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Fast Response Survey System

# Internet Access in U.S. Public Schools and Classrooms: 1994–2001

## E.D. Tabs

**U.S. Department of Education**
Office of Educational Research and Improvement
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NATIONAL CENTER FOR EDUCATION STATISTICS

**E.D. Tabs** **September 2002**

# Internet Access in U.S. Public Schools and Classrooms: 1994–2001


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# Introduction

Since 1994, the National Center for Education Statistics (NCES) has surveyed public schools to estimate access to information technology in schools and classrooms. In the fall of each academic year, a new nationally representative sample of approximately 1,000 public schools has been surveyed about Internet access and Internet-related topics.

Although some items, such as those on school and classroom connectivity, have been constant on all surveys, new items have been added as technology has changed and new issues have arisen. For example, an item on types of Internet connections was added in 1996 and has remained part of the subsequent surveys, with some modifications. The fall 2001 survey included items on access to the Internet outside of regular school hours; technologies and procedures used to prevent student access to inappropriate material on the Internet; special hardware and software for students with disabilities; operating systems/platforms, memory capacity, and disk space on instructional computers; school Web sites; and laptop loans to students.

This survey was conducted by NCES using the Fast Response Survey System (FRSS). FRSS is designed to administer short, focused, issue-oriented surveys that require minimal burden on respondents and have a quick turnaround from data collection to reporting. Questionnaires for this survey were mailed to a representative sample of 1,209 public schools in the 50 states and the District of Columbia. Data have been weighted to yield national estimates. Detailed information about the survey methodology is provided in appendix A, and the questionnaire can be found in appendix B.

In addition to national estimates, selected survey findings are presented by the following school characteristics:

- instructional level (elementary, secondary);
- school size (enrollment of less than 300, 300 to 999, 1,000 or more);
- locale (city, urban fringe, town, rural);
- percent minority enrollment (less than 6 percent, 6 to 20 percent, 21 to 49 percent, 50 percent or more); and
- percent of students eligible for free or reduced-price lunch (less than 35 percent, 35 to 49 percent, 50 to 74 percent, 75 percent or more), which is used as a measure of poverty concentration at the school.

It is important to note that many of the school characteristics used for independent analysis may also be related to each other. For example, enrollment size and instructional level of schools are related, with secondary schools typically being larger than elementary schools. Similarly, poverty concentration and minority enrollment are related, with schools with a higher minority enrollment also more likely to have a high concentration of poverty. Other relationships between analysis variables may exist. Because of

the relatively small sample size used in this study, it is difficult to separate the independent effects of these variables. Their existence, however, should be considered in the interpretation of the data.

All specific statements of comparison made in this report have been tested for statistical significance through chi-square tests, trend analysis tests, and t-tests adjusted for multiple comparisons using the Bonferroni adjustment and are significant at the 95 percent confidence level or better. However, only selected findings are presented for each topic in the report. A detailed description of the statistical tests supporting the survey findings can be found in appendix A.

# Selected Findings

This report presents key findings from the survey "Internet Access in U.S. Public Schools, Fall 2001." For selected topics, data from previous FRSS Internet surveys are presented as well. The findings are organized as follows:

- school connectivity;
- students and computer access;
- operating systems, memory capacity, and disk space;
- special hardware and software for students with disabilities;
- the Internet as a way to communicate with parents and students; and
- technologies and procedures to prevent student access to inappropriate material on the Internet.

## School Connectivity

### School Access

- In fall 2001, 99 percent of public schools in the United States had access to the Internet. When NCES first started estimating Internet access in schools in 1994, 35 percent of public schools had access (table 1). As reported previously (Cattagni and Farris 2001), there have been virtually no differences in school access to the Internet by school characteristics since 1999.

### Instructional Room Access

- Public schools have made consistent progress in expanding Internet access in instructional rooms,[1] from 3 percent in 1994 to 77 percent in 2000 and 87 percent in 2001 (table 2).
- In 2001, as in previous years, there were differences in Internet access in instructional rooms by school characteristics. For example, in schools with the highest minority enrollment (50 percent or more), a smaller percentage of instructional rooms were connected to the Internet (81 percent) than in schools with lower minority enrollments (88 to 90 percent of instructional rooms) (table 2).
- A similar pattern occurred by poverty concentration. In 2001, schools with the highest poverty concentration (75 percent or more students eligible for free or reduced-price lunch) had fewer

[1]Instructional rooms include classrooms, computer and other labs, library/media centers, and any other rooms used for instructional purposes.

rooms with Internet access than schools with less than 35 percent eligible students and schools with 35 to 49 percent eligible students (79 percent of instructional rooms compared with 90 and 89 percent, respectively) (table 2).

- Despite these continuing differences, however, the percentage of instructional rooms with Internet access increased between 2000 and 2001 in these schools: from 60 to 79 percent in schools with the highest concentration of poverty, and from 64 to 81 percent in schools with the highest minority enrollment (table 2).

### Types of Connections

- Over the years, changes have occurred in the types of Internet connections used by public schools and the speed at which they are connected to the Internet. In 1996, dial-up Internet connections were used by almost three-fourths (74 percent) of public schools having Internet access (Heaviside, Riggins, and Farris 1997). In 2001, the majority of public schools (55 percent) reported using T1/DS1 lines, a continuous and much faster type of Internet connection than dial-up connections, and 5 percent of schools used dial-up connections (table 3).

- In 2001, 85 percent of public schools used broadband connections to access the Internet (table 4). This is an increase from 2000, when 80 percent of the schools were using this type of connection.[2]

- In 2001, as in 2000, the likelihood of using broadband connections increased with school size; in 2001, 72 percent of small schools reported using broadband connections to access the Internet, compared with 96 percent of large schools (table 4).

- The likelihood of using broadband connections also increased with minority enrollment and poverty concentration. For example, in 2001, 81 percent of public schools with the lowest minority enrollment used broadband connections when connecting to the Internet, compared with 93 percent of schools with the highest minority enrollment (table 4).

- The use of broadband connections increased between 2000 and 2001 from 81 percent to 93 percent in schools with the highest minority enrollment (table 4). Similarly, the percent of schools with the highest poverty concentration using broadband connections to access the Internet increased from 75 percent to 90 percent.

## Students and Computer Access

According to a recent study, more school-age children in the nation use computers at school than at home (Newburger 2001). The survey "Internet Access in U.S. Public Schools, Fall 2001" obtained information on various measures of student access to computers at school, such as the ratio of students to

[2] Respondents were instructed to circle as many types of connections as there were in the school. These percentages include schools using only broadband connections, as well as schools using both broadband and narrowband connections. They do not include schools using narrowband connections exclusively. Broadband connections include T3/DS3, fractional T3, T1/DS1, fractional T1, and cable modem connections. In 2001, they also included DSL connections, which had not been an option on the 2000 questionnaire.

instructional computers with Internet access, student access to the Internet outside of regular school hours, and laptop loans to students.

## Students Per Instructional Computer With Internet Access

- The ratio of students to instructional computers with Internet access was computed by dividing the total number of students in all public schools by the total number of instructional computers with Internet access in all public schools (i.e., including schools with no Internet access).[3] In 2001, the ratio of students to instructional computers with Internet access in public schools was 5.4 to 1, an improvement from the 12.1 to 1 ratio in 1998, when it was first measured (table 5). This level of access corresponds to the 4- to 5-students-per-computer ratio that many experts consider reasonable for effective use of computers in schools (President's Committee of Advisors on Science and Technology 1997).

- However, as in previous years (Cattagni and Farris 2001), there were differences by school characteristics in 2001. For example, the ratio of students to instructional computers with Internet access was higher in schools with the highest poverty concentration (6.8 to 1 compared with 4.9 or 5.6 to 1 in other schools) (table 5). Despite this gap, the ratio improved from 9.1 students in 2000 to 6.8 students per computer in 2001 in schools with the highest poverty concentration.

## Availability of Computers With Internet Access Outside of Regular School Hours

In 2000, 21 percent of children in the nation used the Internet at home for school-related tasks (Newburger 2001). Making the Internet accessible outside of regular school hours allows students who would not otherwise have access to the Internet to use this resource for school-related activities such as homework.

- In 2001, 51 percent of public schools with access to the Internet reported that they made computers with access to the Internet available to students outside of regular school hours (table 6). Differences by school characteristics were observed for instructional level and school size. Secondary schools were more likely to make the Internet available to students outside of regular school hours than were elementary schools (78 percent compared with 42 percent). Similarly, large schools (enrollments of 1,000 students or more) reported making the Internet available to students outside of regular school hours more often than did medium-sized and small schools (82 percent compared with 47 percent each for medium-sized and small schools).

- Among schools providing computers with access to the Internet to students outside of regular school hours in 2001, 95 percent made them available after school, 74 percent before school,

[3] This is one method of calculating students per computer. Another method involves calculating the number of students in each school divided by the number of instructional computers with Internet access in each school and then taking the mean of this ratio across all schools. When "students per computer" was first calculated for this NCES series in 1998, a decision was made to use the first method; this method continues to be used for comparison purposes. A couple of factors influenced the choice of that particular method. There was (and continues to be) considerable skewness in the distribution of students per computer per school. In addition, in 1998, 11 percent of public schools had no instructional computers with Internet access.

and 6 percent on weekends (table 6). Availability of computers with Internet access before school decreased as minority enrollment increased—from 84 percent of schools with the lowest minority enrollment to 66 percent of schools with the highest minority enrollment. A similar pattern occurred by poverty concentration of schools for the availability of computers with Internet access before regular school hours.

- The percentage of schools providing students with Internet-connected computers after school ranged from 91 percent (small schools and schools with 50 to 74 percent of students eligible for free or reduced-price lunch) to 98 percent (large schools and schools with the lowest poverty concentration) (table 6).

### Laptop Computer Loans

In addition to asking about the availability of computers with Internet access outside of regular school hours, the survey asked whether the schools lent laptop computers to students, how many laptops were available for loan, and the maximum length of time for which they could be borrowed.

- In 2001, 10 percent of public schools lent laptop computers to students (table 7). Schools in rural areas (14 percent) were more likely than city schools (6 percent) and urban fringe schools (7 percent) to lend laptops.

- Schools lending laptop computers to students had, on average, 10 laptops available for loan (not shown in tables). About half (53 percent)[4] of the 10 percent of schools lending laptop computers reported that students could borrow them for 1 week or more (see table 8). Of these schools, 22 percent of schools reported lending laptops for the entire school year (table 8).

## Operating Systems, Memory Capacity, and Disk Space

In order to gather information on how current the computers available to students in public schools are, the survey asked respondents to indicate which operating system/platform was used most frequently[5] on instructional computers, as well as the memory capacity and disk space of most instructional computers.

- The single most common response, given by 40 percent of public schools in 2001, was that the operating system most frequently used on their instructional computers was Windows 98 (table 9). Twenty-five percent had Mac OS 7.6 or greater, and 19 percent had Windows 95. Overall,

[4] This estimate is derived from the percent of public schools indicating that students could borrow laptop computers for 1 week, 1 month, 1 semester, the entire school year, or for another length of time. Although estimates for the details are shown in table 8, the total in the text is based on the raw data and because of rounding, it differs trivially (i.e., 1 percent) from the estimate that would be obtained by adding details directly from the table.

[5] The question was worded this way because more than one operating system/platform can be used in one school.

95 percent of schools reported using Windows 95 or a newer version of Windows, or Mac OS 7.6 or greater most frequently on their instructional computers (see table 10).[6]

- Twelve percent of schools reported that the latest versions of Windows (NT or 2000) were the most commonly found on their instructional computers (table 10). Secondary schools (19 percent) were more likely to report these types of operating systems than were elementary schools (9 percent), which reported using the latest versions of Mac OS (Mac OS 7.6 or greater) more often than secondary schools (28 percent compared with 14 percent).

- Eighty-two percent of schools had 16 megabytes (MB) or higher memory capacity (not shown in tables) on most of their instructional computers. Sixty-three percent of schools had 1 gigabyte (GB) or higher disk space (not shown in tables).

- Overall, 58 percent of the schools used Windows 95 or a more recent version of Windows, or Mac OS 7.6 or greater, combined with 16 MB or higher memory capacity and 1 GB or higher disk space most frequently on their instructional computers (see table 11).[7]

## Special Hardware and Software for Students With Disabilities

The Individuals with Disabilities Education Act requires that students eligible for special education under the law receive specially designed instruction: "S*pecially-designed instruction* means adapting, as appropriate to the needs of an eligible child, . . . the content, methodology, or delivery of instruction - (i) to address the unique needs of the child that result from the child's disability; and (ii) to ensure access of the child to the general curriculum, so that he or she can meet the educational standards within the jurisdiction of the public agency that apply to all children" (Special Education Regulation 2001). The survey collected data on whether public schools had students with various disabilities and, if so, whether they had assistive or adaptive hardware and software[8] available for these students.

- In 2001, 95 percent of public schools reported that they enrolled students with learning disabilities (table 12). Sixty-seven percent had students with physical disabilities, 54 percent had students with hearing disabilities, and 46 percent had students with visual disabilities.

- At the national level, depending on the type of disability, 55 to 64 percent of schools that had students with disabilities provided assistive or adaptive hardware, and 39 to 56 percent provided assistive or adaptive software (table 12).

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[6] This estimate is derived from the percent of public schools using Windows 95, Windows 98, Windows ME, Windows 2000, Windows NT, or Mac OS 7.6 or greater most frequently on their instructional computers. Although estimates for the details are shown in table 10, the total in the text is based on the raw data and because of rounding, it differs trivially (i.e., 1 percent) from the estimate that would be obtained by adding details directly from the table.

[7] This estimate is derived from the percent of public schools using Windows 95, Windows 98, Windows ME, Windows 2000, Windows NT, or Mac OS 7.6 or greater and having 16 MB or higher memory capacity and 1 GB or higher disk space most frequently on their instructional computers. Although estimates for the details are shown in table 11, the total in the text is based on the raw data and because of rounding, it differs trivially (i.e., 1 percent) from the estimate that would be obtained by adding details directly from the table.

[8] For example, special hardware may include closed-captioned TV, screen readers, or keyboard alternatives, while special software may include Jaws for Windows, Zoomtext, or Overlay Maker.

- Special hardware was less likely to be available to students with learning disabilities in schools with the highest minority enrollment than in schools with the lowest minority enrollment (47 percent compared with 61 percent) (table 12).

- The likelihood of having special software available for students with physical disabilities increased with school size: from 40 percent in small schools to 60 percent for large schools (table 12).

- Differences by instructional level also were observed. For example, 48 percent of secondary schools provided special software to students with hearing disabilities, compared with 35 percent of elementary schools (table 12).

- Schools with the highest poverty concentration were less likely to have special hardware and software available for students with visual disabilities than were schools with the lowest poverty concentration (52 percent compared with 71 percent for hardware, and 42 percent compared with 63 percent for software) (table 12).

## The Internet as a Way to Communicate With Parents and Students

Since 99 percent of public schools were connected to the Internet in 2001, most schools had the capability to make information available to parents and students directly via e-mail or through a Web site. This section presents key findings on the availability of school-sponsored e-mail addresses and on school Web sites.

### School-Sponsored E-Mail Addresses

The survey asked whether administrative staff, teachers, and students may have a school-sponsored e-mail address. If the answer was yes, schools were asked whether few, some, or all or most of the members of these three groups had school-sponsored e-mail addresses.

- Overall, 95 percent of public schools with Internet access reported that administrative staff may have a school-sponsored e-mail address (table 13). Ninety-two percent of schools reported that addresses were available for teachers, and 16 percent that they were available for students.

- Among schools that made e-mail available to staff, teachers, and students, respectively, 92 percent said that all or most administrative staff had a school-sponsored e-mail address, and 89 percent reported that all or most teachers had a school-sponsored e-mail address (table 13). Fewer schools (34 percent of the 16 percent providing e-mail addresses to students) indicated that all or most students had a school-sponsored e-mail address.

### School Web Sites

The survey asked whether the schools had a Web site, the type of information it carried, how often it was updated, and whether parents and students could communicate with the school through the Web

site. In addition, the survey asked whether students helped develop the Web site, helped maintain it, and contributed materials to it.

- Seventy-five percent of public schools had a Web site in 2001 (table 14). There were differences by school characteristics. For example, the likelihood of having a Web site decreased as the poverty concentration of the school increased; 83 percent of schools with the lowest poverty concentration had Web sites compared with 59 percent of schools with the highest poverty concentration.

- Among schools with a Web site, about three-fourths indicated that their Web site contained the schedule of school events/school calendar (76 percent) and the staff directory (73 percent) (table 15). Between 50 percent and 70 percent of schools with a Web site reported that their site contained information on programs and classes (70 percent), information for parents (64 percent), links to Web sites for educational tools for students (61 percent), information on sports and/or clubs (58 percent), school policies/rules (52 percent), and links to, or information on, middle/high schools (50 percent).

- Whether selected topics appeared on schools' Web sites varied by school characteristics. As the poverty concentration of schools increased, the likelihood of having links to Web sites for educational tools for students decreased (from 66 percent in the schools with the lowest poverty concentration to 44 percent in schools with the highest concentration) (table 16).

- Fifty-two percent of the schools having a Web site reported that parents and students could communicate with the school via the site (table 14), and 63 percent reported that the Web site was updated at least monthly (see table 17).[9]

- Among the 75 percent of schools with a Web site, 41 percent reported that students had participated in its creation and 31 percent reported that they participated in its maintenance (table 18). In addition, in 57 percent of the schools, students contributed materials to the Web site. This proportion decreased as the poverty concentration of schools increased.

## Technologies and Procedures to Prevent Student Access to Inappropriate Material on the Internet

Given the diversity of the information carried on the Internet, student access to inappropriate material is a major concern of many parents and teachers. Moreover, under the Children's Internet Protection Act (CIPA), no school may receive E-rate[10] discounts unless it certifies that it is enforcing a policy of Internet safety that includes the use of filtering or blocking technology.[11]

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[9] This estimate is derived from the percent of public schools updating their Web site monthly, weekly, or daily. Although estimates for the details are shown in table 16, the total in the text is based on the raw data and because of rounding, it differs trivially (i.e., 1 percent) from the estimate that would be obtained by adding details directly from the table.

[10] The Education rate (E-rate) program was established in 1996 to make services, Internet access, and internal connections available to schools and libraries at discounted rates based upon the income level of the students in their community and whether their location is urban or rural.

[11] More information about CIPA (Pub. L. No 106-554) can be found at the Web site of the Schools and Libraries Division (SLD), Universal Service Administrative Company (http://www.sl.universalservice.org/reference/CIPA.asp). The law is effective for Funding

- In 2001, almost all public schools with Internet access (96 percent) used various technologies or procedures to control student access to inappropriate material on the Internet (table 19). Across all types of schools, between 92 and 99 percent reported using these technologies or procedures. In addition, 98 percent of these schools used at least one of these technologies or procedures on all Internet-connected computers used by students (table 19).

- Among schools using technologies or procedures to prevent student access to inappropriate material on the Internet, 91 percent reported that teachers or other staff members monitored student Internet access (table 20). Eighty-seven percent used blocking or filtering software, 80 percent had a written contract that parents have to sign, 75 percent had a contract that students have to sign, 46 percent used monitoring software, 44 percent had honor codes, and 26 percent used their intranet. [12] As these numbers suggest, most of the schools (96 percent) used more than one procedure or technology as part of their Internet use policy (not shown in tables).

## Related Information

This survey is part of an overall NCES effort to track the availability and use of technology in schools. In addition to collecting information on advanced telecommunications and Internet access in a series of public school surveys, NCES has conducted surveys on private schools' use of advanced telecommunications and on teachers' use of technology. "References and Related Reports," below, includes reports on all of these surveys.

Year 4 (July 1, 2001, to June 30, 2002) and for all future years. Schools and libraries receiving only telecommunications services are excluded from the requirements of CIPA.

[12] An intranet is a controlled computer network similar to the Internet, but accessible only to those who have permission to use it. For example, school administrators can restrict student access to only their school's intranet, which may include information from the Internet chosen by school officials.

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# Tables of Estimates and Standard Errors

## Table 1.—Percent of public schools with Internet access, by school characteristics: 1994–2001

| School characteristic | Public schools with Internet access | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
| All public schools | 35 | 50 | 65 | 78 | 89 | 95 | 98 | 99 |
| Instructional level[1] | | | | | | | | |
| Elementary | 30 | 46 | 61 | 75 | 88 | 94 | 97 | 99 |
| Secondary | 49 | 65 | 77 | 89 | 94 | 98 | [2]100 | [2]100 |
| School size | | | | | | | | |
| Less than 300 | 30 | 39 | 57 | 75 | 87 | 96 | 96 | 99 |
| 300 to 999 | 35 | 52 | 66 | 78 | 89 | 94 | 98 | 99 |
| 1,000 or more | 58 | 69 | 80 | 89 | 95 | 96 | 99 | 100 |
| Locale | | | | | | | | |
| City | 40 | 47 | 64 | 74 | 92 | 93 | 96 | 97 |
| Urban fringe | 38 | 59 | 75 | 78 | 85 | 96 | 98 | 99 |
| Town | 29 | 47 | 61 | 84 | 90 | 94 | 98 | 100 |
| Rural | 35 | 48 | 60 | 79 | 92 | 96 | 99 | [2]100 |
| Percent minority enrollment[3] | | | | | | | | |
| Less than 6 percent | 38 | 52 | 65 | 84 | 91 | 95 | 98 | 99 |
| 6 to 20 percent | 38 | 58 | 72 | 87 | 93 | 97 | 100 | 100 |
| 21 to 49 percent | 38 | 55 | 65 | 73 | 91 | 96 | 98 | 100 |
| 50 percent or more | 27 | 39 | 56 | 63 | 82 | 92 | 96 | 98 |
| Percent of students eligible for free or reduced-price lunch[4] | | | | | | | | |
| Less than 35 percent | 39 | 60 | 74 | 86 | 92 | 95 | 99 | 99 |
| 35 to 49 percent | 35 | 48 | 59 | 81 | 93 | 98 | 99 | 100 |
| 50 to 74 percent | 32 | 41 | 53 | 71 | 88 | 96 | 97 | 99 |
| 75 percent or more | 18 | 31 | 53 | 62 | 79 | 89 | 94 | 97 |

[1]Data for combined schools are included in the totals and in analyses by other school characteristics, but are not shown separately.

[2]The estimate fell between 99.5 percent and 100 percent and therefore was rounded to 100 percent.

[3]Percent minority enrollment was not available for some schools. In 1994, this information was missing for 100 schools. In subsequent years, the missing information ranged from 0 schools to 46 schools.

[4]Percent of students eligible for free or reduced-price lunch was not available for some schools. In the 1994 survey, free and reduced-price lunch data came from the Common Core of Data (CCD) only and were missing for 430 schools. In reports prior to 1998, free and reduced-price lunch data were not reported for 1994. In 1998, a decision was made to include the data for 1994 for comparison purposes. In subsequent years, free and reduced-price lunch information was obtained on the questionnaire, supplemented, if necessary, with CCD data. Missing data ranged from 1 school (1998) to 10 schools (1999).

NOTE: All of the estimates in this report were recalculated from raw data files using the same computational algorithms. Consequently, some estimates presented here may differ trivially (i.e., 1 percent) from results published prior to 2001.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 51 (1994); "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57 (1995); "Advanced Telecommunications in U.S. Public Schools, Fall 1996," FRSS 61; "Internet Access in U.S. Public Schools, Fall 1997," FRSS 64; "Internet Access in U.S. Public Schools, Fall 1998," FRSS 69; "Internet Access in U.S. Public Schools, Fall 1999," FRSS 75; "Internet Access in U.S. Public Schools, Fall 2000," FRSS 79; and "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

## Table 1a.—Standard errors of the percent of public schools with Internet access, by school characteristics: 1994–2001

| School characteristic | Public schools with Internet access | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
| All public schools | 1.5 | 1.8 | 1.8 | 1.5 | 1.3 | 0.8 | 0.5 | 0.3 |
| Instructional level | | | | | | | | |
| Elementary | 1.9 | 2.4 | 2.1 | 2.0 | 1.6 | 1.0 | 0.7 | 0.4 |
| Secondary | 2.4 | 2.7 | 1.8 | 1.7 | 2.1 | 0.8 | 0.2 | 0.2 |
| School size | | | | | | | | |
| Less than 300 | 3.4 | 3.9 | 4.4 | 3.8 | 3.4 | 1.5 | 1.7 | 1.0 |
| 300 to 999 | 2.0 | 2.2 | 2.0 | 2.0 | 1.4 | 1.0 | 0.5 | 0.4 |
| 1,000 or more | 3.0 | 4.1 | 3.4 | 2.5 | 2.4 | 1.7 | 0.6 | (†) |
| Locale | | | | | | | | |
| City | 3.1 | 4.3 | 4.5 | 3.8 | 2.1 | 1.5 | 1.1 | 1.4 |
| Urban fringe | 2.9 | 3.8 | 3.3 | 2.8 | 2.8 | 1.2 | 1.2 | 0.5 |
| Town | 2.3 | 3.7 | 4.0 | 4.6 | 3.2 | 2.5 | 1.2 | (†) |
| Rural | 2.7 | 3.8 | 3.3 | 3.2 | 3.4 | 1.4 | 0.9 | 0.1 |
| Percent minority enrollment | | | | | | | | |
| Less than 6 percent | 2.4 | 3.2 | 3.4 | 2.7 | 2.9 | 1.5 | 1.2 | 0.9 |
| 6 to 20 percent | 3.3 | 4.7 | 3.0 | 2.7 | 2.5 | 1.2 | (†) | (†) |
| 21 to 49 percent | 3.2 | 4.1 | 3.2 | 4.1 | 2.5 | 1.8 | 1.2 | (†) |
| 50 percent or more | 2.9 | 3.8 | 4.6 | 4.7 | 2.9 | 1.9 | 1.2 | 0.9 |
| Percent of students eligible for free or reduced-price lunch | | | | | | | | |
| Less than 35 percent | 2.3 | 2.4 | 2.2 | 1.8 | 2.0 | 1.1 | 0.7 | 0.6 |
| 35 to 49 percent | 4.6 | 3.9 | 4.8 | 3.9 | 2.2 | 0.9 | 0.7 | (†) |
| 50 to 74 percent | 5.0 | 4.6 | 5.1 | 4.0 | 3.0 | 1.7 | 1.3 | 0.5 |
| 75 percent or more | 4.6 | 4.4 | 5.4 | 5.3 | 3.7 | 3.1 | 1.7 | 1.1 |

†Estimate of standard error is not derived because it is based on an estimate of 100 percent.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 51 (1994); "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57 (1995); "Advanced Telecommunications in U.S. Public Schools, Fall 1996," FRSS 61; "Internet Access in U.S. Public Schools, Fall 1997," FRSS 64; "Internet Access in U.S. Public Schools, Fall 1998," FRSS 69; "Internet Access in U.S. Public Schools, Fall 1999," FRSS 75; "Internet Access in U.S. Public Schools, Fall 2000," FRSS 79; and "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

## Table 2.—Percent of public school instructional rooms with Internet access, by school characteristics: 1994–2001

| School characteristic | Instructional rooms with Internet access | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
| All public schools | 3 | 8 | 14 | 27 | 51 | 64 | 77 | 87 |
| Instructional level[1] | | | | | | | | |
| Elementary | 3 | 8 | 13 | 24 | 51 | 62 | 76 | 86 |
| Secondary | 4 | 8 | 16 | 32 | 52 | 67 | 79 | 88 |
| School size | | | | | | | | |
| Less than 300 | 3 | 9 | 15 | 27 | 54 | 71 | 83 | 87 |
| 300 to 999 | 3 | 8 | 13 | 28 | 53 | 64 | 78 | 87 |
| 1,000 or more | 3 | 4 | 16 | 25 | 45 | 58 | 70 | 86 |
| Locale | | | | | | | | |
| City | 4 | 6 | 12 | 20 | 47 | 52 | 66 | 82 |
| Urban fringe | 4 | 8 | 16 | 29 | 50 | 67 | 78 | 87 |
| Town | 3 | 8 | 14 | 34 | 55 | 72 | 87 | 91 |
| Rural | 3 | 8 | 14 | 30 | 57 | 71 | 85 | 89 |
| Percent minority enrollment[2] | | | | | | | | |
| Less than 6 percent | 4 | 9 | 18 | 37 | 57 | 74 | 85 | 88 |
| 6 to 20 percent | 4 | 10 | 18 | 35 | 59 | 78 | 83 | 90 |
| 21 to 49 percent | 4 | 9 | 12 | 22 | 52 | 64 | 79 | 89 |
| 50 percent or more | 2 | 3 | 5 | 13 | 37 | 43 | 64 | 81 |
| Percent of students eligible for free or reduced-price lunch[3] | | | | | | | | |
| Less than 35 percent | 3 | 10 | 17 | 33 | 57 | 73 | 82 | 90 |
| 35 to 49 percent | 2 | 6 | 12 | 33 | 60 | 69 | 81 | 89 |
| 50 to 74 percent | 4 | 6 | 11 | 20 | 41 | 61 | 77 | 87 |
| 75 percent or more | 2 | 3 | 5 | 14 | 38 | 38 | 60 | 79 |

[1]Data for combined schools are included in the totals and in analyses by other school characteristics, but are not shown separately.

[2]Percent minority enrollment was not available for some schools. In 1994, this information was missing for 100 schools. In subsequent years, the missing information ranged from 0 schools to 46 schools.

[3]Percent of students eligible for free or reduced-price lunch was not available for some schools. In the 1994 survey, free and reduced-price lunch data came from the Common Core of Data (CCD) only and were missing for 430 schools. In reports prior to 1998, free and reduced-price lunch data were not reported for 1994. In 1998, a decision was made to include the data for 1994 for comparison purposes. In subsequent years, free and reduced-price lunch information was obtained on the questionnaire, supplemented, if necessary with CCD data. Missing data ranged from 1 school (1998) to 10 schools (1999).

NOTE: Percentages are based on all schools. All of the estimates in this report were recalculated from raw data files using the same computational algorithms. Consequently, some estimates presented here may differ trivially (i.e., 1 percent) from results published prior to 2001.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 51 (1994); "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57 (1995); "Advanced Telecommunications in U.S. Public Schools, Fall 1996," FRSS 61; "Internet Access in U.S. Public Schools, Fall 1997," FRSS 64; "Internet Access in U.S. Public Schools, Fall 1998," FRSS 69; "Internet Access in U.S. Public Schools, Fall 1999," FRSS 75; "Internet Access in U.S. Public Schools, Fall 2000," FRSS 79; and "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

## Table 2a.—Standard errors of the percent of public school instructional rooms with Internet access, by school characteristics: 1994–2001

| School characteristic | Instructional rooms with Internet access | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
| All public schools | 0.3 | 0.7 | 1.0 | 1.6 | 1.8 | 1.6 | 1.1 | 0.9 |
| Instructional level | | | | | | | | |
| Elementary | 0.4 | 1.0 | 1.5 | 1.9 | 2.3 | 1.8 | 1.5 | 1.1 |
| Secondary | 0.6 | 1.0 | 1.5 | 1.9 | 2.1 | 2.6 | 1.6 | 1.2 |
| School size | | | | | | | | |
| Less than 300 | 0.7 | 1.6 | 2.9 | 4.3 | 3.7 | 3.2 | 2.8 | 2.1 |
| 300 to 999 | 0.5 | 1.0 | 1.2 | 2.0 | 2.2 | 1.9 | 1.5 | 1.1 |
| 1,000 or more | 0.6 | 1.0 | 2.1 | 2.4 | 3.9 | 3.0 | 2.2 | 1.7 |
| Locale | | | | | | | | |
| City | 0.8 | 1.3 | 1.6 | 2.2 | 3.2 | 2.6 | 2.2 | 2.1 |
| Urban fringe | 0.8 | 1.4 | 2.2 | 2.9 | 2.9 | 2.5 | 2.0 | 1.3 |
| Town | 0.6 | 2.0 | 1.9 | 3.9 | 4.0 | 3.4 | 2.6 | 2.2 |
| Rural | 0.4 | 1.5 | 2.2 | 3.6 | 3.6 | 3.0 | 1.7 | 1.3 |
| Percent minority enrollment | | | | | | | | |
| Less than 6 percent | 0.7 | 1.4 | 2.4 | 3.5 | 2.7 | 2.3 | 1.9 | 1.5 |
| 6 to 20 percent | 0.8 | 1.5 | 1.7 | 3.0 | 3.3 | 3.1 | 2.1 | 1.6 |
| 21 to 49 percent | 1.0 | 2.1 | 2.5 | 2.8 | 3.7 | 3.1 | 2.3 | 2.0 |
| 50 percent or more | 0.3 | 1.0 | 1.8 | 1.8 | 3.2 | 2.8 | 2.4 | 2.0 |
| Percent of students eligible for free or reduced-price lunch | | | | | | | | |
| Less than 35 percent | 0.5 | 1.2 | 1.6 | 2.0 | 2.4 | 2.3 | 1.5 | 1.2 |
| 35 to 49 percent | 0.4 | 1.4 | 2.2 | 4.3 | 5.1 | 3.4 | 2.9 | 2.2 |
| 50 to 74 percent | 1.8 | 1.9 | 2.8 | 3.7 | 3.9 | 3.1 | 2.8 | 2.4 |
| 75 percent or more | 0.9 | 1.0 | 1.8 | 2.4 | 4.3 | 4.4 | 3.3 | 2.4 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 51 (1994); "Survey on Advanced Telecommunications in U.S. Public Schools, K-12," FRSS 57 (1995); "Advanced Telecommunications in U.S. Public Schools, Fall 1996," FRSS 61; "Internet Access in U.S. Public Schools, Fall 1997," FRSS 64; "Internet Access in U.S. Public Schools, Fall 1998," FRSS 69; "Internet Access in U.S. Public Schools, Fall 1999," FRSS 75; "Internet Access in U.S. Public Schools, Fall 2000," FRSS 79; and "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 3.—Percent of public schools with Internet access using various types of connections: 2001**

| Type of connection | Percent |
|---|---|
| T3/DS3 | 5 |
| Fractional T3 | 1 |
| T1/DS1 | 55 |
| Fractional T1 | 14 |
| Cable modem | 8 |
| DSL | 1 |
| ISDN | 5 |
| 56KB | 6 |
| Dial-up connection | 5 |
| Wireless connection | 4 |

NOTE: Percentages are based on the 99 percent of public schools with Internet access. Percentages add to more than 100 because schools may use more than one type of connection.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 3a.—Standard errors of the percent of public schools with Internet access using various types of connections: 2001**

| Type of connection | Percent |
|---|---|
| T3/DS3 | 0.7 |
| Fractional T3 | 0.3 |
| T1/DS1 | 1.7 |
| Fractional T1 | 1.3 |
| Cable modem | 1.0 |
| DSL | 0.4 |
| ISDN | 0.8 |
| 56KB | 1.2 |
| Dial-up connection | 0.9 |
| Wireless connection | 0.7 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 4.—Percent of schools with Internet access using broadband connections, by school characteristics: 2000–2001**

| School characteristic | 2000 | 2001 | Percentage change 2000–2001 |
|---|---|---|---|
| All public schools | 80 | 85 | +7 |
| Instructional level[1] | | | |
| Elementary | 77 | 83 | +8 |
| Secondary | 89 | 94 | +6 |
| School size | | | |
| Less than 300 | 67 | 72 | +7 |
| 300 to 999 | 83 | 89 | +7 |
| 1,000 or more | 90 | 96 | +6 |
| Locale | | | |
| City | 80 | 88 | +10 |
| Urban fringe | 85 | 88 | +4 |
| Town | 79 | 83 | +5 |
| Rural | 75 | 82 | +10 |
| Percent minority enrollment[2] | | | |
| Less than 6 percent | 76 | 81 | +7 |
| 6 to 20 percent | 82 | 85 | +3 |
| 21 to 49 percent | 84 | 85 | +1 |
| 50 percent or more | 81 | 93 | +15 |
| Percent of students eligible for free or reduced-price lunch[3] | | | |
| Less than 35 percent | 81 | 84 | +3 |
| 35 to 49 percent | 82 | 86 | +5 |
| 50 to 74 percent | 79 | 84 | +5 |
| 75 percent or more | 75 | 90 | +21 |

[1]Data for combined schools are included in the totals and in analyses by other school characteristics but are not shown separately.

[2]Percent minority enrollment was not available for 9 schools in 2000 and 31 schools in 2001.

[3]Percent of students eligible for free or reduced-price lunch was not available for 2 schools.

NOTE: Respondents were instructed to circle as many types of connections as there were in the school. Percentages include schools using only broadband connections, as well as schools using both broadband and narrowband connections. They do not include schools using narrowband connections exclusively. Broadband connections include T3/DS3, fractional T3, T1/DS1, fractional T1, and cable modem connections. In 2001, they also included DSL connections, which had not been on the 2000 questionnaire. Percentages are based on the percent of schools with Internet access: 98 percent in 2000 and 99 percent in 2001.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 2000," FRSS 79; and "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 4a.—Standard errors of the percent of schools with Internet access using broadband connections, by school characteristics: 2000–2001**

| School characteristic | 2000 | 2001 | Percentage change 2000–2001 |
|---|---|---|---|
| All public schools | 1.5 | 1.6 | 0.2 |
| Instructional level | | | |
| Elementary | 1.9 | 2.0 | 0.3 |
| Secondary | 2.0 | 1.2 | 0.2 |
| School size | | | |
| Less than 300 | 4.4 | 4.3 | 0.6 |
| 300 to 999 | 1.8 | 1.4 | 0.2 |
| 1,000 or more | 2.4 | 1.4 | 0.2 |
| Locale | | | |
| City | 3.0 | 2.4 | 0.5 |
| Urban fringe | 2.6 | 2.1 | 0.2 |
| Town | 4.9 | 4.6 | 0.5 |
| Rural | 3.5 | 3.0 | 0.6 |
| Percent minority enrollment | | | |
| Less than 6 percent | 3.2 | 3.6 | 0.4 |
| 6 to 20 percent | 2.9 | 3.0 | 0.1 |
| 21 to 49 percent | 2.6 | 2.7 | 0.1 |
| 50 percent or more | 2.6 | 1.8 | 0.6 |
| Percent of students eligible for free or reduced-price lunch | | | |
| Less than 35 percent | 2.3 | 2.6 | 0.1 |
| 35 to 49 percent | 4.0 | 2.8 | 0.3 |
| 50 to 74 percent | 3.8 | 3.8 | 0.3 |
| 75 percent or more | 3.6 | 2.7 | 1.2 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 2000," FRSS 79; and "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

## Table 5.—Ratio of public school students to instructional computers with Internet access, by school characteristics: 1998–2001

| School characteristic | Students to instructional computers with Internet access | | | |
|---|---|---|---|---|
| | 1998 | 1999 | 2000 | 2001 |
| All public schools | 12.1 | 9.1 | 6.6 | 5.4 |
| Instructional level[1] | | | | |
| Elementary | 13.6 | 10.6 | 7.8 | 6.1 |
| Secondary | 9.9 | 7.0 | 5.2 | 4.3 |
| School size | | | | |
| Less than 300 | 9.1 | 5.7 | 3.9 | 4.1 |
| 300 to 999 | 12.3 | 9.4 | 7.0 | 5.6 |
| 1,000 or more | 13.0 | 10.0 | 7.2 | 5.4 |
| Locale | | | | |
| City | 14.1 | 11.4 | 8.2 | 5.9 |
| Urban fringe | 12.4 | 9.1 | 6.6 | 5.7 |
| Town | 12.2 | 8.2 | 6.2 | 5.0 |
| Rural | 8.6 | 6.6 | 5.0 | 4.6 |
| Percent minority enrollment[2] | | | | |
| Less than 6 percent | 10.1 | 7.0 | 5.7 | 4.7 |
| 6 to 20 percent | 10.4 | 7.8 | 5.9 | 4.9 |
| 21 to 49 percent | 12.1 | 9.5 | 7.2 | 5.5 |
| 50 percent or more | 17.2 | 13.3 | 8.1 | 6.4 |
| Percent of students eligible for free or reduced-price lunch[3] | | | | |
| Less than 35 percent | 10.6 | 7.6 | 6.0 | 4.9 |
| 35 to 49 percent | 10.9 | 9.0 | 6.3 | 5.2 |
| 50 to 74 percent | 15.8 | 10.0 | 7.2 | 5.6 |
| 75 percent or more | 16.8 | 16.8 | 9.1 | 6.8 |

[1]Data for combined schools are included in the totals and in analyses by other school characteristics, but are not shown separately.

[2]Percent minority enrollment was not available for some schools. Over the years, the missing information ranged from 0 schools (1999) to 31 schools (2001).

[3]Percent of students eligible for free or reduced-price lunch was not available for some schools. Over the years, the missing information ranged from 1 school (1998) to 10 schools (1999).

NOTE: Ratios are based on all schools. All of the estimates in this report were recalculated from raw data files using the same computational algorithms. Consequently, some estimates presented here may differ trivially (i.e., 1 percent) from results published prior to 2001.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 1998," FRSS 69; "Internet Access in U.S. Public Schools, Fall 1999," FRSS 75; "Internet Access in U.S. Public Schools, Fall 2000," FRSS 79; and "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 5a.—Standard errors of the ratio of public school students to instructional computers with Internet access, by school characteristics: 1998–2001**

| School characteristic | Students to instructional computers with Internet access | | | |
|---|---|---|---|---|
| | 1998 | 1999 | 2000 | 2001 |
| All public schools | 0.6 | 0.3 | 0.1 | 0.1 |
| Instructional level | | | | |
| Elementary | 0.9 | 0.4 | 0.2 | 0.2 |
| Secondary | 0.4 | 0.3 | 0.2 | 0.1 |
| School size | | | | |
| Less than 300 | 0.7 | 0.4 | 0.3 | 0.3 |
| 300 to 999 | 0.7 | 0.4 | 0.2 | 0.1 |
| 1,000 or more | 1.0 | 0.6 | 0.3 | 0.2 |
| Locale | | | | |
| City | 1.2 | 0.8 | 0.4 | 0.2 |
| Urban fringe | 0.9 | 0.4 | 0.2 | 0.2 |
| Town | 1.2 | 0.6 | 0.3 | 0.3 |
| Rural | 0.8 | 0.4 | 0.3 | 0.1 |
| Percent minority enrollment | | | | |
| Less than 6 percent | 0.6 | 0.3 | 0.2 | 0.2 |
| 6 to 20 percent | 1.1 | 0.5 | 0.2 | 0.2 |
| 21 to 49 percent | 1.1 | 0.7 | 0.3 | 0.2 |
| 50 percent or more | 1.7 | 1.1 | 0.4 | 0.2 |
| Percent of students eligible for free or reduced-price lunch | | | | |
| Less than 35 percent | 0.6 | 0.3 | 0.2 | 0.2 |
| 35 to 49 percent | 1.2 | 0.4 | 0.4 | 0.2 |
| 50 to 74 percent | 1.4 | 0.8 | 0.4 | 0.3 |
| 75 percent or more | 2.5 | 2.2 | 0.7 | 0.3 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 1998," FRSS 69; "Internet Access in U.S. Public Schools, Fall 1999," FRSS 75; "Internet Access in U.S. Public Schools, Fall 2000," FRSS 79; and "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

## Table 6.—Percent of public schools allowing students to access the Internet outside of regular school hours, by school characteristics: 2001

| School characteristic | Internet available to students outside of regular school hours[1] | Time of availability[2] | | |
|---|---|---|---|---|
| | | After school | Before school | On weekends |
| All public schools | 51 | 95 | 74 | 6 |
| Instructional level[3] | | | | |
| Elementary | 42 | 94 | 69 | 4 |
| Secondary | 78 | 97 | 85 | 8 |
| School size | | | | |
| Less than 300 | 47 | 91 | 79 | 9 |
| 300 to 999 | 47 | 96 | 71 | 4 |
| 1,000 or more | 82 | 98 | 82 | 7 |
| Locale | | | | |
| City | 49 | 96 | 64 | 4 |
| Urban fringe | 45 | 94 | 78 | 4 |
| Town | 52 | 97 | 78 | 3 |
| Rural | 58 | 95 | 76 | 8 |
| Percent minority enrollment[4] | | | | |
| Less than 6 percent | 50 | 95 | 84 | 6 |
| 6 to 20 percent | 45 | 97 | 74 | 9 |
| 21 to 49 percent | 52 | 95 | 74 | !2 |
| 50 percent or more | 56 | 96 | 66 | 6 |
| Percent of students eligible for free or reduced-price lunch[5] | | | | |
| Less than 35 percent | 52 | 98 | 79 | 6 |
| 35 to 49 percent | 50 | 94 | 77 | 4 |
| 50 to 74 percent | 50 | 91 | 73 | 8 |
| 75 percent or more | 49 | 95 | 61 | 3 |

!The coefficient of variation is greater than 50 percent; interpret data with caution.

[1]Percentages are based on the 99 percent of schools with Internet access.

[2]Percentages are based on 50 percent of public schools (99 percent with Internet access times 51 percent allowing students to access the Internet outside of regular school hours).

[3]Data for combined schools are included in the totals and in analyses by other school characteristics, but are not shown separately.

[4]Percent minority enrollment was not available for 31 schools.

[5]Percent of students eligible for free or reduced-price lunch was not available for 2 schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

## Table 6a.—Standard errors of the percent of public schools allowing students to access the Internet outside of regular school hours, by school characteristics: 2001

| School characteristic | Internet available to students outside of regular school hours | Time of availability | | |
|---|---|---|---|---|
| | | After school | Before school | On weekends |
| All public schools | 1.8 | 1.1 | 2.1 | 1.1 |
| Instructional level | | | | |
| Elementary | 2.4 | 1.6 | 3.2 | 1.4 |
| Secondary | 2.1 | 1.0 | 2.2 | 1.5 |
| School size | | | | |
| Less than 300 | 4.2 | 3.4 | 5.9 | 3.6 |
| 300 to 999 | 2.3 | 1.4 | 2.8 | 1.0 |
| 1,000 or more | 2.9 | 1.4 | 2.7 | 1.7 |
| Locale | | | | |
| City | 4.0 | 2.7 | 4.1 | 1.5 |
| Urban fringe | 2.7 | 2.1 | 3.1 | 1.5 |
| Town | 5.5 | 2.5 | 5.6 | 1.4 |
| Rural | 3.4 | 1.8 | 3.8 | 2.3 |
| Percent minority enrollment | | | | |
| Less than 6 percent | 4.0 | 2.2 | 3.6 | 2.2 |
| 6 to 20 percent | 3.7 | 2.1 | 5.3 | 3.5 |
| 21 to 49 percent | 4.2 | 2.5 | 6.0 | 1.2 |
| 50 percent or more | 3.4 | 1.7 | 3.9 | 1.4 |
| Percent of students eligible for free or reduced-price lunch | | | | |
| Less than 35 percent | 2.3 | 1.3 | 3.4 | 1.7 |
| 35 to 49 percent | 4.3 | 2.5 | 5.5 | 1.9 |
| 50 to 74 percent | 4.0 | 3.3 | 4.7 | 3.2 |
| 75 percent or more | 4.7 | 2.9 | 5.6 | 1.5 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

## Table 7.—Percent of public schools lending laptop computers to students, by school characteristics: 2001

| School characteristic | Percent of schools lending laptop computers |
|---|---|
| All public schools | 10 |
| Instructional level[1] | |
| Elementary | 7 |
| Secondary | 18 |
| School size | |
| Less than 300 | 15 |
| 300 to 999 | 7 |
| 1,000 or more | 13 |
| Locale | |
| City | 6 |
| Urban fringe | 7 |
| Town | 13 |
| Rural | 14 |
| Percent minority enrollment[2] | |
| Less than 6 percent | 11 |
| 6 to 20 percent | 9 |
| 21 to 49 percent | 10 |
| 50 percent or more | 9 |
| Percent of students eligible for free or reduced-price lunch[3] | |
| Less than 35 percent | 10 |
| 35 to 49 percent | 9 |
| 50 to 74 percent | 10 |
| 75 percent or more | 10 |

[1]Data for combined schools are included in the totals and in analyses by other school characteristics, but are not shown separately.

[2]Percent minority enrollment was not available for 31 schools.

[3]Percent of students eligible for free or reduced-price lunch was not available for 2 schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 7a.—Standard errors of the percent of public schools lending laptop computers to students, by school characteristics: 2001**

| School characteristic | Percent of schools lending laptop computers |
|---|---|
| All public schools | 1.0 |
| Instructional level | |
| Elementary | 1.1 |
| Secondary | 1.9 |
| School size | |
| Less than 300 | 3.2 |
| 300 to 999 | 1.1 |
| 1,000 or more | 1.9 |
| Locale | |
| City | 1.3 |
| Urban fringe | 1.4 |
| Town | 3.1 |
| Rural | 2.2 |
| Percent minority enrollment | |
| Less than 6 percent | 2.1 |
| 6 to 20 percent | 2.4 |
| 21 to 49 percent | 2.7 |
| 50 percent or more | 1.8 |
| Percent of students eligible for free or reduced-price lunch | |
| Less than 35 percent | 1.4 |
| 35 to 49 percent | 2.6 |
| 50 to 74 percent | 2.7 |
| 75 percent or more | 2.5 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 8.—Percent of public schools lending laptop computers to students for various maximum lengths of time: 2001**

| Maximum length of time of loan | Percent |
|---|---|
| Less than 1 week | 47 |
| One week | 11 |
| One month | !6 |
| One semester | 9 |
| The entire school year | 22 |
| Other* | 4 |

*For example, 60 days.

!The coefficient of variation is greater than 50 percent; interpret data with caution.

NOTE: Percentages are based on the 10 percent of schools lending laptop computers to students. Details may not add to 100 because of rounding. Standard errors (table 8a) are high because of small sample sizes.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 8a.—Standard errors of the percent of public schools lending laptop computers to students for various maximum lengths of time: 2001**

| Maximum length of time of loan | Percent |
|---|---|
| Less than 1 week | 5.2 |
| One week | 3.6 |
| One month | 4.1 |
| One semester | 3.2 |
| The entire school year | 4.5 |
| Other | 2.1 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 9.—Percent of public schools reporting which operating system/platform was used most frequently on their instructional computers: 2001**

| Operating system/platform | Percent |
|---|---|
| Windows 2000 | 8 |
| Windows NT | 4 |
| Windows ME | (#) |
| Windows 98 | 40 |
| Windows 95 | 19 |
| Windows 3.1 | 1 |
| Mac OS 7.6 or greater | 25 |
| Mac OS under 7.6 | 4 |
| Any DOS | (#) |
| Other | (#) |
| Don't know | (#) |

#Less than 0.5 percent.

NOTE: Details may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 9a.—Standard errors of the percent of public schools reporting which operating system/platform was used most frequently on their instructional computers: 2001**

| Operating system/platform | Percent |
|---|---|
| Windows 2000 | 1.1 |
| Windows NT | 0.6 |
| Windows ME | 0.1 |
| Windows 98 | 1.9 |
| Windows 95 | 1.5 |
| Windows 3.1 | 0.3 |
| Mac OS 7.6 or greater | 1.8 |
| Mac OS under 7.6 | 0.7 |
| Any DOS | 0.1 |
| Other | 0.1 |
| Don't know | 0.1 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 10.—Percent of public schools indicating which operating systems/platforms are used most frequently on their instructional computers, by school characteristics: 2001**

| School characteristic | Windows 95 | Windows 98 or ME | Windows NT or 2000 | Mac OS 7.6 or greater |
|---|---|---|---|---|
| All public schools | 19 | 40 | 12 | 25 |
| Instructional level[1] | | | | |
| Elementary | 19 | 37 | 9 | 28 |
| Secondary | 18 | 49 | 19 | 14 |
| School size | | | | |
| Less than 300 | 24 | 40 | 12 | 18 |
| 300 to 999 | 17 | 39 | 11 | 29 |
| 1,000 or more | 16 | 46 | 19 | 16 |
| Locale | | | | |
| City | 13 | 37 | 11 | 32 |
| Urban fringe | 17 | 38 | 12 | 27 |
| Town | 15 | 47 | 13 | 21 |
| Rural | 26 | 40 | 12 | 20 |
| Percent minority enrollment[2] | | | | |
| Less than 6 percent | 27 | 38 | 8 | 22 |
| 6 to 20 percent | 15 | 35 | 16 | 30 |
| 21 to 49 percent | 15 | 50 | 10 | 19 |
| 50 percent or more | 16 | 37 | 13 | 27 |
| Percent of students eligible for free or reduced-price lunch[3] | | | | |
| Less than 35 percent | 17 | 36 | 13 | 29 |
| 35 to 49 percent | 20 | 46 | 9 | 19 |
| 50 to 74 percent | 25 | 41 | 13 | 20 |
| 75 percent or more | 15 | 41 | 9 | 25 |

[1]Data for combined schools are included in the totals and in analyses by other school characteristics, but are not shown separately.

[2]Percent minority enrollment was not available for 31 schools.

[3]Percent of students eligible for free or reduced-price lunch was not available for 2 schools.

NOTE: Percentages may not add to 100 because not all operating system/platform categories are shown in this table. Overall, 4 percent of public schools indicated that they were using Windows 3.1, Mac OS under 7.6, any DOS, or another operating system/platform, or did not know what operating system/platform was used most frequently on their instructional computers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 10a.—Standard errors of the percent of public schools indicating which operating systems/platforms are used most frequently on their instructional computers, by school characteristics: 2001**

| School characteristic | Windows 95 | Windows 98 or ME | Windows NT or 2000 | Mac OS 7.6 or greater |
|---|---|---|---|---|
| All public schools | 1.5 | 1.9 | 1.3 | 1.8 |
| Instructional level | | | | |
| Elementary | 2.0 | 2.3 | 1.5 | 2.1 |
| Secondary | 1.8 | 2.6 | 2.1 | 1.6 |
| School size | | | | |
| Less than 300 | 4.0 | 4.6 | 3.2 | 3.4 |
| 300 to 999 | 1.7 | 2.1 | 1.4 | 2.1 |
| 1,000 or more | 2.6 | 3.5 | 2.2 | 2.6 |
| Locale | | | | |
| City | 2.2 | 3.3 | 2.2 | 4.0 |
| Urban fringe | 2.4 | 3.3 | 1.8 | 2.6 |
| Town | 3.8 | 4.8 | 3.1 | 4.6 |
| Rural | 3.2 | 3.6 | 2.3 | 2.7 |
| Percent minority enrollment | | | | |
| Less than 6 percent | 2.9 | 3.5 | 1.9 | 2.8 |
| 6 to 20 percent | 3.2 | 4.2 | 2.7 | 3.7 |
| 21 to 49 percent | 2.6 | 4.2 | 2.0 | 3.2 |
| 50 percent or more | 2.7 | 2.8 | 1.8 | 3.3 |
| Percent of students eligible for free or reduced-price lunch | | | | |
| Less than 35 percent | 2.0 | 2.7 | 1.9 | 2.4 |
| 35 to 49 percent | 3.3 | 4.0 | 2.3 | 3.7 |
| 50 to 74 percent | 3.6 | 3.5 | 2.8 | 3.4 |
| 75 percent or more | 3.3 | 3.5 | 2.4 | 3.9 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 11.—Percent of public schools reporting which operating system/platform, disk space, and memory capacity were used on most of their instructional computers: 2001**

| Disk space and memory capacity | Operating system/platform | | | |
|---|---|---|---|---|
| | Windows 95 | Windows 98 or ME | Windows NT or 2000 | Mac OS 7.6 or greater |
| 1 gigabyte or higher disk space | | | | |
| All | 11 | 29 | 8 | 14 |
| 16 megabytes or higher memory | 10 | 26 | 7 | 14 |
| Less than 16 megabytes memory | 1 | 3 | 1 | 0 |
| Under 1 gigabyte disk space | | | | |
| All | 5 | 8 | 2 | 10 |
| 16 megabytes or higher memory | 3 | 5 | 1 | 8 |
| Less than 16 megabytes memory | 1 | 2 | !1 | 1 |

!The coefficient of variation is greater than 50 percent; interpret data with caution.

NOTE: Details may not add to totals because of rounding. Percentages do not add to 100 because 15 percent of the schools are not included (e.g., those with other types of operating systems/platforms and those that did not know the memory capacity and the disk space of their instructional computers).

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 11a.—Standard errors of the percent of public schools reporting which operating system/ platform, disk space, and memory capacity were used on most of their instructional computers: 2001**

| Disk space and memory capacity | Operating system/platform | | | |
|---|---|---|---|---|
| | Windows 95 | Windows 98 or ME | Windows NT or 2000 | Mac OS 7.6 or greater |
| 1 gigabyte or higher disk space | | | | |
| All | 1.2 | 1.6 | 1.0 | 1.4 |
| 16 megabytes or higher memory | 1.2 | 1.5 | 0.9 | 1.4 |
| Less than 16 megabytes memory | 0.4 | 0.6 | 0.3 | (†) |
| Under 1 gigabyte disk space | | | | |
| All | 0.8 | 0.8 | 0.6 | 1.2 |
| 16 megabytes or higher memory | 0.7 | 0.7 | 0.4 | 1.2 |
| Less than 16 megabytes memory | 0.5 | 0.5 | 0.4 | 0.5 |

†Estimate of standard error is not derived because it is based on an estimate of 0 percent.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 12.—Percent of public schools with students with various disabilities, and of those, percent with special hardware and special software for these students, by type of disability and by school characteristics: 2001**

| School characteristic | Learning disabilities | | | Physical disabilities | | | Hearing disabilities | | | Visual disabilities | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Has students with disabilities | Has special hardware[1] | Has special software[1] | Has students with disabilities | Has special hardware[2] | Has special software[2] | Has students with disabilities | Has special hardware[3] | Has special software[3] | Has students with disabilities | Has special hardware[4] | Has special software[4] |
| All public schools | 95 | 55 | 53 | 67 | 60 | 48 | 54 | 61 | 39 | 46 | 64 | 56 |
| Instructional level[5] | | | | | | | | | | | | |
| Elementary | 94 | 52 | 50 | 65 | 57 | 45 | 52 | 58 | 35 | 43 | 59 | 53 |
| Secondary | 96 | 64 | 65 | 75 | 67 | 56 | 61 | 66 | 48 | 57 | 75 | 62 |
| School size | | | | | | | | | | | | |
| Less than 300 | 88 | 51 | 47 | 46 | 57 | 40 | 35 | 63 | 28 | 25 | 64 | 44 |
| 300 to 999 | 97 | 55 | 54 | 72 | 59 | 48 | 58 | 59 | 39 | 50 | 60 | 54 |
| 1,000 or more | 98 | 65 | 64 | 85 | 70 | 60 | 73 | 68 | 51 | 72 | 79 | 72 |
| Locale | | | | | | | | | | | | |
| City | 94 | 49 | 49 | 58 | 58 | 50 | 53 | 55 | 37 | 48 | 60 | 54 |
| Urban fringe | 97 | 54 | 53 | 73 | 59 | 47 | 59 | 59 | 38 | 50 | 64 | 55 |
| Town | 95 | 59 | 58 | 77 | 64 | 48 | 58 | 66 | 42 | 47 | 65 | 61 |
| Rural | 93 | 59 | 54 | 62 | 62 | 49 | 47 | 65 | 40 | 39 | 66 | 56 |
| Percent minority enrollment[6] | | | | | | | | | | | | |
| Less than 6 percent | 93 | 61 | 56 | 70 | 62 | 50 | 54 | 62 | 38 | 42 | 67 | 57 |
| 6 to 20 percent | 95 | 59 | 62 | 68 | 68 | 54 | 51 | 71 | 50 | 48 | 72 | 66 |
| 21 to 49 percent | 99 | 52 | 53 | 72 | 57 | 49 | 56 | 56 | 36 | 44 | 57 | 54 |
| 50 percent or more | 93 | 47 | 40 | 58 | 53 | 39 | 54 | 56 | 31 | 49 | 57 | 47 |
| Percent of students eligible for free or reduced-price lunch[7] | | | | | | | | | | | | |
| Less than 35 percent | 95 | 62 | 61 | 75 | 68 | 55 | 59 | 65 | 45 | 48 | 71 | 63 |
| 35 to 49 percent | 94 | 52 | 55 | 66 | 54 | 42 | 56 | 59 | 35 | 47 | 61 | 55 |
| 50 to 74 percent | 95 | 48 | 44 | 62 | 51 | 45 | 45 | 60 | 37 | 38 | 60 | 52 |
| 75 percent or more | 93 | 48 | 43 | 52 | 54 | 38 | 51 | 52 | 25 | 48 | 52 | 42 |

[1]Percentages are based on the 95 percent of public schools with students with learning disabilities.

[2]Percentages are based on the 67 percent of public schools with students with physical disabilities.

[3]Percentages are based on the 54 percent of public schools with students with hearing disabilities.

[4]Percentages are based on the 46 percent of public schools with students with visual disabilities.

[5]Data for combined schools are included in the totals and in analyses by other school characteristics, but are not shown separately.

[6]Percent minority enrollment was not available for 31 schools.

[7]Percent of students eligible for free or reduced-price lunch was not available for 2 schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 12a.—Standard errors of the percent of public schools with students with various disabilities, and of those, standard errors of the percent with special hardware and special software for these students, by type of disability and by school characteristics: 2001**

| School characteristic | Learning disabilities | | | Physical disabilities | | | Hearing disabilities | | | Visual disabilities | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Has students with disabilities | Has special hardware | Has special software | Has students with disabilities | Has special hardware | Has special software | Has students with disabilities | Has special hardware | Has special software | Has students with disabilities | Has special hardware | Has special software |
| All public schools | 0.8 | 2.0 | 1.8 | 1.7 | 2.2 | 2.0 | 1.6 | 2.6 | 2.1 | 1.6 | 2.7 | 2.6 |
| Instructional level | | | | | | | | | | | | |
| Elementary | 1.1 | 2.6 | 2.3 | 2.1 | 2.9 | 2.6 | 2.1 | 3.5 | 2.7 | 2.0 | 3.4 | 3.2 |
| Secondary | 1.0 | 2.4 | 2.7 | 2.4 | 2.7 | 2.6 | 2.4 | 2.9 | 3.3 | 2.3 | 3.0 | 2.9 |
| School size | | | | | | | | | | | | |
| Less than 300 | 2.9 | 4.9 | 5.6 | 5.2 | 6.7 | 6.2 | 4.3 | 7.1 | 7.5 | 3.9 | 9.7 | 10.3 |
| 300 to 999 | 0.7 | 2.4 | 2.4 | 1.7 | 2.7 | 2.8 | 2.0 | 3.0 | 2.6 | 1.8 | 3.2 | 2.8 |
| 1,000 or more | 0.8 | 3.4 | 4.0 | 2.6 | 3.9 | 4.2 | 3.3 | 4.3 | 4.6 | 3.3 | 3.5 | 3.8 |
| Locale | | | | | | | | | | | | |
| City | 1.7 | 4.9 | 3.8 | 3.7 | 4.8 | 5.0 | 3.6 | 6.1 | 5.2 | 3.8 | 5.3 | 5.2 |
| Urban fringe | 1.2 | 3.2 | 2.6 | 2.4 | 4.0 | 3.2 | 3.1 | 4.7 | 3.8 | 3.4 | 4.2 | 4.3 |
| Town | 2.9 | 4.9 | 5.0 | 4.6 | 5.9 | 6.4 | 5.2 | 6.8 | 6.5 | 5.6 | 6.7 | 7.5 |
| Rural | 1.6 | 3.3 | 3.7 | 3.3 | 3.6 | 4.3 | 3.3 | 4.1 | 4.4 | 3.4 | 5.3 | 5.6 |
| Percent minority enrollment | | | | | | | | | | | | |
| Less than 6 percent | 2.0 | 3.7 | 3.9 | 3.7 | 4.4 | 4.4 | 3.4 | 4.1 | 4.1 | 3.4 | 5.8 | 6.0 |
| 6 to 20 percent | 1.8 | 4.3 | 3.2 | 3.6 | 4.0 | 4.2 | 3.8 | 5.2 | 4.7 | 4.3 | 5.0 | 4.8 |
| 21 to 49 percent | 1.2 | 4.9 | 4.2 | 3.1 | 5.0 | 4.6 | 3.9 | 5.1 | 5.9 | 3.6 | 6.9 | 6.5 |
| 50 percent or more | 1.6 | 3.5 | 3.6 | 3.2 | 4.1 | 4.3 | 3.0 | 4.7 | 4.2 | 2.9 | 4.4 | 4.6 |
| Percent of students eligible for free or reduced-price lunch | | | | | | | | | | | | |
| Less than 35 percent | 1.4 | 2.6 | 2.4 | 2.5 | 3.0 | 2.8 | 2.5 | 3.5 | 3.0 | 2.7 | 3.8 | 3.3 |
| 35 to 49 percent | 2.2 | 4.6 | 3.7 | 3.5 | 4.8 | 4.8 | 4.2 | 5.7 | 5.4 | 4.1 | 5.6 | 6.4 |
| 50 to 74 percent | 1.6 | 4.3 | 4.5 | 4.3 | 4.9 | 5.3 | 4.1 | 5.7 | 5.2 | 3.3 | 6.7 | 6.7 |
| 75 percent or more | 2.1 | 4.0 | 3.2 | 4.0 | 5.2 | 5.6 | 4.3 | 5.0 | 4.5 | 3.7 | 5.8 | 5.6 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 13.—Percent of public schools indicating that administrative staff, teachers, and/or students may have a school-sponsored e-mail address and how many within those groups have an e-mail address: 2001**

| Group | May have a school-sponsored e-mail address[1] | How many have e-mail address:[2] | | |
|---|---|---|---|---|
| | | Few | Some | All or most |
| Administrative staff | 95 | 4 | 4 | 92 |
| Teachers | 92 | 3 | 8 | 89 |
| Students | 16 | 37 | 29 | 34 |

[1]Percentages are based on the 99 percent of schools with Internet access.

[2]Percentage distributions are based on the 99 percent of schools with Internet access times the percent of schools allowing each group to have a school-sponsored e-mail address. Thus, percentages for administrative staff are based on 94 percent of the schools; percentages for teachers are based on 91 percent of the schools; and percentages for students are based on 16 percent of the schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 13a.—Standard errors of the percent of public schools indicating that administrative staff, teachers, and/or students may have a school-sponsored e-mail address and how many within those groups have an e-mail address: 2001**

| Group | May have a school-sponsored e-mail address | How many have e-mail address: | | |
|---|---|---|---|---|
| | | Few | Some | All or most |
| Administrative staff | 0.8 | 0.6 | 0.9 | 1.0 |
| Teachers | 1.0 | 0.6 | 1.0 | 1.1 |
| Students | 1.5 | 5.0 | 4.3 | 4.1 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

## Table 14.—Percent of public schools with a Web site, and of those, percent where students or parents can communicate with the school through the Web site, by school characteristics: 2001

| School characteristic | School has a Web site[1] | Parents/students can communicate with the school through the Web site[2] |
|---|---|---|
| All public schools | 75 | 52 |
| Instructional level[3] | | |
| Elementary | 73 | 52 |
| Secondary | 83 | 54 |
| School size | | |
| Less than 300 | 63 | 47 |
| 300 to 999 | 78 | 52 |
| 1,000 or more | 87 | 63 |
| Locale | | |
| City | 73 | 48 |
| Urban fringe | 79 | 50 |
| Town | 80 | 55 |
| Rural | 70 | 57 |
| Percent minority enrollment[4] | | |
| Less than 6 percent | 78 | 55 |
| 6 to 20 percent | 80 | 50 |
| 21 to 49 percent | 78 | 48 |
| 50 percent or more | 65 | 55 |
| Percent of students eligible for free or reduced-price lunch[5] | | |
| Less than 35 percent | 83 | 55 |
| 35 to 49 percent | 77 | 53 |
| 50 to 74 percent | 71 | 50 |
| 75 percent or more | 59 | 46 |

[1]Percentages are based on the 99 percent of public schools with Internet access.

[2]Percentages are based on 74 percent of public schools (99 percent with Internet access times 75 percent with a Web site).

[3]Data for combined schools are included in the totals and in analyses by other school characteristics, but are not shown separately.

[4]Percent minority enrollment was not available for 31 schools.

[5]Percent of students eligible for free or reduced-price lunch was not available for 2 schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 14a.—Standard errors of the percent of public schools with a Web site, and of those, standard errors of the percent where students or parents can communicate with the school through the Web site, by school characteristics: 2001**

| School characteristic | School has a Web site | Parents/students can communicate with the school through the Web site |
|---|---|---|
| All public schools | 1.6 | 2.2 |
| Instructional level | | |
| Elementary | 1.9 | 2.8 |
| Secondary | 2.1 | 3.1 |
| School size | | |
| Less than 300 | 4.6 | 4.5 |
| 300 to 999 | 1.5 | 2.7 |
| 1,000 or more | 2.5 | 3.5 |
| Locale | | |
| City | 3.2 | 4.1 |
| Urban fringe | 2.2 | 3.6 |
| Town | 4.3 | 5.2 |
| Rural | 3.3 | 3.9 |
| Percent minority enrollment | | |
| Less than 6 percent | 3.3 | 4.1 |
| 6 to 20 percent | 3.2 | 4.6 |
| 21 to 49 percent | 3.8 | 5.0 |
| 50 percent or more | 3.0 | 3.9 |
| Percent of students eligible for free or reduced-price lunch | | |
| Less than 35 percent | 2.4 | 3.1 |
| 35 to 49 percent | 4.0 | 4.8 |
| 50 to 74 percent | 4.3 | 5.1 |
| 75 percent or more | 3.8 | 5.5 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 15.—Percent of public schools with various topics appearing on their Web site: 2001**

| Topic | Percent |
|---|---|
| Links to district Web page | 81 |
| Schedule of school events/school calendar | 76 |
| Staff directory | 73 |
| Information on programs and classes | 70 |
| Information for parents (e.g., PTA, PTO, etc.) | 64 |
| Links to Web sites for educational tools for students | 61 |
| Information on sports and/or clubs | 58 |
| School policies/rules | 52 |
| Links to/information on middle/high schools | 50 |
| Information on library/media center | 49 |
| Presentation of students' special projects/works | 47 |
| School newsletter | 41 |
| Grade-level learning objectives | 25 |
| Information about professional development opportunities for teachers | 24 |
| Homework assignments | 21 |
| Links to/information on colleges | 17 |
| Links to/information on scholarships | 17 |
| Links to/information on careers | 17 |
| Other* | 11 |

*For example, lunch menu or link to local newspaper.

NOTE: Percentages are based on 74 percent of public schools (99 percent with Internet access times 75 percent with a Web site).

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 15a.—Standard errors of the percent of public schools with various topics appearing on their Web site: 2001**

| Topic | Percent |
|---|---|
| Links to district Web page | 1.7 |
| Schedule of school events/school calendar | 1.9 |
| Staff directory | 1.9 |
| Information on programs and classes | 1.9 |
| Information for parents (e.g., PTA, PTO, etc.) | 1.8 |
| Links to Web sites for educational tools for students | 2.1 |
| Information on sports and/or clubs | 1.9 |
| School policies/rules | 2.1 |
| Links to/information on middle/high schools | 1.9 |
| Information on library/media center | 2.0 |
| Presentation of students' special projects/works | 2.5 |
| School newsletter | 1.9 |
| Grade-level learning objectives | 1.8 |
| Information about professional development opportunities for teachers | 1.6 |
| Homework assignments | 1.6 |
| Links to/information on colleges | 1.2 |
| Links to/information on scholarships | 1.4 |
| Links to/information on careers | 1.1 |
| Other | 1.4 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

## Table 16.—Percent of public schools with various topics appearing on their Web site, by school characteristics: 2001

| School characteristic | Selected topics[1] | | | | | |
|---|---|---|---|---|---|---|
| | Schedule of school events/ school calendar | Information on programs and classes | Information for parents | Links to Web sites for educational tools for students | Grade-level learning objectives | Homework assignments |
| All public schools | 76 | 70 | 64 | 61 | 25 | 21 |
| Instructional level[2] | | | | | | |
| Elementary | 72 | 70 | 67 | 58 | 27 | 18 |
| Secondary | 88 | 73 | 57 | 68 | 20 | 30 |
| School size | | | | | | |
| Less than 300 | 69 | 69 | 52 | 52 | 11 | 15 |
| 300 to 999 | 77 | 69 | 68 | 63 | 29 | 22 |
| 1,000 or more | 85 | 76 | 67 | 61 | 26 | 28 |
| Locale | | | | | | |
| City | 72 | 73 | 65 | 63 | 28 | 18 |
| Urban fringe | 81 | 70 | 71 | 62 | 33 | 24 |
| Town | 72 | 72 | 60 | 63 | 19 | 22 |
| Rural | 76 | 68 | 58 | 56 | 16 | 20 |
| Percent minority enrollment[3] | | | | | | |
| Less than 6 percent | 80 | 73 | 61 | 68 | 24 | 26 |
| 6 to 20 percent | 74 | 69 | 62 | 60 | 20 | 20 |
| 21 to 49 percent | 76 | 66 | 71 | 56 | 26 | 22 |
| 50 percent or more | 76 | 70 | 66 | 57 | 30 | 16 |
| Percent of students eligible for free or reduced-price lunch[4] | | | | | | |
| Less than 35 percent | 82 | 71 | 68 | 66 | 22 | 23 |
| 35 to 49 percent | 70 | 69 | 64 | 62 | 29 | 25 |
| 50 to 74 percent | 71 | 73 | 59 | 57 | 27 | 20 |
| 75 percent or more | 73 | 65 | 59 | 44 | 26 | 13 |

[1]Only a subset of the topics on the questionnaire is included in this table.

[2]Data for combined schools are included in the totals and in analyses by other school characteristics, but are not shown separately.

[3]Percent minority enrollment was not available for 31 schools.

[4]Percent of students eligible for free or reduced-price lunch was not available for 2 schools.

NOTE: Percentages are based on 74 percent of public schools (99 percent with Internet access times 75 percent with a Web site). Details do not add to 100 because schools could have more than one topic on their Web site.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

## Table 16a.—Standard errors of the percent of public schools with various topics appearing on their Web site, by school characteristics: 2001

| School characteristic | Selected topics | | | | | |
|---|---|---|---|---|---|---|
| | Schedule of school events/ school calendar | Information on programs and classes | Information for parents | Links to Web sites for educational tools for students | Grade-level learning objectives | Homework assignments |
| All public schools | 1.9 | 1.9 | 1.8 | 2.1 | 1.8 | 1.6 |
| Instructional level | | | | | | |
| Elementary | 2.5 | 2.6 | 2.5 | 2.7 | 2.3 | 2.0 |
| Secondary | 1.7 | 2.4 | 2.6 | 2.6 | 1.9 | 2.5 |
| School size | | | | | | |
| Less than 300 | 5.2 | 4.8 | 5.4 | 5.9 | 3.6 | 4.7 |
| 300 to 999 | 2.1 | 2.4 | 2.2 | 2.3 | 2.3 | 1.8 |
| 1,000 or more | 2.4 | 3.8 | 3.3 | 3.5 | 2.9 | 3.4 |
| Locale | | | | | | |
| City | 4.2 | 4.0 | 3.8 | 4.5 | 3.8 | 2.7 |
| Urban fringe | 3.0 | 2.9 | 3.2 | 2.7 | 3.2 | 2.9 |
| Town | 6.4 | 6.9 | 5.4 | 6.0 | 4.3 | 4.4 |
| Rural | 3.9 | 3.4 | 4.2 | 3.8 | 2.4 | 3.2 |
| Percent minority enrollment | | | | | | |
| Less than 6 percent | 3.4 | 3.7 | 3.6 | 3.9 | 3.8 | 3.3 |
| 6 to 20 percent | 4.0 | 3.7 | 4.4 | 4.3 | 2.8 | 3.5 |
| 21 to 49 percent | 3.7 | 4.1 | 4.4 | 4.7 | 4.5 | 3.8 |
| 50 percent or more | 3.8 | 4.0 | 3.5 | 3.9 | 3.5 | 2.8 |
| Percent of students eligible for free or reduced-price lunch | | | | | | |
| Less than 35 percent | 2.3 | 2.8 | 2.3 | 3.0 | 2.5 | 2.5 |
| 35 to 49 percent | 3.8 | 4.2 | 4.0 | 3.4 | 4.2 | 4.1 |
| 50 to 74 percent | 4.2 | 4.3 | 4.3 | 5.1 | 3.9 | 3.9 |
| 75 percent or more | 5.6 | 4.7 | 5.3 | 6.0 | 5.8 | 3.1 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 17.—Percent of public schools updating their Web site daily, weekly, monthly, or less than monthly: 2001**

| Frequency with which the Web site is updated | Percent |
|---|---|
| Daily | 8 |
| Weekly | 23 |
| Monthly | 31 |
| Less than monthly | 37 |

NOTE: Percentages are based on 74 percent of public schools (99 percent with Internet access times 75 percent with a Web site) and may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 17a.—Standard errors of the percent of public schools updating their Web site daily, weekly, monthly, or less than monthly: 2001**

| Frequency with which the Web site is updated | Percent |
|---|---|
| Daily | 1.0 |
| Weekly | 1.7 |
| Monthly | 2.1 |
| Less than monthly | 2.0 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 18.—Percent of public schools where students participated in the creation of the school Web site, participated in its maintenance, and contributed materials to the Web site, by school characteristics: 2001**

| School characteristic | Students | | |
|---|---|---|---|
| | Participated in creation of the Web site | Participated in maintenance of the Web site | Contributed materials to the Web site |
| All public schools | 41 | 31 | 57 |
| Instructional level[1] | | | |
| Elementary | 31 | 22 | 51 |
| Secondary | 69 | 58 | 70 |
| School size | | | |
| Less than 300 | 51 | 41 | 55 |
| 300 to 999 | 35 | 26 | 55 |
| 1,000 or more | 56 | 46 | 69 |
| Locale | | | |
| City | 26 | 24 | 47 |
| Urban fringe | 34 | 22 | 50 |
| Town | 52 | 39 | 61 |
| Rural | 54 | 43 | 68 |
| Percent minority enrollment[2] | | | |
| Less than 6 percent | 52 | 42 | 66 |
| 6 to 20 percent | 44 | 31 | 53 |
| 21 to 49 percent | 36 | 28 | 57 |
| 50 percent or more | 28 | 23 | 51 |
| Percent of students eligible for free or reduced-price lunch[3] | | | |
| Less than 35 percent | 47 | 34 | 62 |
| 35 to 49 percent | 43 | 32 | 56 |
| 50 to 74 percent | 34 | 28 | 57 |
| 75 percent or more | 27 | 25 | 39 |

[1]Data for combined schools are included in the totals and in analyses by other school characteristics, but are not shown separately.

[2]Percent minority enrollment was not available for 31 schools.

[3]Percent of students eligible for free or reduced-price lunch was not available for 2 schools.

NOTE: Percentages are based on 74 percent of public schools (99 percent with Internet access times 75 percent with a Web site).

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 18a.—Standard errors of the percent of public schools where students participated in the creation of the school Web site, participated in its maintenance, and contributed materials to the Web site, by school characteristics: 2001**

| School characteristic | Students | | |
|---|---|---|---|
| | Participated in creation of the Web site | Participated in maintenance of the Web site | Contributed materials to the Web site |
| All public schools | 2.0 | 2.0 | 1.9 |
| Instructional level | | | |
| Elementary | 2.5 | 2.3 | 2.5 |
| Secondary | 2.3 | 2.5 | 2.7 |
| School size | | | |
| Less than 300 | 6.0 | 5.9 | 5.3 |
| 300 to 999 | 2.2 | 2.1 | 2.4 |
| 1,000 or more | 3.3 | 3.7 | 3.2 |
| Locale | | | |
| City | 3.8 | 3.4 | 3.8 |
| Urban fringe | 3.0 | 2.6 | 3.5 |
| Town | 5.3 | 5.4 | 6.1 |
| Rural | 4.2 | 4.3 | 4.0 |
| Percent minority enrollment | | | |
| Less than 6 percent | 3.8 | 3.7 | 3.6 |
| 6 to 20 percent | 3.8 | 3.8 | 4.2 |
| 21 to 49 percent | 4.6 | 3.4 | 5.7 |
| 50 percent or more | 3.4 | 3.4 | 4.1 |
| Percent of students eligible for free or reduced-price lunch | | | |
| Less than 35 percent | 2.8 | 2.6 | 2.5 |
| 35 to 49 percent | 4.8 | 4.1 | 5.2 |
| 50 to 74 percent | 5.6 | 4.5 | 4.6 |
| 75 percent or more | 5.6 | 5.3 | 5.5 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 19.—Percent of public schools using technologies or procedures to prevent student access to inappropriate material on the Internet, and of those schools, percent using these measures on all computers with Internet access used by students, by school characteristics: 2001**

| School characteristic | Use technologies/procedures to prevent student access to inappropriate material on the Internet [1] | Use these measures on all computers with Internet access used by students [2] |
|---|---|---|
| All public schools | 96 | 98 |
| Instructional level [3] | | |
| Elementary | 96 | 98 |
| Secondary | 97 | 98 |
| School size | | |
| Less than 300 | 94 | 96 |
| 300 to 999 | 97 | 99 |
| 1,000 or more | 98 | 98 |
| Locale | | |
| City | 93 | 98 |
| Urban fringe | 98 | 98 |
| Town | 96 | [4] 100 |
| Rural | 97 | 98 |
| Percent minority enrollment [5] | | |
| Less than 6 percent | 96 | 97 |
| 6 to 20 percent | 98 | [4] 100 |
| 21 to 49 percent | 97 | 99 |
| 50 percent or more | 95 | 98 |
| Percent of students eligible for free or reduced-price lunch [6] | | |
| Less than 35 percent | 99 | 99 |
| 35 to 49 percent | 93 | 97 |
| 50 to 74 percent | 98 | 97 |
| 75 percent or more | 92 | 98 |

[1] Percentages are based on the 99 percent of public schools with Internet access.

[2] Percentages are based on 95 percent of public schools (99 percent with Internet access times 96 percent using technologies or procedures to prevent student access to inappropriate material on the Internet).

[3] Data for combined schools are included in the totals and in analyses by other school characteristics, but are not shown separately.

[4] In this case, the estimate fell between 99.5 percent and 100 percent and therefore was rounded to 100 percent.

[5] Percent minority enrollment was not available for 31 schools.

[6] Percent of students eligible for free or reduced-price school was not available for 2 schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 19a.—Standard errors of the percent of public schools using technologies or procedures to prevent student access to inappropriate material on the Internet, and of those schools, standard errors of the percent using these measures on all computers with Internet access used by students, by school characteristics: 2001**

| School characteristic | Use technologies/procedures to prevent student access to inappropriate material on the Internet | Use these measures on all computers with Internet access used by students |
|---|---|---|
| All public schools | 0.6 | 0.5 |
| Instructional level | | |
| Elementary | 0.7 | 0.7 |
| Secondary | 0.9 | 0.6 |
| School size | | |
| Less than 300 | 2.1 | 1.8 |
| 300 to 999 | 0.6 | 0.4 |
| 1,000 or more | 0.9 | 0.7 |
| Locale | | |
| City | 1.5 | 0.8 |
| Urban fringe | 1.0 | 1.0 |
| Town | 2.4 | 0.3 |
| Rural | 1.1 | 1.1 |
| Percent minority enrollment | | |
| Less than 6 percent | 1.6 | 1.6 |
| 6 to 20 percent | 1.4 | 0.3 |
| 21 to 49 percent | 1.5 | 0.7 |
| 50 percent or more | 1.1 | 0.9 |
| Percent of students eligible for free or reduced-price lunch | | |
| Less than 35 percent | 0.7 | 0.6 |
| 35 to 49 percent | 2.4 | 1.8 |
| 50 to 74 percent | 1.1 | 1.5 |
| 75 percent or more | 1.8 | 1.0 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 20.—Percent of public schools with Internet access using various technologies/procedures to prevent student access to inappropriate material on the Internet, by school characteristics: 2001**

| School characteristic | Monitoring by teachers or other staff | Blocking/ filtering software | Written contract that parents have to sign | Written contract that students have to sign | Monitoring software | Honor code for students | Intranet |
|---|---|---|---|---|---|---|---|
| All public schools | 91 | 87 | 80 | 75 | 46 | 44 | 26 |
| Instructional level[1] | | | | | | | |
| Elementary | 90 | 85 | 78 | 72 | 43 | 44 | 24 |
| Secondary | 93 | 93 | 87 | 87 | 52 | 45 | 33 |
| School size | | | | | | | |
| Less than 300 | 88 | 81 | 73 | 69 | 42 | 38 | 17 |
| 300 to 999 | 92 | 88 | 82 | 76 | 47 | 46 | 29 |
| 1,000 or more | 93 | 93 | 86 | 84 | 48 | 46 | 32 |
| Locale | | | | | | | |
| City | 90 | 83 | 78 | 72 | 49 | 51 | 29 |
| Urban fringe | 91 | 88 | 80 | 76 | 44 | 43 | 29 |
| Town | 84 | 87 | 79 | 76 | 37 | 39 | 19 |
| Rural | 95 | 87 | 82 | 78 | 49 | 42 | 24 |
| Percent minority enrollment[2] | | | | | | | |
| Less than 6 percent | 92 | 86 | 82 | 77 | 47 | 41 | 21 |
| 6 to 20 percent | 93 | 86 | 80 | 75 | 44 | 45 | 30 |
| 21 to 49 percent | 91 | 86 | 79 | 77 | 46 | 46 | 29 |
| 50 percent or more | 88 | 87 | 78 | 72 | 45 | 44 | 27 |
| Percent of students eligible for free or reduced-price lunch[3] | | | | | | | |
| Less than 35 percent | 92 | 87 | 82 | 77 | 45 | 48 | 29 |
| 35 to 49 percent | 94 | 86 | 83 | 78 | 40 | 38 | 23 |
| 50 to 74 percent | 90 | 86 | 81 | 79 | 51 | 40 | 22 |
| 75 percent or more | 87 | 86 | 73 | 64 | 46 | 45 | 28 |

[1]Data for combined schools are included in the totals and in analyses by other school characteristics, but are not shown separately.

[2]Percent minority enrollment was not available for 31 schools.

[3]Percent of students eligible for free or reduced-price lunch was not available for 2 schools.

NOTE: Percentages are based on 95 percent of public schools (99 percent with Internet access times 96 percent using technologies/procedures to prevent inappropriate material on the Internet).

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

**Table 20a.—Standard errors of the percent of public schools with Internet access using various technologies/procedures to prevent student access to inappropriate material on the Internet, by school characteristics: 2001**

| School characteristic | Monitoring by teachers or other staff | Blocking/ filtering software | Written contract that parents have to sign | Written contract that students have to sign | Monitoring software | Honor code for students | Intranet |
|---|---|---|---|---|---|---|---|
| All public schools | 1.1 | 1.4 | 1.4 | 1.4 | 1.9 | 1.8 | 1.6 |
| Instructional level | | | | | | | |
| Elementary | 1.4 | 1.8 | 1.8 | 1.7 | 2.4 | 2.3 | 1.9 |
| Secondary | 1.3 | 1.4 | 1.7 | 1.6 | 2.6 | 2.6 | 2.9 |
| School size | | | | | | | |
| Less than 300 | 3.2 | 3.7 | 4.0 | 4.0 | 4.4 | 4.2 | 3.7 |
| 300 to 999 | 1.2 | 1.5 | 1.7 | 1.7 | 2.2 | 2.0 | 1.9 |
| 1,000 or more | 1.5 | 1.9 | 2.5 | 2.7 | 3.4 | 3.3 | 3.3 |
| Locale | | | | | | | |
| City | 2.6 | 3.3 | 3.1 | 3.1 | 3.9 | 3.8 | 3.2 |
| Urban fringe | 1.9 | 2.4 | 3.0 | 2.7 | 3.2 | 3.3 | 3.0 |
| Town | 4.4 | 3.6 | 4.4 | 4.7 | 5.1 | 5.0 | 4.0 |
| Rural | 1.8 | 3.0 | 2.7 | 3.0 | 3.3 | 3.5 | 2.8 |
| Percent minority enrollment | | | | | | | |
| Less than 6 percent | 2.2 | 2.6 | 3.1 | 3.5 | 3.8 | 3.7 | 3.6 |
| 6 to 20 percent | 2.1 | 2.8 | 3.1 | 3.5 | 4.0 | 3.5 | 3.0 |
| 21 to 49 percent | 2.5 | 3.2 | 4.0 | 4.1 | 4.5 | 3.9 | 3.6 |
| 50 percent or more | 2.2 | 2.4 | 2.6 | 2.9 | 3.4 | 4.0 | 3.2 |
| Percent of students eligible for free or reduced-price lunch | | | | | | | |
| Less than 35 percent | 1.7 | 2.2 | 2.3 | 2.4 | 2.9 | 2.8 | 2.9 |
| 35 to 49 percent | 2.4 | 2.9 | 3.7 | 4.0 | 4.2 | 3.9 | 3.5 |
| 50 to 74 percent | 2.6 | 3.1 | 3.6 | 3.9 | 4.3 | 4.1 | 3.4 |
| 75 percent or more | 2.9 | 2.9 | 3.9 | 4.5 | 3.9 | 4.5 | 4.1 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

## Table 21a.—Standard errors for data not shown in tables: 2001

| Item | Estimate | Standard error |
|---|---|---|
| **Section: Students and computer access** | | |
| **Subsection: Laptop computer loans** | | |
| Average number of laptop computers available for loan | 10 | 2.2 |
| Of schools lending laptop computers to students, percent reporting that students could borrow laptop computers for 1 week or more | 53 | 5.2 |
| **Section: Operating systems, memory capacity, and disk space** | | |
| Percent of schools using Windows 95 or a newer version of Windows, or Mac OS 7.6 or greater most frequently on their instructional computers | 95 | 0.8 |
| Percent of schools having 16 MB or higher memory capacity on most of their instructional computers | 82 | 1.5 |
| Percent of schools having 1 GB or higher disk space on most of their instructional computers | 63 | 1.5 |
| Percent of schools using Windows 95 or a more recent version of Windows, or Mac OS 7.6 or greater, combined with 16 MB or higher memory capacity and 1 GB or higher disk space | 58 | 1.5 |
| **Section: Internet as a way to communicate with parents and students** | | |
| **Subsection: School Web sites** | | |
| Of the schools with a Web site, percent reporting that the Web site was updated at least monthly | 63 | 2.0 |
| **Section: Technologies and procedures to prevent student access to inappropriate material on the Internet** | | |
| Percent of schools using more than one procedure or technology | 96 | 0.8 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82.

# Appendix A

# Methodology and Technical Notes

# Methodology and Technical Notes

The Fast Response Survey System (FRSS) was established in 1975 by the National Center for Education Statistics (NCES), U.S. Department of Education. FRSS is designed to collect small amounts of issue-oriented data with minimal burden on respondents and with a quick turnaround from data collection to reporting.

## Sample Selection

The sample of elementary and secondary schools for the FRSS survey on Internet access in public schools was selected from the 1999–2000 NCES Common Core of Data (CCD) Public School Universe File, the most up-to-date file available at the time the sample was drawn. About 88,000 regular schools are contained in the 1999–2000 CCD Public School Universe File. For this survey, regular elementary and secondary/combined schools were selected. Special education, vocational education, and alternative schools were excluded from the sampling frame, along with schools with a highest grade below first grade and those outside the 50 states and the District of Columbia. With these exclusions, the final sampling frame consisted of about 83,100 schools, of which about 62,100 were classified as elementary schools and about 21,000 as secondary/combined schools.

A sample of 1,209 schools was selected from the public school frame. To select the sample, the frame of schools was stratified by instructional level (elementary, secondary/combined schools), enrollment size categories (less than 300 students, 300 to 999, 1,000 to 1,499, 1,500 or more), and percentage of students eligible for free or reduced-price lunch (less than 35 percent, 35 to 49 percent, 50 to 74 percent, 75 percent or more). Schools in the highest poverty category (schools with 75 percent or more students eligible for free or reduced-price lunch) were oversampled to permit analyses for that category.

## Respondents and Response Rates

The three-page survey instrument was designed by Westat and NCES. The questions included on the survey addressed access to Internet in public schools and classrooms; the types of Internet connections used; student access to the Internet outside of regular school hours; laptop loans; operating systems/platforms, memory capacity, and disk space used on instructional computers; special hardware and software for students with disabilities; school-sponsored e-mail addresses; school Web sites; and technologies and procedures used to prevent student access to inappropriate material on the Internet.

In September 2001, questionnaires were mailed to the principals of the 1,209 sampled schools. The principal was asked to forward the questionnaire to the technology coordinator or person most knowledgeable about Internet access at the school. Telephone follow-up of nonrespondents was initiated in early October, and data collection was completed in December. Twenty-four schools were outside the scope of the survey, and 1,064 schools completed the survey. Thus, the final response rate was 89.8

percent (1,064 of 1,185 eligible schools). The weighted response rate was 90.3 percent. The weighted nonresponse rate for individual questionnaire items ranged from 0 to 2.1 percent; imputation for item nonresponse was not implemented.

## Sampling and Nonsampling Errors

The survey responses were weighted to produce national estimates (table A). The weights were designed to adjust for the variable probabilities of selection and differential nonresponse. The findings in this report are based on the sample selected and, consequently, are subject to sampling variability. The standard error is the measure of the variability of estimates due to sampling. It indicates the variability of a sample estimate that would be obtained from all possible samples of a given design and size. Standard errors are used as a measure of the precision expected from a particular sample. If all possible samples were surveyed under similar conditions, intervals of 1.96 standard errors below to 1.96 standard errors above a particular statistic would include the true population parameter being estimated in about 95 percent of the samples. This is a 95 percent confidence interval. For example, the estimated percentage of public schools with a Web site in 2001 is 75 percent, and the estimated standard error is 1.6 percent. The 95 percent confidence interval for the statistics extends from 75 – (1.6 times 1.96) to 75 + (1.6 times 1.96), or from 72 to 78 percent. Estimates of standard errors for this report were computed using a technique known as the jackknife replication method. The coefficient of variation ("c.v.," also referred to as the "relative standard error") expresses the standard error as a percentage of the quantity being estimated. The c.v. of an estimate (y) is defined as c.v. = (s.e./y) x 100. Throughout this report, for any coefficient of variation higher than 50 percent, the data are flagged with the note that they should be interpreted with caution, as the value of the estimate is very unstable.

The test statistics used in the analysis were calculated using the jackknife variances and thus appropriately reflected the complex nature of the sample design. In particular, an adjusted chi-square test using Satterthwaite's approximation to the design effect was used in the analysis of the two-way tables. Bonferroni adjustments were also made to control for multiple comparisons where appropriate. For example, for an "experiment-wise" comparison involving g pairwise comparisons, each difference was tested at the 0.05/g significance level to control for the fact that g differences were simultaneously tested. The Bonferroni adjustment results in a more conservative critical value being used when judging statistical significance. This means that comparisons that would have been significant with a critical value of 1.96 may not be significant with the more conservative critical value. For example, the critical value for comparisons between any two of the four categories of poverty concentration is 2.64 rather than 1.96.

When comparing estimates across a family of three or more categories that were ordered, however, such as percent minority enrollment, analysis was performed to test whether the estimates might be ordered more efficiently than with a series of paired comparisons. When percentages were examined relative to a variable with ordered categories, Student's t-test was applied to a measure of a linear trend. The test involves estimating a simple linear regression with a variable representing the order of the categories as the independent variable (e.g., percent minority enrollment), and the percentage of interest (e.g., the percentage of schools with a Web site) as the dependent variable. Before estimating the regression, the sample sizes must be adjusted by estimated design effects to approximately account for the complex sample design. The t statistic is calculated as the ratio of the regression coefficient to its

**Table A.—Number and percent of responding public schools in the study sample and estimated number and percent of public schools the sample represents, by school characteristics: 2001**

| School characteristic | Respondent sample | | National estimate | |
|---|---|---|---|---|
| | Number | Percent | Number | Percent |
| All public schools | 1,064 | 100 | 81,066 | 100 |
| Instructional level | | | | |
| Elementary | 558 | 52 | 61,640 | 76 |
| Secondary | 464 | 44 | 17,627 | 22 |
| School size | | | | |
| Less than 300 | 148 | 14 | 20,665 | 25 |
| 300 to 999 | 653 | 61 | 51,968 | 64 |
| 1,000 or more | 263 | 25 | 8,433 | 10 |
| Locale | | | | |
| City | 262 | 25 | 17,997 | 22 |
| Urban fringe | 367 | 34 | 26,260 | 32 |
| Town | 133 | 12 | 10,180 | 13 |
| Rural | 302 | 28 | 26,628 | 33 |
| Percent minority enrollment | | | | |
| Less than 6 percent | 268 | 25 | 23,073 | 28 |
| 6 to 20 percent | 237 | 22 | 19,277 | 24 |
| 21 to 49 percent | 210 | 20 | 15,550 | 21 |
| 50 percent or more | 318 | 30 | 20,917 | 26 |
| Percent of students eligible for free or reduced-price school lunch | | | | |
| Less than 35 percent | 482 | 45 | 34,928 | 43 |
| 35 to 49 percent | 187 | 18 | 14,753 | 18 |
| 50 to 74 percent | 195 | 18 | 16,627 | 21 |
| 75 percent or more | 198 | 19 | 14,710 | 18 |

NOTE: Details may not add to totals because of rounding or missing data. There were small amounts of missing data for the following variables: percent minority enrollment in school (31 cases) and percent of students eligible for free or reduced-price lunch (2 cases). Forty-two schools were combined schools and therefore are missing in the instructional level counts used here, but those cases were included in the totals and in analyses by other school characteristics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 2001," FRSS 82, 2001.

standard error. If t is greater than 1.96 (the critical value of t with "infinite" degrees of freedom at a significance level of 0.05), there is evidence of a linear relationship between the two variables. However, not all significant differences are reported.

The survey estimates are also subject to nonsampling errors that can arise because of nonobservation (nonresponse or noncoverage) errors, errors of reporting, and errors made in collection of the data. These errors can sometimes bias the data. Nonsampling errors may include such problems as the difference in the respondents' interpretation of the meaning of the question; memory effects; misrecording of responses; incorrect editing, coding, or data entry; differences related to the particular time the survey was conducted; or errors in data preparation. While general sampling theory can be used in part to determine how to estimate the sampling variability of a statistic, nonsampling errors are not easy to measure and, for measurement purposes, usually require that an experiment be conducted as part of the data collection procedures or that data external to the study be used. To minimize the potential for nonsampling errors, the questionnaire on Internet access in public schools was pretested in 1994, and again each time it was substantially modified. The questionnaire was last pretested for the fall 2001 survey, since a few new topics were introduced in the survey. The pretesting was done with public school technology coordinators and other knowledgeable respondents like those who would complete the survey. During the design of the survey, an effort was made to check for consistency of interpretation of questions and to eliminate ambiguous items. The questionnaire and instructions were intensively reviewed by NCES.

Manual and machine editing of the questionnaire responses were conducted to check the data for accuracy and consistency. Cases with missing or inconsistent items were recontacted by telephone to resolve problems. Data were keyed with 100 percent verification.

## Definitions of Analysis Variables

**Instructional level**—Schools were classified according to their grade span in the 1999–2000 Common Core of Data (CCD) School Universe File.

**Elementary school—**Had grade 6 or lower and no grade higher than grade 8.
**Secondary school—**Had no grade lower than grade 7 and had grade 7 or higher.

**School size—**Total enrollment of students based on the 1999–2000 CCD School Universe File.

**Less than 300 students**
**300 to 999 students**
**1,000 or more students**

**Locale—**Is defined in the 1999–2000 CCD School Universe File.

**City—**A central city of a Consolidated Metropolitan Statistical Area (CMSA) or Metropolitan Statistical Area (MSA).

**Urban fringe—**Any incorporated place, Census-designated place, or non-place territory within a CMSA or MSA of a large or mid-size city and defined as urban by the Census Bureau.

**Town—**An incorporated place or Census-designated place with a population greater than or equal to 2,500 and located outside a CMSA or MSA.

**Rural—**Any incorporated place, Census-designated place, or non-place territory designated as rural by the Census Bureau.

**Percent minority enrollment—**The percent of students enrolled in the school whose race or ethnicity is classified as one of the following: American Indian or Alaskan Native; Asian or Pacific Islander; Black, non-Hispanic; or Hispanic, based on data in the 1999–2000 CCD School Universe File.

**Less than 6 percent**
**6 to 20 percent**
**21 to 49 percent**
**50 percent or more**

**Percent of students eligible for free or reduced-price school lunch—**This was based on responses to question 13 on the survey questionnaire; if it was missing from the questionnaire, it was obtained from the 1999–2000 CCD School Universe File. This item served as a measurement of the concentration of poverty at the school.

**Less than 35 percent**
**35 to 49 percent**
**50 to 74 percent**
**75 percent or more**

**Geographic region—**One of four regions used by the Bureau of Economic Analysis of the U.S. Department of Commerce, the National Assessment of Educational Progress, and the National Education Association. Obtained from the 1999–2000 CCD School Universe File.

**Northeast**—Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.

**Southeast—**Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia.

**Central—**Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

**West—**Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oklahoma, Oregon, Texas, Utah, Washington, and Wyoming.

It is important to note that many of the school characteristics used for independent analysis may also be related to each other. For example, enrollment size and instructional level of schools are related, with secondary schools typically being larger than elementary schools. Similarly, poverty concentration and minority enrollment are related, with schools with a higher minority enrollment also more likely to have a high concentration of poverty. Other relationships between analysis variables may exist. Because of the relatively small sample size used in this study, it is difficult to separate the independent effects of these variables. Their existence, however, should be considered in the interpretation of the data.

## Survey Acknowledgments

The survey was performed under contract with Westat. Westat's Project Director was Elizabeth Farris, and the survey manager was Anne Kleiner. Bernie Greene was the NCES Project Officer. Debbie Alexander directed the data collection efforts, assisted by Ratna Basavaraju and Anjali Pandit. Alla Belenky was the programmer, Carol Litman was the editor, and Catherine Marshall and Sylvie Warren were responsible for the formatting of the report.

This report was reviewed by the following individuals:

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- Stephanie Cronen, American Institutes for Research
- Lawrence Lanahan, American Institutes for Research
- Barbara Means, SRI International
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# Appendix B

# Questionnaire

| U.S. DEPARTMENT OF EDUCATION<br>NATIONAL CENTER FOR EDUCATION STATISTICS<br>WASHINGTON, D.C. 20006-5651<br><br>**INTERNET ACCESS IN U.S. PUBLIC SCHOOLS, FALL 2001**<br><br>FAST RESPONSE SURVEY SYSTEM | FORM APPROVED<br>O.M.B. NO.: 1850-0733<br>EXPIRATION DATE: 07/2002 |
|---|---|

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FRSS Form No. 82, 9/2001

## DEFINITIONS OF TERMS USED IN QUESTIONNAIRE

### INSTRUCTIONAL ROOMS AND COMPUTERS

**Instructional rooms –** refers to rooms in the school building used for any instructional purposes. This includes classrooms, labs, library/media centers, art rooms, rooms used for vocational or special education, etc.

**Instructional computers –** refers to computers that are used for instructional purposes. Do not include computers used for administrative purposes only.

### OPERATING SYSTEM/PLATFORM

**Operating system/platform –** software platform on top of which application programs can run.

### TYPES OF INTERNET CONNECTIONS

**T3/DS3** – refers to a dedicated digital transmission of data and voice at the speed of 45 MB per second. T3s are composed of 672 channels.

**Fractional T3 –** one or more channels of a T3/DS3 line. Used for data and voice transmission at the speed of less than 45 MB per second.

**T1/DS1** – refers to a dedicated digital transmission of data and voice at the speed of 1.5 MB per second. T1s are composed of 24 channels.

**Fractional T1** – one or more channels of a T1/DS1 line. Used for data and voice transmission at the speed of less than 1.5 MB per second.

**Cable modem** – refers to a dedicated transmission of data through cable TV wires at a speed of up to 2 MB per second.

**DSL (Digital Subscriber Line)** – refers collectively to ADSL, SDSL, HDSL, and SDSL. DSLs have a dedicated digital transmission speed of up to 32 MB per second.

**ISDN (Integrated Services Digital Network)** – sends voice and data over digital telephone lines or normal telephone wires at the speed of up to 128 KB per second.

**56 KB** – refers to a dedicated digital transmission of data at the speed of 56 KB per second.

**Dial-up connection** – refers to data transmission through a normal telephone line upon command, at the maximum speed of 56 KB per second.

**Wireless connection** – refers to the connections to the Internet that do not use wire or cable.

### TECHNOLOGIES/PROCEDURES FOR INTERNET ACCESS CONTROL

**Blocking software –** uses a list of Web sites that are considered inappropriate and prevents access to those sites.

**Filtering software** – blocks access to sites containing keywords, alone or in context with other keywords.

**Monitoring software –** records e-mails, instant messages, chats, and the Web sites visited.

**Intranet –** refers to a controlled computer network similar to the Internet, but accessible only to those who have permission to use it. Intranet system managers can limit user access to Internet material.

### STUDENTS WITH DISABILITIES

**Students with disabilities –** refers to students with impairments that substantially limit one or more of the major life activities. This may include learning disabilities as well as physical impairments.

**Special hardware –** adaptive or assistive hardware such as closed-captioned TV, screen readers, or keyboard alternatives that facilitate computer use by students with disabilities.

**Special software –** adaptive or assistive software such as Jaws for Windows, Zoomtext, or Overlay Maker software that facilitate computer use by students with disabilities.

1. What is the total number of **instructional rooms** in your school? *(Include all rooms used for any instructional purposes: classrooms, computer labs and other labs, library/media centers, etc.)*

   _____ instructional rooms

2. How many computers are there in your school? (Count **all** computers, including those used by administrators, teachers, and students.) _____ computers *(If none, please enter "0" and skip to question 30.)*

3. Of these computers, how many are used for **instructional** purposes (*i.e., not used for administrative purposes only*)? _____ instructional computers *(If none, please enter "0" and skip to question 7.)*

4. Which **one** of the following operating systems/platforms is **most frequently** used on the **instructional** computers in your school? *(Circle only one.)*

| | | | |
|---|---|---|---|
| Windows 2000 | 1 | Mac OS 7.6 or greater | 7 |
| Windows NT | 2 | Mac OS under 7.6 | 8 |
| Windows ME | 3 | Any DOS | 9 |
| Windows 1998 | 4 | Other (*specify*) _____ | 10 |
| Windows 1995 | 5 | Don't know | 11 |
| Windows 3.1 | 6 | | |

5. What is the memory on **most** of the **instructional** computers in your school? *(Circle one.)*

| | | | |
|---|---|---|---|
| Under 8 MB | 1 | 16 MB or higher | 3 |
| 8 to 15 MB | 2 | Don't know | 4 |

6. What is the disk space on **most** of the **instructional** computers in your school? *(Circle one.)*

| | |
|---|---|
| Under 1 GB | 1 |
| 1 GB or higher | 2 |
| Don't know | 3 |

7. Does your school have access to the Internet?

   Yes ..... 1 *(Continue with question 8.)* No ..... 2 *(Skip to question 26.)*

8. How many computers in your school currently have Internet access? *(Include instructional and noninstructional computers.)* _____ computers *(If none, please enter "0" and skip to question 26.)*

9. Of the computers with Internet access (question 8), how many are used for **instructional** purposes?

   _____ instructional computers *(If none, please enter "0.")*

10. What type(s) of connection does your school use when connecting to the Internet? (*Circle all that apply.*)

| | | | | | |
|---|---|---|---|---|---|
| a. | T3/DS3 | 1 | g. | ISDN | 7 |
| b. | Fractional T3 | 2 | h. | 56 KB | 8 |
| c. | T1/DS1 | 3 | i. | Dial-up connection (e.g., AOL, Earthlink) | 9 |
| d. | Fractional T1 | 4 | j. | Wireless connection | 10 |
| e. | Cable modem | 5 | k. | Other *(specify)* _____ | 11 |
| f. | DSL | 6 | | | |

11. How many **instructional rooms** have a computer with Internet access? _____ instructional rooms *(If none, please enter "0.")*

12. Does your school use any technology or other procedure to prevent student access to inappropriate material on the Internet?

    Yes ..... 1 *(Continue with question 13.)* No ..... 2 *(Skip to question 15.)*

13. What technologies or other procedures does your school use to prevent student access to inappropriate material on the Internet? *(Circle one on each line.)*

| | | Yes | No |
|---|---|---|---|
| a. | Blocking/filtering software | 1 | 2 |
| b. | Monitoring software | 1 | 2 |
| c. | Intranet | 1 | 2 |
| d. | Monitoring by teachers or other staff | 1 | 2 |
| e. | Written contract that parents have to sign | 1 | 2 |
| f. | Written contract that students have to sign | 1 | 2 |
| g. | Honor code for students | 1 | 2 |
| h. | Other (*specify*) _____ | 1 | 2 |

14. Does your school use these technologies or other procedures to protect students from inappropriate material on **all** computers with Internet access used by students? Yes ..... 1 No..... 2

15. Does your school allow students access to its instructional computers with Internet access at times other than regular school hours? Yes ..... 1 (*Continue with question 16.*) No..... 2 (*Skip to question 18.*)

16. When are instructional computers with Internet access available to students? *(Circle one on each line.)*

| | | Yes | No |
|---|---|---|---|
| a. | Before school | 1 | 2 |
| b. | After school | 1 | 2 |
| c. | On weekends | 1 | 2 |

17. How many instructional computers with Internet access are regularly available to students outside of regular school hours? _____ computers

18. In **column A,** please indicate whether administrative staff, teachers, and students in your school may have a school-sponsored e-mail address. If yes in column A, indicate in **column B** how many administrative staff, teachers, and students have a school-sponsored e-mail address.

| Recipient | A. May have school-sponsored e-mail address? | | B. If yes, how many administrative staff, teachers, and students? | | |
|---|---|---|---|---|---|
| | Yes | No | Few | Some | All or most |
| a. Administrative staff | 1 | 2 | 1 | 2 | 3 |
| b. Teachers | 1 | 2 | 1 | 2 | 3 |
| c. Students | 1 | 2 | 1 | 2 | 3 |

19. Does your school have a Web site?

Yes .....1 *(Continue with question 20.)* No 2 *(Skip to question 26.)*

20. Do the following topics appear on your school's Web site? *(Circle one on each line.)*

| | | Yes | No |
|---|---|---|---|
| a. | School policies/rules | 1 | 2 |
| b. | Staff directory | 1 | 2 |
| c. | Information on programs and classes | 1 | 2 |
| d. | Grade-level learning objectives | 1 | 2 |
| e. | Homework assignments | 1 | 2 |
| f. | School newsletter | 1 | 2 |
| g. | Schedule of school events/school calendar | 1 | 2 |
| h. | Information on sports and/or clubs | 1 | 2 |
| i. | Links to/information on middle/high schools | 1 | 2 |
| j. | Links to/information on colleges | 1 | 2 |
| k. | Links to/information on scholarships | 1 | 2 |
| l. | Links to/information on careers | 1 | 2 |
| m. | Information for parents (e.g., PTA, PTO, etc.) | 1 | 2 |
| n. | Presentation of students' special projects/works | 1 | 2 |
| o. | Information on library/media center | 1 | 2 |
| p. | Links to Web sites for educational tools for students | 1 | 2 |
| q. | Information about professional development opportunities for teachers | 1 | 2 |
| r. | Links to district Web page | 1 | 2 |
| s. | Other *(specify)* _____ | 1 | 2 |

21. Can students and/or parents communicate with the school through the school's Web site?

Yes ..... 1 No..... 2

22. Did students participate in the creation/development of the Web site?

Yes ..... 1 No..... 2 Don't know..... 3

23. Do students participate in the maintenance of the Web site?

Yes ..... 1 No..... 2

24. Do students contribute materials to the Web site?

Yes ..... 1 No..... 2

25. How often is the Web site updated? *(Circle one.)*

Daily ..... 1 Monthly ..... 3
Weekly ..... 2 Less than monthly..... 4

26. Does your school lend laptop computers to students?

Yes ..... 1 *(Continue with question 27.)* No ..... 2 *(Skip to question 29.)*

27. How many laptops are available for students to borrow? _____ laptops

28. What is the longest time for which a student may borrow a laptop? *(Circle one.)*

Less than one week ..... 1 One semester..... 4
One week ..... 2 The entire school year ..... 5
One month ..... 3 Other *(specify)* _____ 6

29. In **column A**, please indicate whether your school has students with the listed disabilities.

If yes in column A, indicate in **column B** whether special **hardware** (i.e., adaptive or assistive hardware) is available to students with disabilities in your school.

If yes in column A, indicate in **column C** whether special **software** (i.e., adaptive or assistive software) is available to students with disabilities in your school.

| **Disabilities** | A. Have students with disabilities? | | B. Special **hardware** is available to students with disabilities (e.g., closed-captioned TV, screen readers, keyboard alternatives) | | C. Special **software** is available to students with disabilities (e.g., Jaws for Windows, Zoomtext, Overlay Maker software) | |
|---|---|---|---|---|---|---|
| | **Yes** | **No** | **Yes** | **No** | **Yes** | **No** |
| a. Hearing disabilities ..... | 1 | 2 | 1 | 2 | 1 | 2 |
| b. Learning disabilities ..... | 1 | 2 | 1 | 2 | 1 | 2 |
| c. Physical disabilities ..... | 1 | 2 | 1 | 2 | 1 | 2 |
| d. Visual disabilities ..... | 1 | 2 | 1 | 2 | 1 | 2 |

30. What percent of the students in your school are eligible for the federally funded free or reduced-price lunch program? _____%

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