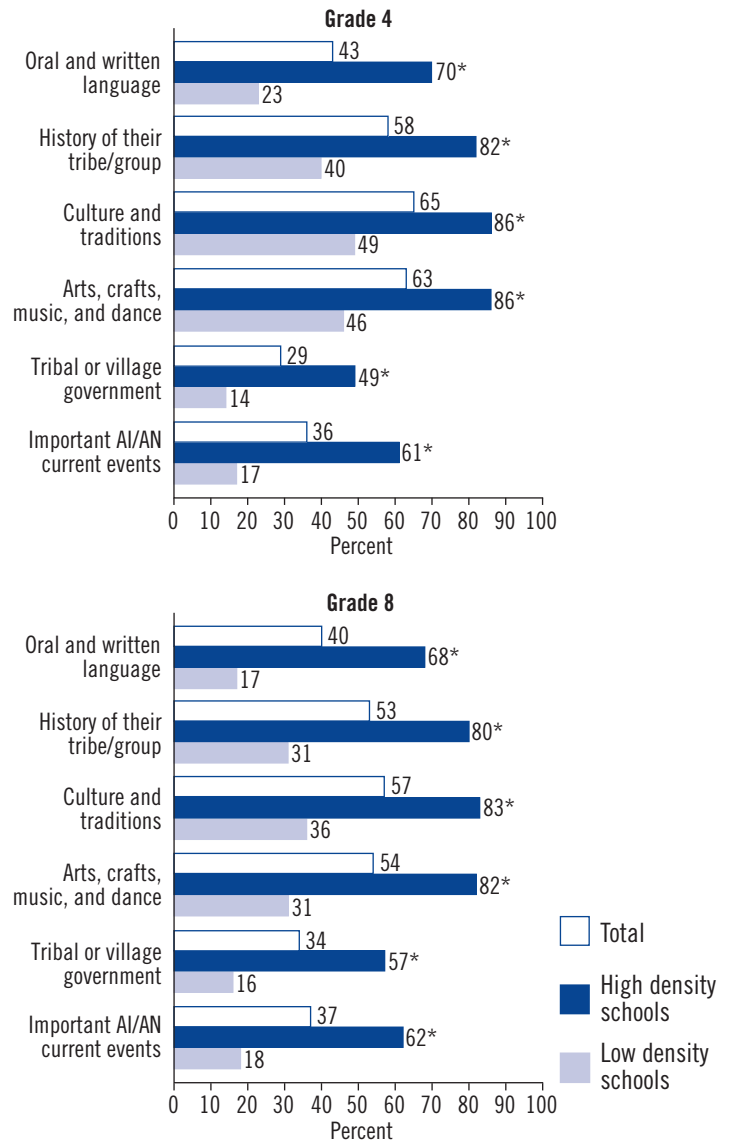
Table 3-20. Percentage of AI/AN students, by grade, type of school, and school administrators who answered “yes” to the response choices for a question about AI/AN cultural instruction in their schools: 2007

Do American Indian or Alaska Native students in your school receive instruction about their native cultures in any of the following areas?	Grade 4		Grade 8	
	Type of school		Type of school	
	Public	BIE	Public	BIE
Oral and written language	39	94*	35	91*
History of their tribe/group	56	90*	51	94*
Culture and traditions	63	97*	53	94*
Arts, crafts, music, and dance	62	96*	49	95*
Tribal or village government	26	72*	32	72*
Important AI/AN current events	33	78*	36	74*

\* Significantly different ( $p < .05$ ) from public schools.  
 NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

Figure 3-10. Percentage of fourth- and eighth-grade AI/AN students, by school administrators who answered “yes” to the response choices for a question about AI/AN cultural instruction in their schools and school density: 2007

Do American Indian or Alaska Native students in your school receive instruction about their native cultures in any of the following areas?



\* Significantly different ( $p < .05$ ) from low density schools.  
 NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent.  
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

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# Technical Notes

This section describes the procedures used for Part II of the 2007 National Indian Education Study (NIES).

## Development of 2007 NIES survey instruments

Questionnaires were developed for students at grades 4 and 8, their teachers, and their school administrators. A Technical Review Panel, assembled to advise NIES, oversaw the development of the questionnaires. In addition, pilot testing and in-depth think-aloud interviews with respondents were conducted to refine the questionnaires. Most of the survey questions were multiple choice, but the questionnaires did include a space at the end for respondents to write in any comments.

The number of questions in each questionnaire is shown in table TN-1. Grade 8 teachers who taught both language arts and mathematics answered all 24 questions; teachers who taught only one of these subjects answered only the questions applicable to that subject.

Table TN-1. Number of NIES survey questions, by type of questionnaire: 2007

Type of questionnaire	Number of questions
Student, grade 4	17
Student, grade 8	21
Teacher, grade 4	18
Teacher, grade 8	24
School, grades 4 and 8	24

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

Student questionnaires required approximately 10–15 minutes to complete, while teacher and school questionnaires could be completed in approximately 20–25 minutes. Complete copies of the questionnaires can be found at [http://nces.ed.gov/nationsreportcard/nies/nies\\_2007/n0004.asp](http://nces.ed.gov/nationsreportcard/nies/nies_2007/n0004.asp).

## Sampling procedures

The NIES Part II sample was designed to produce information representative of the target population of all fourth- and eighth-grade AI/AN students in the United States. The sample selection for NIES took place in conjunction with the sampling activities for the 2007 National Assessment of Educational Progress (NAEP) assessments at grades 4 and 8.

The samples of AI/AN students participating in the 2007 NAEP reading and mathematics assessments represent augmentations of the sample of AI/AN students who would usually be selected by NAEP. This allows more detailed reporting of performance for this group. To increase the samples of Bureau of Indian Education (BIE)<sup>1</sup> schools over the numbers sampled in 2005, all BIE schools and students were included in the 2007 sample. The BIE population represents approximately 135 schools at grade 4 and 115 schools at grade 8. In terms of the number of students, the BIE population represents approximately 3,000 students at grade 4 and 3,100 students at grade 8.

Because the reporting of results at the state level was a goal of NIES Part I, schools in the following states were oversampled in 2007: Arizona, Minnesota, North Carolina, Oregon, and Washington. Schools with relatively large percentages (at least 10 percent) of AI/AN students were oversampled by factors ranging from 2 to 6 based on state and grade. When AI/AN students are widely dispersed among schools, school oversampling is not effective. The basic approach taken was to create a new stratum in each state that contains schools with a “high” percentage of AI/AN students, and then to increase the “measure of size” of these schools by an oversampling factor, thereby increasing their probability of selection. The increase in the expected sample size of AI/AN students was then calculated.

Using different sampling rates for different subgroups of the population, and consequently applying different weights, is generally not as efficient as a sampling scheme which gives each unit in the population an equal chance of selection. The precision achieved by a sample selected in this way could be achieved by a smaller sample size (typically called the “effective” sample size) if sampling

<sup>1</sup> In the 2005 NIES, these were referred to as Bureau of Indian Affairs (BIA) schools.

rates were the same for each subgroup. However, sampling different subgroups at different rates provides more accurate estimates of target population characteristics and reduces the costs associated with collecting data in the field.

Sampling for NIES II followed the two-stage procedure used for the 2007 NAEP assessments. The first stage was the sampling of schools. Schools selected for NAEP were asked to provide a list of all enrolled students in the grade(s) of interest. These student lists were then used to draw the sample of students (the second stage of sampling). On these student lists, schools report each student's race/ethnicity based on information from official school records. For NIES II, the schools that reported having AI/AN students enrolled in fourth or eighth grade were identified. This subsample of schools consisted of approximately 94 percent public schools, 1 percent private schools, and 5 to 6 percent BIE schools at grades 4 and 8. All BIE schools were part of the sample.

To maximize student sample sizes, all fourth- and eighth-grade AI/AN students in the sampled schools were selected for participation in NIES II. As is the case for all NAEP assessments, school personnel had the opportunity to review the lists of selected students and identify any students with disabilities or English language learners who were to be excluded based on NAEP guidelines. Parents were notified of the assessment, but active consent for participation was only solicited if required by the school.

The NIES Part II sample, which was drawn from the subsample of schools with AI/AN students, included about 13,000 AI/AN students at approximately 1,900 schools at grade 4 and 15,000 AI/AN students at 2,000 schools at grade 8 located throughout the United States. At grades 4 and 8, the sample consisted of 94 percent public schools, 5 to 6 percent BIE schools, and 1 percent private schools. From this sample, the questionnaires were completed by about 10,000 grade 4 students from 1,700 schools and 11,000 grade 8 students from 1,800 schools (table TN-2). Also responding to the survey were about 3,000 grade 4 teachers, 4,600 grade 8 teachers, 1,700 grade 4 school administrators, and 1,800 grade 8 school administrators associated with these students. Some school administrators responded for both grade 4 and grade 8.

Table TN-2. Number of participating schools with AI/AN students and number of participating AI/AN students, by grade and type of school: 2007

Type of school	Grade 4		Grade 8	
	Schools	Students	Schools	Students
Public	1,600	8,000	1,700	9,000
BIE	100	2,000	100	2,000
Private	10	‡	20	‡

‡ Reporting standards not met.

NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. For public and BIE schools, the numbers of schools are rounded to the nearest hundred, and the numbers of students are rounded to the nearest thousand. The numbers of private schools are rounded to the nearest ten. Numbers for Department of Defense schools are counted in the public school category.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 National Indian Education Study.

The NIES Part II survey was designed to obtain a sample that was not only representative of all U.S. AI/AN students at grades 4 and 8, but that would also allow comparisons between AI/AN students attending high density and low density schools, where density is defined as the proportion of AI/AN students enrolled. (High density schools have 25 percent or more AI/AN students; low density schools have fewer than 25 percent.) The sample included 400 high density schools at each grade, 1,500 low density schools at grade 4, and 1,600 low density schools at grade 8. In addition, the 2007 sample design allows the Part II survey data to be linked to the achievement data collected in NIES Part I.

The weighted school response rates were 88 percent at grade 4 and 90 percent at grade 8. The weighted school response rates by school type were as follows: at fourth grade, 90 percent for public schools and 80 percent for BIE schools; at eighth grade, 91 percent for public schools and 88 percent for BIE schools. Private school results were not reported for either grade 4 or grade 8 due to insufficient sample size.

The unweighted school response rates were 87 percent for grade 4 and 90 percent for grade 8. The unweighted school response rates by school type were as follows: at fourth grade, 89 percent for public schools and 80 percent for BIE schools; at eighth grade, 91 percent for public schools and 88 percent for BIE schools.

The weighted student response rates were 85 percent at grade 4 and 82 percent at grade 8. The weighted student response rates by school type were as follows: at fourth grade, 85 percent for public schools and 85 percent for BIE schools; at eighth grade, 82 percent for public schools and 83 percent for BIE schools. Private school results were not reported for either grade 4 or grade 8 due to insufficient sample size.

The unweighted student response rates were 81 percent at grade 4 and 78 percent at grade 8. The unweighted student response rates by school type were as follows: at fourth grade, 80 percent for public schools and 85 percent for BIE schools; at eighth grade, 77 percent for public schools and 83 percent for BIE schools.

No separate samples were drawn for teachers or school administrators. However, a weighted response rate, or match rate, was calculated for teachers and school administrators based on completed questionnaires using student weights since the student was the unit of analysis. Accordingly, at grade 4, completed questionnaires were obtained from schools for 88 percent of students and from teachers for 91 percent of students. At grade 8, completed school questionnaires were obtained for 90 percent of students, completed mathematics teacher questionnaires were obtained for 82 percent of students, and completed reading teacher questionnaires were obtained for 80 percent of students. Because the student is the unit of analysis for NIES, teacher surveys or school administrator surveys that could not be linked to specific students were not used in the analysis.

To ensure that reported findings are based on samples that are representative of the target population, NCES established a response rate standard of 85 percent. The weighted student response rates for the NIES sample were 84.99 percent at grade 4 and 82.4 percent at grade 8. Because the weighted student response rates for both grades 4 and 8 failed to meet the NCES standard, student nonresponse bias analyses were conducted. These analyses showed that the response rate at both grades was lowest in the Pacific region (due in large measure to especially low response in Alaska) and especially among students with disabilities and English language learners. At grade 8, the response rate was

also lower among male students and those students who were relatively older. After weighting adjustments were made to account for differences in the response rates by subgroups, the only evidence of remaining bias was the fact that AI/AN students from low density schools were somewhat under-represented in the final sample at both grades. Thus, at grade 4, the weighted data showed 54.4 percent of the population being from low density schools, whereas in the full student sample it was 55.2 percent. The corresponding figures at grade 8 were 54.7 percent and 55.5 percent, respectively. Although statistically significant indications of potential nonresponse bias are present in the final data, the effect on survey estimates seems likely to be very slight, since the distribution of the final student sample matches closely with that of the original sample.



## Weighting

The general purpose of weighting is to adjust for the unequal probabilities of selection of schools and students, and to adjust for the effects of nonresponse by schools and students selected to participate. The oversampling of schools with high concentrations of AI/AN students was accounted for by the sampling weights.

The school probability of selection was a function of three factors: the NAEP selection, the probability of being retained for NIES Part II, and the number of AI/AN students in the NAEP sample per school. Nonresponse adjustments at the school level attempted to mitigate the impact of differential nonresponse by school type (public, private, and BIE), region, and estimated percentage enrollment of AI/AN students. For student weights, nonresponse adjustments took account of differential response rates based on student age (above age for grade level or not) and English language learner status.

The complex sample design of NIES Part II (with the added complexity of NAEP) resulted in a wide variability of student sample weights from the overall average weight. Sampling weights improve the validity of inferences to be drawn between the student samples and their respective populations by helping to ensure that the results of the survey are fully representative of the target population. For NIES, as for NAEP, weights are computed for both schools and students. The school weights are one component in calculating the student weights. The student weights are the weights used in analysis.

## Data collection procedures

NIES representatives (NCES data collection contractor staff) visited the schools in January and February of 2007 to administer the Part II survey questionnaires. Students completed the questionnaires proctored by the study representatives. The questions were read out loud to all students at grades 4 and 8 who needed assistance. In addition, the study representatives were available to answer any questions that students had as they worked on the questionnaires.

The NAEP background questionnaires, which form the basis for the non-AI/AN student data included in this report, were collected in a similar fashion. That is, students completed the questionnaires in a proctored setting where study representatives were available to answer any questions.

For both NIES and NAEP, teachers and school administrators were asked to complete the questionnaires on their own, either prior to or during the visit from the study representative.

## Definitions of demographic variables

Most of the variables used in this report are based directly on questions from the student, teacher, and school questionnaires. In chapter 3 of this report, *Integration of American Indian and Alaska Native Language and Culture*, the exact wording of the NIES question is embedded in the figure or table. The exact wording of all questions is available online at [http://nces.ed.gov/nationsreportcard/nies/nies\\_2007/n0004.asp](http://nces.ed.gov/nationsreportcard/nies/nies_2007/n0004.asp).

### RACE/ETHNICITY

Unless otherwise specified in this report, student race/ethnicity data are based on official schools records, as reported by participating schools at the time of data collection. Schools were asked to report each student's race/ethnicity as "White, not Hispanic," "Black, not Hispanic," "Hispanic," "Asian/Pacific Islander," "American Indian/Alaska Native," or "other." Schools were instructed to categorize students with more than one race/ethnicity as "other." In schools sampled for NAEP, all students who were reported to be AI/AN were selected for participation in the NIES study. During data collection, some cases arose in which schools determined that students had been incorrectly classified as AI/AN. In those cases, the students were reclassified at the schools' direction, and they were not included in the NIES study. Consequently, all students in the NIES study were identified as AI/AN by school records.

The questionnaires completed by participating students and their teachers asked them to self-report their race/ethnicity. Students and teachers both completed the same



two questions. In compliance with guidelines set by the Office of Management and Budget for all federal data collection, the first question asked whether or not the respondent was Hispanic or Latino. The second question asked respondents to indicate “which of the following best describes you” and listed five race groups: White, Black or African American, Asian, American Indian or Alaska Native, and Native Hawaiian or other Pacific Islander. Respondents were instructed to mark all choices that applied. Based on responses to these two questions, teachers were classified as “AI/AN only,” “AI/AN plus at least one other race or ethnicity,” “White only,” and “other.” Students’ self-identifications were classified as “AI/AN only,” “AI/AN plus at least one other race or ethnicity,” or “non-AI/AN.”

### LITERACY MATERIALS IN THE HOME

Results for literacy materials in the home were reported based on responses to four questions on the student questionnaires:

- Does your family get a newspaper at least four times a week? Yes/No/I don’t know
- Does your family get any magazines regularly? Yes/No/I don’t know
- Is there an encyclopedia in your home? It could be a set of books, or it could be on the computer. Yes/No/I don’t know
- About how many books are there in your home? Few (0–10)/Enough to fill one shelf (11–25)/Enough to fill one bookcase (26–100)/Enough to fill several bookcases (more than 100)

The data reported are for the “yes” responses to the first three questions, and for the combined “26–100” and “more than 100” responses to create the “more than 25 books” category.

### SCHOOL LOCATION

NAEP results are reported for four mutually exclusive categories of school location: city, suburban, town, and rural. The categories are based on standard definitions established by the federal Office of Management and Budget using population and geographic information from the U.S. Census Bureau. Schools are assigned to these categories in the NCES Common Core of Data based on their physical address. The categories (“locale

codes”) are based on an address’s proximity to an urbanized area (a densely settled core with densely settled surrounding areas). This is a change from the original system based on metropolitan statistical areas. To distinguish the two systems, the new system is referred to as “urban-centric locale codes.” More details on the locale codes are available at [http://nces.ed.gov/ccd/rural\\_locales.asp](http://nces.ed.gov/ccd/rural_locales.asp).

### SCHOOL DENSITY

Throughout the report, results are reported separately for students attending schools with high or low density, that is, high or low proportions of AI/AN students. The Office of Indian Education (OIE) defines high density schools as those in which 25 percent or more of the students are AI/AN. Schools in which less than 25 percent of the students are AI/AN are considered low density schools.

### SCHOOL LUNCH PROGRAM

Information on student eligibility for the National School Lunch Program (NSLP) is collected as an indicator of socioeconomic status. Under the guidelines of NSLP, children from families with incomes below 130 percent of the poverty level are eligible for free meals. Those from families with incomes between 130 and 185 percent of the poverty level are eligible for reduced-price meals. (For the period July 1, 2006 through June 30, 2007, for a family of four, 130 percent of the poverty level was \$26,000, and 185 percent was \$37,000.) As part of the Department of Agriculture’s National School Lunch Program, schools can receive cash subsidies and donated commodities in return for offering free or reduced-price lunches to eligible children. For more information on NSLP, visit <http://www.fns.usda.gov/cnd/lunch/>.



## SCHOOL FUNDING FOR AI/AN EDUCATION

Several types of school funding relevant to AI/AN education are surveyed in this report. Titles I, II, III, and VII funds are all authorized under the U.S. Elementary and Secondary Education Act, No Child Left Behind. Title I funds are intended for improving the academic achievement of the disadvantaged. Title II provides funds for preparing, training, and recruiting high quality teachers and principals. Title III addresses language instruction for English language learners and immigrant students, and Title VII is designated for American Indian, Native Hawaiian, and Alaska Native education. Impact Aid, Johnson-O'Malley, and Alaska Native Education Programs are also federal funding programs. Impact Aid is provided to local school districts that include within their boundaries parcels of land that are owned by the Federal Government or that have been removed from the local tax rolls by the Federal Government, including Indian lands. The Johnson-O'Malley program provides supplemental educational aid for AI/AN students through contracts with tribes, tribal organizations, school districts, and state education agencies. Alaska Native Education Programs provide grants to help meet the unique educational needs of Alaska Natives and to support the development of supplemental educational programs to benefit Alaska Natives.

## Drawing inferences from the results

The reported statistics are estimates of population proportions based on samples of students and are therefore subject to uncertainty. The magnitude of this uncertainty is reflected in the standard error of each of the estimates. When, for example, the percentages of certain groups are compared, the estimated standard errors should be taken into account. The comparisons in this report are based on statistical tests that consider both the magnitude of the differences between the percentages and the estimated standard errors of the percentages being compared. Estimates based on smaller groups are likely to have relatively large standard errors. As a consequence, a numerical difference that seems large may not be statistically significant. Furthermore, differences of the same magnitude may or may not be statistically significant, depending on the size of the standard errors. The differences described in this report

have been determined to be statistically significant at the .05 level with adjustments for multiple comparisons.

Standard errors have been calculated for all estimates in this report and are available at <http://nces.ed.gov/nationsreportcard/nies/>. Two examples of data tables containing standard errors can be found in the Data Appendix.

## Variance estimation and tests of significance

Because of the complex sampling design,<sup>2</sup> conventional formulas for estimating sampling variability that assume simple random sampling are inappropriate. Instead, a jackknife replication procedure is used to estimate standard errors. Replication methods involve constructing a number of subsamples, or replicates, from the full sample and computing the statistic of interest for each replicate. The replicate weights are used to compute the standard error of a given statistic.

The tests of significance used in the analyses for this report are based on Student's *t* statistics. The formula used to compute the Student's *t* statistic is as follows:

$$t = \frac{E_1 - E_2}{\sqrt{se_1^2 + se_2^2}}$$

where  $E_1$  and  $E_2$  are the estimates of the two groups being compared, and  $se_1$  and  $se_2$  their respective standard errors.

As the number of comparisons that are conducted at the same significance level increases, it becomes more likely that at least one of the estimated differences will be significant merely by chance; that is, it will be erroneously identified as significantly different from zero. Even when there is no statistical difference at the .05 level between the percentages being compared, there is a 5 percent chance of getting a significant *t* value from sampling variability alone. As the number of comparisons increases, the chance of making this type of error increases. To control the significance level for the set of comparisons at a particular level (e.g., .05), appropriate adjustments for multiple comparisons have been made in this report. The false discovery rate (FDR) procedure (Benjamini and Hochberg 1995) was used to control the rate of false discoveries.

Unlike some other multiple comparison procedures that control the familywise error rate (i.e., the probability of making even one false rejection in the set of comparisons), the FDR procedure controls the expected proportion of falsely rejected hypotheses.

The Benjamini and Hochberg application of the FDR criterion can be described as follows. Let  $q$  be the number of significance tests made and let  $P(1) \leq P(2) \leq \dots \leq P(q)$  be the ordered significance levels of the  $q$  tests, from the smallest to the highest  $p$ -value. Let  $\alpha$  be the combined significance level desired. The procedure compares  $P(q)$  with  $\alpha$ ,  $P(q-1)$  with  $\alpha(q-1)/q$ , . . . ,  $P(1)$  with  $\alpha/q$ , stopping the comparisons with the largest  $j$  such that  $P(j) \leq \alpha j/q$ . Reject all hypotheses corresponding to  $P(1)$ , . . . ,  $P(j)$ .

## Comparisons to non-AI/AN students

Students who were selected for the 2007 NAEP assessments at grades 4 and 8 and subsequently identified by their schools as AI/AN were included in the NIES sample. Consequently, in addition to completing the NIES student questionnaire, NIES participants also completed the section of student background questions included in each NAEP assessment booklet. Responses to a common set of NAEP student background questions were collected for all NAEP participants. From these NAEP background questions, the responses of students in the NIES sample can be compared to the responses of non-AI/AN students who participated in NAEP. Findings in this report that compare AI/AN and non-AI/AN students are based on these 2007 NAEP data.



<sup>2</sup> All BIE schools serving fourth- and/or eighth-grade students were sampled for this study. In addition, all public schools in North Dakota, grade 8, were sampled. Hence, these samples are census samples, which means that percentage estimates of student population distributions (e.g., the percentage of students living in a rural area) are the actual population values. For statistical testing, the implication is that any numerical difference between groups within these samples is an actual, significant difference, that is, not due to chance. Furthermore, for comparisons between a group within one of these samples and a group in a non-census sample (e.g., the larger NIES sample), single-population  $t$ -tests are conducted reflecting the fact that only one of the estimates is subject to uncertainty.

# Data Appendix

Additional data tables to support the findings in this report may be found at <http://nces.ed.gov/nationsreportcard/nies/>.

Table A-1. Percentage of AI/AN students and standard errors, by school density, grade, and frequency with which schools provide opportunities for students' families to share native or family histories and traditions as part of the instructional program: 2007

Grade and frequency of opportunities per year	Total	School density	
		High	Low
<b>Grade 4</b>			
5 or more times	11 (1.7)	19* (3.5)	6 (1.1)
3 or 4 times	18 (1.6)	24* (3.4)	14 (1.7)
1 or 2 times	52 (1.9)	46* (4.2)	56 (2.1)
Never	19 (1.6)	11* (2.7)	24 (1.9)
<b>Grade 8</b>			
5 or more times	8 (0.8)	12* (1.7)	4 (0.6)
3 or 4 times	15 (1.8)	23* (3.5)	8 (1.1)
1 or 2 times	52 (2.6)	51 (4.7)	52 (2.2)
Never	26 (1.8)	14* (3.1)	36 (2.0)

\* Significantly different ( $p < .05$ ) from low density schools.

NOTE: AI/AN = American Indian/Alaska Native. School density indicates the proportion of AI/AN students enrolled. High density schools have 25 percent or more AI/AN students. Low density schools have less than 25 percent. Standard errors of the estimates appear in parentheses. Detail may not sum to totals because of rounding. SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2007 National Indian Education Study.

Table A-2. Percentage of AI/AN students and standard errors, by type of school, grade, and student-reported number of pages a day they have to read in school and for homework: 2007

Grade and number of pages read a day	Type of school	
	Public	BIE
<b>Grade 4</b>		
More than 20	30 (0.7)	25* (0.0)
16–20	13 (0.6)	10* (0.0)
11–15	13 (0.6)	11* (0.0)
6–10	20 (0.7)	21 (0.0)
5 or fewer	24 (0.7)	34* (0.0)
<b>Grade 8</b>		
More than 20	20 (0.7)	21 (0.0)
16–20	12 (0.5)	12 (0.0)
11–15	14 (0.5)	16* (0.0)
6–10	23 (0.6)	24* (0.0)
5 or fewer	30 (0.8)	27* (0.0)

\* Significantly different ( $p < .05$ ) from public schools.

NOTE: AI/AN = American Indian/Alaska Native. BIE = Bureau of Indian Education. Results are not shown for Department of Defense and private schools. Standard errors of the estimates appear in parentheses. Detail may not sum to totals because of rounding. SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment.



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Student Artwork: *Our Dream* by Roderick Natani;  
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### National Indian Education Study: Part II

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