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Teachers' Use of Educational Technology in U.S. Public Schools: 2009

First Look

NCES 2010-040

U.S. DEPARTMENT OF EDUCATION

Teachers' Use of Educational Technology in U.S. Public Schools: 2009

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MAY 2010

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NCES 2010–040
U.S. DEPARTMENT OF EDUCATION

FRSS Fast Response Survey System

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Introduction

This report provides national data on the availability and use of educational technology among teachers in public elementary and secondary schools during the winter and spring of 2009. The data are the results of a national teacher-level survey that is one of a set that includes district, school, and teacher surveys on educational technology.[1] Every year between 1994 and 2005 (with the exception of 2004), the Office of Educational Technology (OET) in the U.S. Department of Education asked the National Center for Education Statistics (NCES) to conduct a survey of public schools to track access to information technology in schools and classrooms. NCES used its Fast Response Survey System (FRSS) to conduct these surveys. For fall 2008,[2] this OET-sponsored technology study was redesigned and expanded to incorporate surveys at the district, school, and teacher levels. These three surveys provide complementary information and together cover a broader range of topics than would be possible with one survey alone. Prior to 2008, the surveys focused on computer and Internet access and use, as well as procedures to prevent student access to inappropriate material on the Internet and teacher professional development on technology use.[3] The set of 2008 surveys collected data on availability and use for a range of educational technology resources, such as district and school networks, computers, devices that enhance the capabilities of computers for instruction, and computer software. They also collected information on leadership and staff support for educational technology within districts and schools.

During the design phase for the set of 2008 surveys, research was conducted to determine how specific topics and survey questions should be distributed across the three surveys. The surveys were developed to reflect how information on educational technology is kept within most public school systems. This report presents results from the teacher-level survey, including information on the use of computers and Internet access in the classroom; availability and use of computing devices and software, teachers' use of school or district networks (including remote access); students' use of educational technology; teachers' preparation to use educational technology for instruction; and technology-related professional development activities. The teacher survey covers the following specific topics:

- Number of computers located in the teacher's classroom every day and number that can be brought into the classroom;
- Internet access for the computers available in the classroom;
- Availability and frequency of use for computers and other technology devices during instructional time;
- Availability and frequency that teachers use systems on the school or district network for various activities;
- Remote access (e.g., access from home) for teachers to use various school or district computer applications or data;
- Types of software and Internet sites used by teachers for classroom preparation, instruction, and administrative tasks;
- Students' use of educational technology during classes;

[1] For results from the district-level survey, see *Educational Technology in Public School Districts: Fall 2008* (NCES 2010–003) at http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2010003. For results from the school-level survey, see *Educational Technology in U.S. Public Schools: Fall 2008* (NCES 2010–034) at http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2010034.

[2] The district and school surveys collected data for fall 2008. For the teacher survey, sampling lists were collected from schools beginning in fall 2008, and survey data were collected from teachers beginning in January 2009.

[3] A list of related reports from the 1994 through 2005 FRSS technology surveys of public schools may be found in the Related Reports section.

- Modes of technology used by teachers to communicate with parents and students;
- Teacher training and preparation to use educational technology for instruction; and
- Number of hours spent in professional development for educational technology during the previous 12 months, and teachers' opinions about statements related to this professional development.

The questionnaire instructed teachers to use the following definitions when answering the survey.

> **Technology:** Information technology such as computers, devices that can be attached to computers (e.g., LCD projector, interactive whiteboard, digital camera), networks (e.g., Internet, local networks), and computer software. We specifically are not including non-computer technologies such as overhead projectors and VCRs. [4]
>
> **Classroom response system:** Wireless system allowing a teacher to pose a question and students to respond using "clickers" or hand-held response pads, with responses compiled on a computer.
>
> **Document camera:** Device that transmits images of 2- or 3-dimensional objects, text, or graphics to a computer monitor or LCD projector.
>
> **Blogs:** Websites where an individual or group creates a running log of entries that can be read by other users, such as in a journal.
>
> **Wikis:** Collaborative websites that allow users to freely create and edit web page content (e.g., Wikipedia).
>
> **Social networking websites:** Online social networks for communities of people who share interests and activities or who are interested in exploring the interests and activities of others (e.g., Facebook, MySpace).
>
> **Teacher in a self-contained classroom:** Teaches all or most academic subjects to the same group of students all or most of the day.

NCES in the Institute of Education Sciences conducted this FRSS survey during the 2008–09 school year, with collection of sampling lists starting in September 2008 and collection of teacher surveys starting in January 2009. FRSS is a survey system designed to collect small amounts of issue-oriented data from a nationally representative sample of districts, schools, or teachers with minimal burden on respondents and within a relatively short period of time. For this survey, 2,005 public schools in the 50 states and the District of Columbia were asked to provide sampling lists of full-time teachers. Questionnaires were mailed to 4,133 teachers selected from these sampling lists. The unweighted and weighted list collection response rates were 80 percent and 81 percent, respectively. The unweighted and weighted teacher response rates were both 79 percent, resulting in overall response rates of 64 percent (unweighted) and 65 percent (weighted).[5] The survey weights were adjusted for list collection and questionnaire nonresponse, and the data were then weighted to yield national estimates that represent all full-time teachers in regular public elementary and secondary schools in the United States. The results of a nonresponse bias analysis conducted for the survey to inform the nonresponse weight adjustments, along with additional details about the survey methodology, response rates, and data reliability, are presented in appendix B.

[4] This is the exact wording of the definition provided to respondents on the questionnaire. LCD is the acronym for liquid crystal display.

[5] The weighted list collection was calculated using the school base weight without nonresponse adjustment. The weighted teacher response rate was calculated using a base weight that included the school-level and teacher-level weights but did not include the school or teacher nonresponse adjustments. The overall weighted response rate was calculated as the product of the weighted list collection and weighted teacher response rates.

Because the purpose of this report is to introduce new NCES data through the presentation of tables containing descriptive information, only selected findings are presented. These findings have been chosen to demonstrate the range of information available from the FRSS study rather than to discuss all of the observed differences; they are not meant to emphasize any particular issue. The findings are based on self-reported data from public school teachers.

All specific statements of comparisons made in the bullets have been tested for statistical significance at the .05 level using Student's *t*-statistics to ensure that the differences are larger than those that might be expected due to sampling variation. Adjustments for multiple comparisons were not included. Many of the variables examined are related to one another, and complex interactions and relationships have not been explored. Tables of standard error estimates are provided in appendix A. Detailed information about the survey methodology is provided in appendix B, and the questionnaire can be found in appendix C. Appendix B also includes definitions of the analysis variables (i.e., school characteristics) and terms used in the report.

Selected Findings

This section presents key findings on teachers' use of educational technology in public schools during the winter and spring of 2009.

- Ninety-seven percent of teachers had one or more computers located in the classroom every day, while 54 percent could bring computers into the classroom (table 1). Internet access was available for 93 percent of the computers located in the classroom every day and for 96 percent of the computers that could be brought into the classroom. The ratio of students to computers in the classroom every day was 5.3 to 1.

- Teachers reported that they or their students used computers in the classroom during instructional time often (40 percent) or sometimes (29 percent) (table 2). Teachers reported that they or their students used computers in other locations in the school during instructional time often (29 percent) or sometimes (43 percent).

- Teachers reported having the following technology devices either available as needed or in the classroom every day: LCD (liquid crystal display) or DLP (digital light processing) projectors (36 and 48 percent, respectively), interactive whiteboards (28 and 23 percent, respectively), and digital cameras (64 and 14 percent, respectively) (table 3). Of the teachers with the device available, the percentage that used it sometimes or often for instruction was 72 percent for LCD or DLP projectors, 57 percent for interactive whiteboards, and 49 percent for digital cameras.

- Teachers indicated that a system on their school or district network was available for entering or viewing the following: grades (94 percent), attendance records (93 percent), and results of student assessments (90 percent) (table 4). Of the teachers with one of these systems available, the percentage using it sometimes or often was 92 percent (grades), 90 percent (attendance records), and 75 percent (student assessments).

- Ninety-seven percent of teachers reported having remote access to school email, and of these teachers, 85 percent used this remote access sometimes or often (table 5). Eighty-one percent of teachers had remote access to student data, and of these teachers, 61 percent used this type of access sometimes or often.

- Teachers sometimes or often used the following for instructional or administrative purposes: word processing software (96 percent), spreadsheets and graphing programs (61 percent), software for managing student records (80 percent), software for making presentations (63 percent), and the Internet (94 percent) (table 6).

- Results differed by low and high poverty concentration of the school[6] for the percentage of teachers that reported their students used educational technology sometimes or often during classes to prepare written text (66 and 56 percent, respectively), learn or practice basic skills (61 and 83 percent, respectively), and

[6] Poverty concentration is based on the percent of students eligible for free or reduced-price lunch (less than 35 percent and 75 percent or more—referred to as low and high poverty, respectively).

develop and present multimedia presentations (47 and 36 percent, respectively) (table 7). Percentages are based on the teachers reporting that the activity applied to their students.

- Differences were found among low and high poverty schools for the percentage of teachers who sometimes or often did the following: used email or list-serve to send out group updates or information to parents (69 percent compared to 39 percent) or to students (30 percent compared to 17 percent), used email to address individual concerns with parents (92 percent compared to 48 percent) or with students (38 percent compared to 19 percent), used a course or teacher web page to communicate with parents (47 percent compared to 30 percent) or with students (36 percent compared to 18 percent) (table 8).

- The percentage of teachers that reported that the following activities prepared them (to a moderate or major extent) to make effective use of educational technology for instruction are 61 percent for professional development activities, 61 percent for training provided by school staff responsible for technology support and/or integration, and 78 percent for independent learning (table 9).

- The percentage of teachers that reported spending the following number of hours in professional development activities for educational technology during the 12 months prior to completing the survey was 13percent for none, 53 percent for 1 to 8 hours, 18 percent for 9 to16 hours, 9 percent for 17 to 32 hours, and 7 percent for 33 or more hours (table 10).

- Of the teachers who participated in technology-related professional development during the 12 months prior to completing the survey, 81 percent agreed that “it met my goals and needs,” 88 percent agreed that “it supported the goals and standards of my state, district, and school,” 87 percent agreed that “it applied to technology available in my school,” and 83 percent agreed that “it was available at convenient times and places” (table 11).

Table 1. Percent of teachers with computers in the classroom every day and percent that can bring computers into the classroom, ratio of students in the classroom to these computers, and percent of these computers with Internet access, by school and teacher characteristics: 2009

Characteristic	Computers in the classroom every day			Computers that can be brought into the classroom			Total computers (in or can be brought into the classroom)		
	Percent of teachers[1]	Ratio of students in the classroom to computers[2]	Percent of computers with Internet access	Percent of teachers[1]	Ratio of students in the classroom to computers[2]	Percent of computers with Internet access	Percent of teachers[1]	Ratio of students in the classroom to computers[2]	Percent of computers with Internet access
All public school teachers	97	5.3	93	54	2.4	96	99	1.7	95
School instructional level[3]									
Elementary	98	5.4	92	52	2.6	96	99	1.7	95
Secondary	95	5.2	94	57	2.3	96	98	1.6	96
School enrollment size									
Less than 300	97	4.5	92	53	2.4	98	99	1.6	96
300 to 999	97	5.4	94	53	2.5	96	99	1.7	95
1,000 or more	96	5.3	92	56	2.3	96	99	1.6	95
Community type									
City	96	5.2	92	54	2.7	95	99	1.8	94
Suburban	98	5.4	93	56	2.3	97	99	1.6	96
Town	96	5.2	93	52	2.7	96	99	1.8	95
Rural	97	5.3	95	52	2.4	95	99	1.6	95
Percent of students in the school eligible for free or reduced-price lunch									
Less than 35 percent	96	5.9	93	61	2.1	97	99	1.5	96
35 to 49 percent	98	5.4	92	52	2.5	96	99	1.7	94
50 to 74 percent	97	4.9	94	47	2.9	96	98	1.8	95
75 percent or more	97	4.7	93	50	3.0	94	100[4]	1.8	94
Main teaching assignment									
General education in self-contained classroom	99	5.5	91	49	3.1	96	99	2.0	94
Mathematics/computer science, science	95	6.6	92	61	2.0	96	99	1.5	95
Other academic subject[5]	96	7.7	97	60	2.2	97	99	1.7	97
Special education, English as a second language	99	3.1	92	49	1.7	96	99	1.1	95
Other assignment[6]	94	3.4	93	53	3.0	96	97	1.6	95
Elementary/secondary teaching experience									
3 or fewer years	95	5.5	95	53	2.6	93	99	1.8	94
4 to 9 years	97	5.4	94	57	2.2	97	99	1.6	96
10 to 19 years	97	5.6	91	53	2.5	97	99	1.7	95
20 or more years	97	4.8	93	52	2.5	96	99	1.6	95

[1] Percent of teachers with one or more computers with the characteristic.
[2] Ratio computed by dividing the number of students in all teachers' classrooms by the number of computers with the characteristic.
[3] Data for combined schools (those with both elementary and secondary grades) are included in the totals and in analyses by other school characteristics but are not shown separately.
[4] Rounds to 100 percent.
[5] Other academic subjects include English/language arts, foreign languages, and social sciences/social studies.
[6] Other assignments include arts and music; health/physical education; vocational, career, or technical education; and other (respondent asked to specify).
SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Teachers' Use of Educational Technology in U.S. Public Schools," FRSS 95, 2009; and Common Core of Data, "Public Elementary/Secondary School Universe Survey," 2005–06.

Table 2. Percentage distribution of teachers reporting how frequently they or their students use computers during instructional time in the classroom and in other locations in the school, by school and teacher characteristics: 2009

Characteristic	In the classroom					In other locations in the school				
	Not available	Never	Rarely	Sometimes	Often	Not available	Never	Rarely	Sometimes	Often
All public school teachers	1	10	19	29	40	2	8	19	43	29
School instructional level[1]										
Elementary	1	8	17	31	44	2	7	16	44	31
Secondary	2	16	23	25	34	2	10	25	40	24
School enrollment size										
Less than 300	1	9	23	28	39	3	6	18	47	27
300 to 999	1	9	18	30	43	2	7	16	44	32
1,000 or more	1	15	19	28	36	2	9	26	41	22
Community type										
City	1	10	19	30	40	2	8	20	44	26
Suburban	1	11	18	30	40	2	8	19	39	31
Town	1	9	19	25	46	1	7	18	51	24
Rural	1	11	18	31	38	1	7	18	44	30
Percent of students in the school eligible for free or reduced-price lunch										
Less than 35 percent	1	12	21	29	36	1	7	20	43	29
35 to 49 percent	1!	14	17	31	37	1	8	19	45	26
50 to 74 percent	2	8	18	28	44	3	8	18	44	27
75 percent or more	#	9	15	28	48	2	7	17	41	34
Main teaching assignment										
General education in self-contained classroom	1	6	13	33	47	2	6	12	46	34
Mathematics/computer science, science	1	15	22	26	36	3	11	25	40	21
Other academic subject[2]	1	14	24	29	32	1!	3	21	46	29
Special education, English as a second language	‡	5	21	29	44	‡	7	22	44	26
Other assignment[3]	3	14	19	24	41	1	15	21	35	27
Elementary/secondary teaching experience										
3 or fewer years	1	13	22	25	39	3	8	24	37	28
4 to 9 years	1	11	21	28	40	2	8	23	42	26
10 to 19 years	1	10	19	32	38	1	6	16	46	31
20 or more years	1	10	14	31	44	2	9	15	44	30

Rounds to zero.

! Interpret data with caution; the coefficient of variation is greater than 50 percent.

‡ Reporting standards not met.

[1] Data for combined schools (those with both elementary and secondary grades) are included in the totals and in analyses by other school characteristics but are not shown separately.

[2] Other academic subjects include English/language arts, foreign languages, and social sciences/social studies.

[3] Other assignments include arts and music; health/physical education; vocational, career, or technical education; and other (respondent asked to specify).

NOTE: Detail may not sum to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Teachers' Use of Educational Technology in U.S. Public Schools," FRSS 95, 2009; and Common Core of Data, "Public Elementary/Secondary School Universe Survey," 2005–06.

Table 3. Percent of teachers reporting the availability of various technology devices, and of those with the devices available, percent that reported using the devices sometimes or often for instruction during their classes, by school and teacher characteristics: 2009

Characteristic	LCD or DLP projector			Videoconference unit			Interactive whiteboard			Classroom response system[1]		
	Availability			Availability			Availability			Availability		
	Available as needed	In classroom every day	Use sometimes or often	Available as needed	In classroom every day	Use sometimes or often	Available as needed	In classroom every day	Use sometimes or often	Available as needed	In classroom every day	Use sometimes or often
All public school teachers	36	48	72	21	1	13	28	23	57	22	6	35
School instructional level[2]												
Elementary	37	44	68	19	1	12	31	23	58	21	7	35
Secondary	33	56	78	23	2	15	23	23	58	24	6	34
School enrollment size												
Less than 300	39	41	64	24	‡	13	23	31	64	16	7	41
300 to 999	36	46	71	20	1	12	30	23	58	22	6	35
1,000 or more	34	55	77	21	2	15	26	22	54	24	7	33
Community type												
City	36	45	71	19	3	11	30	18	52	22	6	30
Suburban	36	49	73	19	1	15	30	22	59	21	6	37
Town	33	50	71	24	1!	8	22	29	65	22	7	37
Rural	36	48	72	23	1	15	28	27	56	24	7	35
Percent of students in the school eligible for free or reduced-price lunch												
Less than 35 percent	38	50	71	22	1	10	32	23	55	24	6	32
35 to 49 percent	39	44	69	19	1!	17	26	18	56	22	4	30
50 to 74 percent	30	51	75	20	2	12	26	27	63	21	8	39
75 percent or more	35	42	73	20	1	18	26	23	57	19	7	39
Main teaching assignment												
General education in self-contained classroom	39	39	67	17	1	11	32	20	57	19	5	37
Mathematics/computer science, science	25	66	80	23	1	11	22	36	66	33	9	34
Other academic subject[3]	34	54	78	22	2	11	27	23	57	24	6	32
Special education, English as a second language	47	33	59	24	‡	18	32	15	47	20	5	33
Other assignment[4]	37	49	71	23	2	19	26	20	54	16	6	39
Elementary/secondary teaching experience												
3 or fewer years	33	51	76	18	2	12	20	24	69	22	6	29
4 to 9 years	35	52	77	20	2	12	30	22	55	21	5	38
10 to 19 years	36	48	71	22	1	14	30	24	54	24	7	35
20 or more years	38	42	66	22	1	15	30	23	58	22	7	35

See notes at end of table.

Table 3. Percent of teachers reporting the availability of various technology devices, and of those with the devices available, percent that reported using the devices sometimes or often for instruction during their classes, by school and teacher characteristics: 2009—Continued

Characteristic	Digital camera			MP3 player/iPod			Document camera[5]			Handheld device		
	Availability		Use	Availability		Use	Availability		Use	Availability		Use
	Available as needed	In classroom every day	sometimes or often	Available as needed	In classroom every day	sometimes or often	Available as needed	In classroom every day	sometimes or often	Available as needed	In classroom every day	sometimes or often
All public school teachers	64	14	49	18	5	36	22	17	56	8	4	50
School instructional level[2]												
Elementary	67	14	53	14	4	34	23	19	60	8	5	60
Secondary	57	13	41	24	6	37	23	13	48	8	2	28
School enrollment size												
Less than 300	65	17	56	14	5	35	18	13	54	9	3	50
300 to 999	67	14	51	16	4	32	22	18	59	8	5	55
1,000 or more	56	13	40	22	6	43	24	17	51	9	2	35
Community type												
City	61	11	48	17	5	39	20	20	64	10	4	47
Suburban	63	14	49	19	6	36	25	19	54	8	4	54
Town	65	16	54	18	3	35	22	14	50	9	4	45
Rural	68	15	47	16	4	32	20	14	54	7	3	49
Percent of students in the school eligible for free or reduced-price lunch												
Less than 35 percent	67	16	48	22	6	35	25	17	54	8	2	36
35 to 49 percent	66	13	49	20	4	34	21	16	50	7	5	46
50 to 74 percent	60	15	51	13	4	41	19	18	61	8	4	44
75 percent or more	61	9	49	14	4	33	23	17	58	10	7	72
Main teaching assignment												
General education in self-contained classroom	68	15	58	10	3	31	20	20	66	7	7	72
Mathematics/computer science, science	62	12	32	23	4	22	24	22	53	7	2	30
Other academic subject[3]	63	9	39	21	6	42	23	15	55	9	3	35
Special education, English as a second language	65	9	46	22	5	36	28	9	41	10	2	23
Other assignment[4]	56	27	62	22	8	48	23	13	45	10	4	45
Elementary/secondary teaching experience												
3 or fewer years	62	10	38	20	5	34	21	15	50	7	3	58
4 to 9 years	62	13	47	19	5	37	22	19	56	8	4	47
10 to 19 years	65	16	52	17	5	37	22	17	57	8	4	51
20 or more years	65	16	53	17	4	34	24	17	58	9	4	47

! Interpret data with caution; the coefficient of variation is greater than 50 percent.
‡ Reporting standards not met.
† Wireless systems allowing teachers to pose questions and students to respond using "clickers" or hand-held response pads, with responses compiled on a computer.
[2] Data for combined schools (those with both elementary and secondary grades) are included in the totals and in analyses by other school characteristics but are not shown separately.
[3] Other academic subjects include English/language arts, foreign languages, and social sciences/social studies.
[4] Other assignments include arts and music; health/physical education; vocational, career, or technical education; and other (respondent ask to specify).
[5] Devices that transmit images of 2- or 3-dimensional objects, text, or graphics to a computer monitor or LCD projector.
NOTE: For availability, the questionnaire included a response option of not available. For frequency of use, the response options were never, rarely, sometimes, and often. Responses for sometimes and often were combined in the table. Percents for use are based on the teachers who had the device available.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Teachers' Use of Educational Technology in U.S. Public Schools," FRSS 95, 2009; and Common Core of Data, "Public Elementary/Secondary School Universe Survey," 2005–06.

Table 4. Percent of teachers reporting that a system on their school or district network was available for various activities, and of those with a system available, percent that reported using the system sometimes or often, by school and teacher characteristics: 2009

Characteristic	Entering or viewing grades		Entering or viewing attendance records		Administering assessments		Entering or viewing results of student assessments		Entering or viewing Individual Education Plans (IEPs) or parts of the IEP relevant to interactions with students	
	Available	Use sometimes or often	Available	Use sometimes or often	Available	Use sometimes or often	Available	Use sometimes or often	Available	Use sometimes or often
All public school teachers	94	92	93	90	84	61	90	75	71	47
School instructional level[1]										
Elementary	92	89	90	86	85	64	91	78	71	45
Secondary	99	97	98	96	83	55	88	69	72	51
School enrollment size										
Less than 300	93	89	91	86	85	57	89	67	71	39
300 to 999	92	90	91	87	84	64	89	78	70	46
1,000 or more	99	97	98	97	85	56	91	71	75	54
Community type										
City	95	90	90	89	83	63	92	79	72	47
Suburban	93	92	93	89	85	59	90	74	72	52
Town	97	96	95	92	86	65	89	75	72	43
Rural	94	92	93	90	83	59	88	73	70	43
Percent of students in the school eligible for free or reduced-price lunch										
Less than 35 percent	94	93	94	91	84	54	89	69	74	50
35 to 49 percent	95	93	93	92	84	56	90	73	71	47
50 to 74 percent	94	92	92	88	84	66	91	79	69	45
75 percent or more	93	89	89	87	84	72	89	83	69	45
Main teaching assignment										
General education in self-contained classroom	88	84	87	84	83	64	90	77	68	37
Mathematics/computer science, science	98	97	96	94	84	55	89	74	69	40
Other academic subject[2]	98	97	97	94	84	62	90	75	68	45
Special education, English as a second language	97	92	96	89	89	63	92	75	92	91
Other assignment[3]	98	95	95	92	84	57	87	68	74	45
Elementary/secondary teaching experience										
3 or fewer years	94	92	93	90	82	56	88	70	73	43
4 to 9 years	95	91	94	91	86	59	91	73	71	50
10 to 19 years	94	92	92	87	84	62	90	76	70	46
20 or more years	94	93	92	91	84	64	89	78	73	49

[1] Data for combined schools (those with both elementary and secondary grades) are included in the totals and in analyses by other school characteristics but are not shown separately.
[2] Other academic subjects include English/language arts, foreign languages, and social sciences/social studies.
[3] Other assignments include arts and music; health/physical education; vocational, career, or technical education; and other (respondent asked to specify).
NOTE: Response options in the questionnaire were not available, never, rarely, sometimes, and often. Responses for sometimes and often were combined in the table. Percents for use are based on the teachers who had the system available.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Teachers' Use of Educational Technology in U.S. Public Schools," FRSS 95, 2009; and Common Core of Data, "Public Elementary/Secondary School Universe Survey," 2005–06.

Table 5. Percent of teachers reporting that remote access to various school or district computer applications, documents, or data was available, and of those with remote access available, percent that reported using it sometimes or often, by school and teacher characteristics: 2009

Characteristic	Remote access to school email		Remote access to documents on the school/district server		Remote access to student data		Remote access to school/district software applications	
	Available	Use sometimes or often	Available	Use sometimes or often	Available	Use sometimes or often	Available	Use sometimes or often
All public school teachers	97	85	74	62	81	61	74	49
School instructional level[1]								
Elementary	97	85	75	64	80	61	75	51
Secondary	97	84	72	57	82	60	72	47
School enrollment size								
Less than 300	92	79	72	57	75	57	68	40
300 to 999	97	85	75	63	80	61	75	51
1,000 or more	98	87	72	60	84	62	74	47
Community type								
City	98	87	78	65	84	64	77	53
Suburban	98	88	72	65	80	63	74	53
Town	96	78	77	56	81	58	74	45
Rural	96	81	71	56	79	55	70	41
Percent of students in the school eligible for free or reduced-price lunch								
Less than 35 percent	98	87	72	61	81	59	72	48
35 to 49 percent	97	82	75	59	81	60	75	43
50 to 74 percent	96	82	74	60	80	59	74	48
75 percent or more	97	86	77	67	81	68	77	57
Main teaching assignment								
General education in self-contained classroom	97	84	75	64	79	59	75	49
Mathematics/computer science, science	97	86	71	58	83	60	71	49
Other academic subject[2]	97	85	70	59	80	63	71	49
Special education, English as a second language	98	86	81	69	87	70	82	58
Other assignment[3]	97	83	76	60	79	54	73	42
Elementary/secondary teaching experience								
3 or fewer years	96	87	72	59	81	63	72	49
4 to 9 years	97	87	70	61	79	62	73	51
10 to 19 years	98	85	75	61	82	61	73	49
20 or more years	97	81	77	65	81	58	77	48

[1] Data for combined schools (those with both elementary and secondary grades) are included in the totals and in analyses by other school characteristics but are not shown separately.
[2] Other academic subjects include English/language arts, foreign languages, and social sciences/social studies.
[3] Other assignments include arts and music; health/physical education; vocational, career, or technical education; and other (respondent asked to specify).
NOTE: Response options in the questionnaire were not available, never, rarely, sometimes, and often. Responses for sometimes and often were combined in the table. Percents for use are based on the teachers who had the relevant remote access available.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Teachers' Use of Educational Technology in U.S. Public Schools," FRSS 95, 2009; and Common Core of Data, "Public Elementary/Secondary School Universe Survey," 2005–06.

Table 6. Percent of teachers reporting how frequently they used various types of software and Internet sites for classroom preparation, instruction, or administrative tasks, by school and teacher characteristics: 2009

Characteristic	Word processing software		Database management software		Spreadsheets and graphing programs		Software for managing student records		Software for desktop publishing		Graphics, image-editing software		Software for making presentations	
	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often
All public school teachers	2	96	24	44	25	61	9	80	22	53	30	40	22	63
School instructional level[1]														
Elementary	2	96	23	44	26	61	11	75	20	57	28	43	25	58
Secondary	2	97	26	42	24	64	5	88	26	47	33	34	16	73
School enrollment size														
Less than 300	3	95	30	36	28	55	11	75	22	53	26	36	25	51
300 to 999	2	96	23	45	26	61	10	77	21	55	29	42	23	62
1,000 or more	2	97	24	43	23	65	5	87	25	49	33	35	18	72
Community type														
City	2	96	24	43	26	62	10	78	24	49	30	38	21	63
Suburban	2	96	23	43	26	61	10	78	21	55	30	41	23	65
Town	2	97	20	51	21	67	7	85	19	60	32	41	20	64
Rural	2	96	26	41	27	59	8	80	23	51	29	38	23	61
Percent of students in the school eligible for free or reduced-price lunch														
Less than 35 percent	2	97	25	41	26	61	8	81	22	53	32	41	23	65
35 to 49 percent	2	98	26	47	25	63	8	83	23	54	33	38	23	64
50 to 74 percent	2	96	23	44	26	60	10	78	23	54	28	40	20	63
75 percent or more	3	94	22	45	22	63	11	77	20	52	27	39	23	60
Main teaching assignment														
General education in self-contained classroom	2	95	23	42	27	58	14	69	20	55	28	44	29	51
Mathematics/computer science, science	2	97	26	41	20	71	6	87	26	44	34	32	17	72
Other academic subject[2]	2	98	25	42	31	55	7	86	23	54	33	35	18	73
Special education, English as a second language	2	95	22	46	21	63	7	82	22	50	29	35	24	60
Other assignment[3]	1	96	22	51	21	67	5	85	19	61	26	49	17	71
Elementary/secondary teaching experience														
3 or fewer years	1	98	27	35	25	63	10	79	23	46	30	35	19	68
4 to 9 years	2	97	26	40	25	65	9	80	25	48	30	39	19	70
10 to 19 years	2	97	23	45	26	60	9	80	21	57	29	42	23	62
20 or more years	3	94	21	50	25	59	9	79	20	58	30	40	25	56

See notes at end of table.

Table 6. Percent of teachers reporting how frequently they used various types of software and Internet sites for classroom preparation, instruction, or administrative tasks, by school and teacher characteristics: 2009—Continued

Characteristic	Software for administering tests		Simulation and visualization programs		Drill/practice programs/tutorials		Subject-specific programs		The Internet		Blogs and/or wikis		Social networking websites	
	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often
All public school teachers	24	44	24	33	23	50	19	59	5	94	22	16	14	8
School instructional level[1]														
Elementary	24	43	24	33	23	56	18	62	4	95	21	14	14	8
Secondary	24	43	25	34	25	40	21	53	6	92	24	19	14	9
School enrollment size														
Less than 300	24	39	24	29	24	51	20	56	6	93	20	15	16	4
300 to 999	23	44	24	33	22	54	18	62	5	94	22	15	14	9
1,000 or more	24	45	26	34	26	43	20	54	5	94	23	18	14	9
Community type														
City	23	45	24	31	21	52	20	59	4	93	23	17	15	9
Suburban	26	39	25	33	25	48	19	58	4	95	21	18	14	9
Town	24	49	24	37	24	52	18	64	5	92	23	14	15	7
Rural	21	45	24	33	23	52	20	59	6	93	21	13	14	7
Percent of students in the school eligible for free or reduced-price lunch														
Less than 35 percent	25	38	23	31	26	44	20	56	4	95	22	17	14	7
35 to 49 percent	20	47	27	31	24	48	22	56	7	92	23	16	13	6
50 to 74 percent	24	47	26	35	21	55	19	62	6	93	20	14	15	8
75 percent or more	23	49	23	36	19	59	15	65	4	94	22	17	14	12
Main teaching assignment														
General education in self-contained classroom	25	40	24	30	21	59	19	61	5	94	18	13	13	8
Mathematics/computer science, science	21	52	24	45	25	49	18	63	7	89	22	14	14	6
Other academic subject[2]	24	44	26	27	26	42	22	51	3	96	24	23	17	9
Special education, English as a second language	23	47	28	32	23	57	21	62	4	95	25	16	13	9
Other assignment[3]	25	39	21	38	23	40	16	62	4	94	25	16	14	12
Elementary/secondary teaching experience														
3 or fewer years	24	41	26	29	25	41	21	51	4	95	20	18	13	9
4 to 9 years	22	44	24	35	27	45	21	55	4	95	23	17	13	9
10 to 19 years	23	46	25	32	20	54	19	60	5	94	23	16	15	7
20 or more years	25	42	23	35	22	56	16	67	5	92	20	14	15	9

[1] Data for combined schools (those with both elementary and secondary grades) are included in the totals and in analyses by other school characteristics but are not shown separately.
[2] Other academic subjects include English/language arts, foreign languages, and social sciences/social studies.
[3] Other assignments include arts and music; health/physical education; vocational, career, or technical education; and other (respondent asked to specify).
NOTE: Response options in the questionnaire were never, rarely, sometimes, and often. Responses for sometimes and often were combined in the table.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Teachers' Use of Educational Technology in U.S. Public Schools," FRSS 95, 2009; and Common Core of Data, "Public Elementary/Secondary School Universe Survey," 2005–06.

Table 7. Percent of teachers reporting how frequently their students performed various activities using educational technology during their classes, based on teachers reporting that the activity applied to their students, by school and teacher characteristics: 2009

Characteristic	Prepare written text		Create or use graphics or visual displays		Learn or practice basic skills		Conduct research		Correspond with others		Contribute to blogs or wikis		Use social networking websites	
	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often
All public school teachers	24	61	27	53	17	69	22	66	21	31	12	9	9	7
School instructional level[1]														
Elementary	27	57	29	49	15	76	23	64	20	26	10	7	7	6
Secondary	20	67	24	59	21	53	20	69	24	40	16	13	12	9
School enrollment size														
Less than 300	23	63	31	48	20	70	22	64	18	29	11	7	9	4
300 to 999	26	59	28	52	16	73	22	65	21	28	12	8	7	8
1,000 or more	21	64	24	56	20	57	21	67	23	40	15	12	12	8
Community type														
City	24	59	25	52	14	72	21	66	23	32	14	6	10	7
Suburban	24	61	27	53	16	70	23	64	20	32	10	12	7	7
Town	26	61	30	54	20	63	19	69	21	32	14	9	7	9
Rural	24	61	28	52	20	65	21	66	23	29	13	8	11	7
Percent of students in the school eligible for free or reduced-price lunch														
Less than 35 percent	21	66	27	56	21	61	21	67	22	33	12	11	8	6
35 to 49 percent	23	62	29	52	20	63	22	65	21	30	11	8	7	6
50 to 74 percent	27	55	28	49	15	73	21	65	21	30	13	7	8	8
75 percent or more	28	56	26	50	10	83	24	64	20	31	13	9	11	10
Main teaching assignment														
General education in self-contained classroom	28	54	30	45	12	83	24	59	18	22	8	6	7	5
Mathematics/computer science, science	26	52	26	53	20	59	27	56	23	32	11	7	7	7
Other academic subject[2]	21	70	30	56	24	54	18	76	21	40	15	16	10	9
Special education, English as a second language	21	70	23	59	13	80	19	73	24	31	16	8	10	8
Other assignment[3]	21	65	21	62	22	54	18	72	24	39	16	9	12	13
Elementary/secondary teaching experience														
3 or fewer years	28	53	27	49	16	67	26	58	21	30	11	10	8	8
4 to 9 years	27	58	27	52	19	67	23	65	21	33	13	10	10	5
10 to 19 years	22	63	30	51	16	70	21	67	22	29	12	9	7	7
20 or more years	22	64	25	57	16	70	18	69	21	33	13	8	9	10

See notes at end of table.

Table 7. Percent of teachers reporting how frequently their students performed various activities using educational technology during their classes, based on teachers reporting that the activity applied to their students, by school and teacher characteristics: 2009—Continued

Characteristic	Solve problems, analyze data, or perform calculations		Conduct experiments or perform measurements		Develop and present multimedia presentations		Create art, music, movies, or webcasts		Develop or run demonstrations, models, or simulations		Design and produce a product	
	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often
All public school teachers	23	45	25	25	25	42	24	25	23	17	17	13
School instructional level[1]												
Elementary	21	45	24	23	26	35	25	21	21	14	15	11
Secondary	25	46	27	30	24	53	24	32	26	25	20	17
School enrollment size												
Less than 300	23	44	28	21	22	37	22	23	22	15	15	16
300 to 999	22	46	24	25	25	40	25	23	23	15	17	12
1,000 or more	23	44	27	28	27	47	23	30	24	24	18	16
Community type												
City	21	45	22	26	25	41	24	21	24	16	18	12
Suburban	21	46	25	26	25	40	23	28	21	18	14	12
Town	26	45	29	25	25	46	26	26	27	19	22	18
Rural	24	45	27	25	25	43	25	23	23	17	18	14
Percent of students in the school eligible for free or reduced-price lunch												
Less than 35 percent	24	43	25	24	25	47	25	30	23	18	17	14
35 to 49 percent	24	42	26	23	28	38	24	18	22	17	17	13
50 to 74 percent	19	47	26	27	24	40	24	22	24	17	15	14
75 percent or more	22	52	25	28	24	36	22	22	22	18	20	11
Main teaching assignment												
General education in self-contained classroom	19	43	24	18	25	28	23	17	17	10	12	8
Mathematics/computer science, science	20	61	27	45	29	40	23	17	27	25	17	11
Other academic subject[2]	26	35	24	17	24	56	29	32	26	18	22	19
Special education, English as a second language	29	40	28	23	27	38	25	25	26	13	21	8
Other assignment[3]	26	45	27	27	21	55	21	42	23	26	19	25
Elementary/secondary teaching experience												
3 or fewer years	23	45	25	27	23	41	24	23	20	16	13	9
4 to 9 years	22	46	25	28	24	44	24	28	21	19	17	14
10 to 19 years	23	44	26	23	26	41	23	26	25	17	18	13
20 or more years	23	46	25	25	26	41	26	22	24	17	19	15

[1] Data for combined schools (those with both elementary and secondary grades) are included in the totals and in analyses by other school characteristics but are not shown separately.
[2] Other academic subjects include English/language arts, foreign languages, and social sciences/social studies.
[3] Other assignments include arts and music; health/physical education; vocational, career, or technical education; and other (respondent asked to specify).
NOTE: Response options in the questionnaire were not applicable, never, rarely, sometimes, and often. Responses for sometimes and often were combined in the table. Percents are based on the teachers reporting that the activity applied to their students.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Teachers' Use of Educational Technology in U.S. Public Schools," FRSS 95, 2009; and Common Core of Data, "Public Elementary/Secondary School Universe Survey," 2005–06.

Table 8. Percent of teachers reporting how frequently they used various modes of technology to communicate with parents or students, by school and teacher characteristics: 2009

Characteristic	Email or list-serve to send out group updates or information				Email to address individual concerns				Online bulletin board for class discussion			
	Parents		Students		Parents		Students		Parents		Students	
	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often
All public school teachers	14	59	13	24	10	79	13	30	11	14	7	11
School instructional level[1]												
Elementary	14	58	10	18	11	75	10	20	10	13	6	8
Secondary	14	61	17	36	8	86	19	48	13	16	10	14
School enrollment size												
Less than 300	16	52	11	17	14	71	10	19	9	9	6	5
300 to 999	14	59	12	20	11	77	12	24	10	13	7	9
1,000 or more	13	62	15	36	6	86	17	48	13	18	10	16
Community type												
City	13	53	13	25	11	69	16	29	12	13	7	11
Suburban	15	60	13	25	9	82	13	32	10	16	7	12
Town	14	62	12	23	8	82	14	27	11	14	8	9
Rural	14	62	13	22	11	81	12	27	11	12	8	9
Percent of students in the school eligible for free or reduced-price lunch												
Less than 35 percent	10	69	14	30	4	92	14	38	11	16	8	13
35 to 49 percent	18	61	14	24	9	86	15	31	11	13	9	9
50 to 74 percent	15	58	13	20	12	77	13	25	10	13	6	8
75 percent or more	18	39	10	17	20	48	11	19	13	12	7	9
Main teaching assignment												
General education in self-contained classroom	15	53	8	13	12	70	7	13	8	9	5	5
Mathematics/computer science, science	14	61	17	30	7	88	19	41	12	18	8	17
Other academic subject[2]	13	66	14	34	7	87	16	44	12	15	8	14
Special education, English as a second language	11	58	17	17	9	71	15	22	12	15	8	9
Other assignment[3]	13	65	16	35	12	81	16	41	15	16	12	14
Elementary/secondary teaching experience												
3 or fewer years	15	50	9	19	9	74	11	26	11	15	8	13
4 to 9 years	16	59	14	23	10	79	14	27	9	14	6	12
10 to 19 years	12	62	14	25	9	81	14	29	11	14	7	9
20 or more years	13	61	13	27	11	79	13	35	14	12	8	10

See notes at end of table.

Table 8. Percent of teachers reporting how frequently they use various modes of technology to communicate with parents or students, by school and teacher characteristics: 2009—Continued

Characteristic	Course or teacher web page				Course or teacher blog				Instant messaging			
	Parents		Students		Parents		Students		Parents		Students	
	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often
All public school teachers	14	39	11	28	8	8	6	5	7	7	4	3
School instructional level[1]												
Elementary	14	39	9	25	8	7	5	4	6	7	3	2
Secondary	14	41	13	33	10	9	8	7	8	7	5	5
School enrollment size												
Less than 300	14	34	10	20	8	5	5	3	7	6	3	1
300 to 999	14	38	10	26	8	8	5	4	6	7	4	3
1,000 or more	14	43	12	35	9	11	7	8	8	7	4	5
Community type												
City	16	32	11	22	8	8	6	4	8	8	5	4
Suburban	13	43	10	32	8	9	6	6	6	5	3	3
Town	12	39	12	26	9	8	5	5	6	11	5	3
Rural	14	40	11	28	9	7	6	5	7	8	4	4
Percent of students in the school eligible for free or reduced-price lunch												
Less than 35 percent	13	47	10	36	8	9	5	7	6	5	4	3
35 to 49 percent	14	38	14	26	10	6	7	4	6	8	4	3
50 to 74 percent	14	35	10	24	8	8	6	5	7	8	4	4
75 percent or more	14	30	10	18	8	8	6	4	9	10	5	4
Main teaching assignment												
General education in self-contained classroom	12	35	8	20	7	6	4	2	6	7	3	2
Mathematics/computer science, science	13	45	12	38	8	8	6	6	7	7	4	4
Other academic subject[2]	14	41	11	35	9	11	6	9	7	5	4	3
Special education, English as a second language	15	35	13	20	10	9	7	4	9	6	5	3
Other assignment[3]	17	43	15	31	12	8	8	7	8	11	7	5
Elementary/secondary teaching experience												
3 or fewer years	12	34	10	23	7	8	4	5	6	4	2	3
4 to 9 years	13	38	11	27	7	8	5	6	6	6	4	3
10 to 19 years	13	41	10	30	7	9	6	5	7	8	4	3
20 or more years	16	41	12	29	11	8	8	5	8	9	6	4

[1] Data for combined schools (those with both elementary and secondary grades) are included in the totals and in analyses by other school characteristics but are not shown separately.
[2] Other academic subjects include English/language arts, foreign languages, and social sciences/social studies.
[3] Other assignments include arts and music; health/physical education; vocational, career, or technical education; and other (respondent asked to specify).
NOTE: Response options in the questionnaire were never, rarely, sometimes, and often. Responses for sometimes and often were combined in the table.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Teachers' Use of Educational Technology in U.S. Public Schools," FRSS 95, 2009; and Common Core of Data, "Public Elementary/Secondary School Universe Survey," 2005–06.

Table 9. Percent of teachers reporting the extent to which various kinds of education and training prepared them to make effective use of educational technology for instruction, by school and teacher characteristics: 2009

Characteristic	Undergraduate teacher education program		Graduate teacher education program		Professional development activities		Training provided by staff responsible for technology support and/or integration at the school		Independent learning	
	Not applicable	Moderate or major extent	Not applicable	Moderate or major extent	Not applicable	Moderate or major extent	Not applicable	Moderate or major extent	Not applicable	Moderate or major extent
All public school teachers	21	25	31	33	4	61	4	61	3	78
School instructional level[1]										
Elementary	20	25	32	33	3	64	4	64	3	78
Secondary	23	25	29	32	4	57	4	55	3	80
School enrollment size										
Less than 300	24	22	38	28	5	57	8	53	4	74
300 to 999	20	25	31	33	3	63	3	63	2	78
1,000 or more	21	27	29	33	4	59	4	58	3	81
Community type										
City	23	27	30	33	4	61	4	57	3	80
Suburban	21	24	29	34	4	61	4	63	3	80
Town	19	27	34	33	3	65	3	63	1	77
Rural	19	24	34	29	3	60	3	60	3	75
Percent of students in the school eligible for free or reduced-price lunch										
Less than 35 percent	21	21	27	33	2	62	2	63	2	79
35 to 49 percent	22	25	27	32	3	61	2	63	2	78
50 to 74 percent	22	26	37	30	5	61	6	60	4	75
75 percent or more	20	32	36	35	4	61	5	55	2	81
Main teaching assignment										
General education in self-contained classroom	18	25	32	32	3	64	3	63	3	75
Mathematics/computer science, science	21	24	28	34	5	59	4	54	2	82
Other academic subject[2]	23	25	32	32	3	59	3	60	3	78
Special education, English as a second language	24	24	26	34	6	65	7	65	4	81
Other assignment[3]	22	29	34	31	3	61	4	62	3	81
Elementary/secondary teaching experience										
3 or fewer years	17	49	52	28	7	47	7	49	3	82
4 to 9 years	17	38	27	42	3	56	4	55	2	81
10 to 19 years	16	17	25	35	3	65	3	64	2	78
20 or more years	32	9	30	24	3	71	3	70	4	74

[1] Data for combined schools (those with both elementary and secondary grades) are included in the totals and in analyses by other school characteristics but are not shown separately.
[2] Other academic subjects include English/language arts, foreign languages, and social sciences/social studies.
[3] Other assignments include arts and music; health/physical education; vocational, career, or technical education; and other (respondent asked to specify).
NOTE: Response options in the questionnaire were not applicable, not at all, minor extent, moderate extent, and major extent. Responses for moderate and major extent were combined in the table. Percents are based on all teachers.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Teachers' Use of Educational Technology in U.S. Public Schools," FRSS 95, 2009; and Common Core of Data, "Public Elementary/Secondary School Universe Survey," 2005–06.

Table 10. Percentage distribution of teachers reporting the number of hours spent in professional development activities for educational technology during the last 12 months, by school and teacher characteristics: 2009

Characteristic	Time spent in professional development activities for educational technology				
	None	1–8 hours	9–16 hours	17–32 hours	33 hours or more
All public school teachers	13	53	18	9	7
School instructional level[1]					
Elementary	12	55	18	8	7
Secondary	14	51	18	10	7
School enrollment size					
Less than 300	12	56	20	8	4
300 to 999	13	53	18	9	7
1,000 or more	13	52	17	9	8
Community type					
City	16	53	15	8	8
Suburban	11	55	16	10	7
Town	13	53	19	10	6
Rural	12	52	22	7	7
Percent of students in the school eligible for free or reduced-price lunch					
Less than 35 percent	12	54	18	10	7
35 to 49 percent	12	55	20	8	5
50 to 74 percent	13	51	19	10	7
75 percent or more	15	54	14	6	10
Main teaching assignment					
General education in self-contained classroom	13	56	17	7	7
Mathematics/computer science, science	14	51	18	11	6
Other academic subject[2]	13	52	19	9	7
Special education, English as a second language	9	55	20	8	8
Other assignment[3]	12	50	19	11	9
Elementary/secondary teaching experience					
3 or fewer years	16	53	17	9	6
4 to 9 years	12	57	15	8	8
10 to 19 years	11	55	18	9	7
20 or more years	13	49	22	9	7

[1] Data for combined schools (those with both elementary and secondary grades) are included in the totals and in analyses by other school characteristics but are not shown separately.
[2] Other academic subjects include English/language arts, foreign languages, and social sciences/social studies.
[3] Other assignments include arts and music; health/physical education; vocational, career, or technical education; and other (respondent asked to specify).
SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Teachers' Use of Educational Technology in U.S. Public Schools," FRSS 95, 2009; and Common Core of Data, "Public Elementary/Secondary School Universe Survey," 2005–06.

Table 11. Percentage distribution of teachers who reported participating in professional development activities for educational technology during the last 12 months reporting agreement or disagreement with various statements about those activities, by school and teacher characteristics: 2009

Characteristic	It met my goals and needs		It supported the goals and standards of my state, district, and school		It applied to technology available in my school		It was available at convenient times and places	
	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree
All public school teachers	19	81	12	88	13	87	17	83
School instructional level[1]								
Elementary	18	82	10	90	12	88	14	86
Secondary	21	79	14	86	16	84	22	78
School enrollment size								
Less than 300	19	81	12	88	13	87	19	81
300 to 999	18	82	11	89	12	88	15	85
1,000 or more	19	81	14	86	15	85	20	80
Community type								
City	22	78	15	85	19	81	21	79
Suburban	18	82	10	90	12	88	15	85
Town	16	84	11	89	10	90	17	83
Rural	19	81	12	88	12	88	16	84
Percent of students in the school eligible for free or reduced-price lunch								
Less than 35 percent	18	82	10	90	11	89	16	84
35 to 49 percent	22	78	14	86	14	86	20	80
50 to 74 percent	18	82	12	88	12	88	15	85
75 percent or more	20	80	14	86	16	84	19	81
Main teaching assignment								
General education in self-contained classroom	20	80	12	88	12	88	15	85
Mathematics/computer science, science	19	81	12	88	14	86	18	82
Other academic subject[2]	20	80	14	86	14	86	19	81
Special education, English as a second language	13	87	10	90	14	86	14	86
Other assignment[3]	17	83	10	90	11	89	20	80
Elementary/secondary teaching experience								
3 or fewer years	21	79	13	87	18	82	20	80
4 to 9 years	22	78	13	87	16	84	17	83
10 to 19 years	18	82	12	88	13	87	16	84
20 or more years	15	85	10	90	8	92	16	84

[1] Data for combined schools (those with both elementary and secondary grades) are included in the totals and in analyses by other school characteristics but are not shown separately.
[2] Other academic subjects include English/language arts, foreign languages, and social sciences/social studies.
[3] Other assignments include arts and music; health/physical education; vocational, career, or technical education; and other (respondent asked to specify).
NOTE: Response options in the questionnaire were strongly disagree, somewhat disagree, somewhat agree, and strongly agree. Responses to the "strongly" and "somewhat" categories were combined in the table. Percents are calculated among teachers who participated in professional development activities for educational technology during the 12 months prior to completing the survey. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Teachers' Use of Educational Technology in U.S. Public Schools," FRSS 95, 2009; and Common Core of Data, "Public Elementary/Secondary School Universe Survey," 2005–06.

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Appendix A

Standard Error Tables

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Table 1a. Standard errors for the percent of teachers with computers in the classroom every day and percent that can bring computers into the classroom, ratio of students in the classroom to these computers, and percent of these computers with Internet access, by school and teacher characteristics: 2009

Characteristic	Computers in the classroom every day			Computers that can be brought into the classroom			Total computers (in or can be brought into the classroom)		
	Percent of teachers	Ratio of students in the classroom to computers	Percent of computers with Internet access	Percent of teachers	Ratio of students in the classroom to computers	Percent of computers with Internet access	Percent of teachers	Ratio of students in the classroom to computers	Percent of computers with Internet access
All public school teachers	0.3	0.14	0.7	1.1	0.07	0.6	0.2	0.04	0.5
School instructional level									
Elementary	0.5	0.13	0.7	1.5	0.11	0.8	0.3	0.05	0.6
Secondary	0.7	0.31	1.3	1.6	0.11	0.8	0.4	0.06	0.8
School enrollment size									
Less than 300	1.0	0.28	2.0	2.8	0.21	0.7	0.5	0.08	0.8
300 to 999	0.4	0.16	0.8	1.5	0.10	0.8	0.3	0.05	0.6
1,000 or more	0.8	0.34	1.9	2.2	0.14	1.0	0.4	0.07	1.0
Community type									
City	0.9	0.33	1.5	2.7	0.19	1.5	0.5	0.09	1.1
Suburban	0.4	0.25	1.2	2.1	0.12	0.8	0.3	0.07	0.8
Town	0.8	0.41	1.8	2.9	0.21	1.8	0.6	0.10	1.4
Rural	0.8	0.30	0.9	1.9	0.13	1.3	0.5	0.06	0.9
Percent of students in the school eligible for free or reduced-price lunch									
Less than 35 percent	0.6	0.23	1.1	1.9	0.10	0.8	0.3	0.05	0.7
35 to 49 percent	0.6	0.36	2.0	2.4	0.19	1.5	0.5	0.10	1.3
50 to 74 percent	0.7	0.25	1.3	2.3	0.21	1.3	0.5	0.09	1.0
75 percent or more	0.9	0.27	1.5	2.7	0.26	1.7	0.3	0.11	1.2
Main teaching assignment									
General education in self-contained classroom	0.5	0.14	1.2	1.8	0.19	1.2	0.3	0.08	0.9
Mathematics/computer science, science	1.0	0.45	2.4	2.2	0.08	1.3	0.5	0.05	1.3
Other academic subject	0.7	0.42	0.5	1.7	0.10	1.0	0.3	0.06	0.8
Special education, English as a second language	0.7	0.18	2.1	3.3	0.15	2.1	0.5	0.07	1.8
Other assignment	1.1	0.24	1.8	2.6	0.26	1.4	0.9	0.09	1.1
Elementary/secondary teaching experience									
3 or fewer years	1.1	0.38	1.3	2.5	0.19	1.8	0.5	0.10	1.3
4 to 9 years	0.6	0.23	1.2	1.9	0.10	1.2	0.3	0.05	0.9
10 to 19 years	0.6	0.26	1.5	1.8	0.12	1.1	0.4	0.07	1.0
20 or more years	0.7	0.25	1.3	2.0	0.12	1.1	0.4	0.06	0.9

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Teachers' Use of Educational Technology in U.S. Public Schools," FRSS 95, 2009; and Common Core of Data, "Public Elementary/Secondary School Universe Survey," 2005–06.

Table 2a. Standard errors for the percentage distribution of teachers reporting how frequently they or their students use computers during instructional time in the classroom and in other locations in the school, by school and teacher characteristics: 2009

Characteristic	In the classroom					In other locations in the school				
	Not available	Never	Rarely	Sometimes	Often	Not available	Never	Rarely	Sometimes	Often
All public school teachers	0.2	0.6	0.8	0.8	1.0	0.3	0.5	0.8	1.1	0.9
School instructional level										
Elementary	0.3	0.7	1.1	1.1	1.3	0.3	0.7	1.0	1.3	1.3
Secondary	0.4	1.2	1.4	1.1	1.6	0.4	0.9	1.3	1.5	1.1
School enrollment size										
Less than 300	0.5	1.7	2.4	2.5	3.0	1.0	1.2	2.1	3.3	2.6
300 to 999	0.3	0.6	0.9	1.1	1.1	0.3	0.6	1.0	1.3	1.3
1,000 or more	0.4	1.3	1.5	1.6	1.8	0.4	1.1	1.6	1.6	1.3
Community type										
City	0.5	1.0	1.7	2.1	2.2	0.6	1.2	1.8	2.0	1.8
Suburban	0.3	1.1	1.5	1.3	1.7	0.5	1.0	1.4	1.6	1.5
Town	0.6	1.1	1.9	2.0	2.8	0.6	1.2	2.2	2.6	2.5
Rural	0.5	1.3	1.2	1.4	1.6	0.3	1.1	1.3	2.0	1.9
Percent of students in the school eligible for free or reduced-price lunch										
Less than 35 percent	0.3	1.0	1.4	1.4	1.7	0.4	0.8	1.2	1.5	1.4
35 to 49 percent	0.5	1.7	1.7	2.0	2.2	0.4	1.5	2.0	2.4	2.0
50 to 74 percent	0.5	1.4	1.3	2.0	2.1	0.7	1.1	1.7	2.2	1.7
75 percent or more	†	1.1	1.7	1.8	2.3	0.6	1.5	1.8	2.2	2.0
Main teaching assignment										
General education in self-contained classroom	0.3	0.7	1.3	1.5	1.8	0.5	0.9	1.2	1.8	1.7
Mathematics/computer science, science	0.5	1.5	1.8	1.7	1.9	0.7	1.3	1.9	1.9	1.6
Other academic subject	0.3	1.4	1.6	1.5	1.9	0.6	0.6	1.9	2.3	1.5
Special education, English as a second language	†	1.5	2.7	3.1	3.0	†	1.6	2.5	3.1	2.9
Other assignment	0.9	1.9	1.6	2.1	2.5	0.5	2.0	1.9	2.8	2.3
Elementary/secondary teaching experience										
3 or fewer years	0.5	1.5	2.1	1.9	2.4	0.9	1.5	2.3	2.8	2.4
4 to 9 years	0.3	1.2	1.4	1.4	1.8	0.5	1.1	1.7	1.6	1.6
10 to 19 years	0.4	0.9	1.5	1.7	1.7	0.4	0.7	1.5	1.6	1.7
20 or more years	0.4	1.1	1.1	1.8	1.8	0.5	1.1	1.3	1.8	1.7

† Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Teachers' Use of Educational Technology in U.S. Public Schools," FRSS 95, 2009; and Common Core of Data, "Public Elementary/Secondary School Universe Survey," 2005–06.

Table 3a. Standard errors for the percent of teachers reporting the availability of various technology devices, and of those with the devices available, percent that reported using the devices sometimes or often for instruction during their classes, by school and teacher characteristics: 2009

Characteristic	LCD or DLP projector			Videoconference unit			Interactive whiteboard			Classroom response system		
	Availability			Availability			Availability			Availability		
	Available as needed	In classroom every day	Use sometimes or often	Available as needed	In classroom every day	Use sometimes or often	Available as needed	In classroom every day	Use sometimes or often	Available as needed	In classroom every day	Use sometimes or often
All public school teachers	0.9	1.0	0.9	0.9	0.2	1.3	1.1	1.1	1.5	1.0	0.5	2.3
School instructional level												
Elementary	1.3	1.6	1.4	1.4	0.3	1.8	1.5	1.5	2.0	1.3	0.6	2.9
Secondary	1.7	1.6	1.2	1.3	0.4	2.2	1.5	1.3	2.1	1.4	0.7	3.0
School enrollment size												
Less than 300	3.1	3.0	2.3	2.7	†	3.5	2.7	2.7	3.4	2.3	1.5	5.2
300 to 999	1.2	1.4	1.3	1.2	0.3	1.5	1.3	1.4	1.8	1.4	0.7	3.2
1,000 or more	1.8	2.1	1.7	1.6	0.5	2.6	2.1	1.8	3.3	1.7	1.3	3.6
Community type												
City	2.2	2.4	2.4	1.7	0.8	2.4	2.6	1.8	3.4	1.7	0.9	3.8
Suburban	1.6	1.8	1.9	1.7	0.3	2.8	1.9	1.7	2.4	1.7	0.9	3.4
Town	3.0	3.2	3.1	2.0	0.6	3.2	2.5	3.2	3.6	2.3	1.7	5.7
Rural	1.8	2.0	1.7	1.7	0.4	2.5	1.8	1.9	2.5	1.9	1.0	4.0
Percent of students in the school eligible for free or reduced-price lunch												
Less than 35 percent	1.6	1.6	1.6	1.4	0.4	1.9	1.8	1.5	2.2	1.2	0.8	2.9
35 to 49 percent	2.4	2.6	2.0	1.9	0.8	4.5	2.3	2.3	4.3	2.4	1.1	4.1
50 to 74 percent	2.1	2.3	1.9	1.6	0.5	2.7	1.9	2.0	2.9	1.8	1.2	3.9
75 percent or more	2.6	3.2	2.6	2.3	0.6	3.8	2.4	2.7	3.9	2.3	1.3	4.6
Main teaching assignment												
General education in self-contained classroom	1.8	2.3	1.8	1.5	0.4	2.3	1.7	1.8	2.3	1.6	0.8	3.5
Mathematics/computer science, science	1.8	2.0	1.7	2.0	0.5	3.2	1.8	2.3	2.6	1.9	1.3	3.6
Other academic subject	1.7	2.1	1.9	1.6	0.7	2.6	2.3	2.1	3.4	1.8	1.0	3.8
Special education, English as a second language	3.5	2.9	3.2	3.0	†	5.3	2.6	2.2	5.3	2.5	1.4	6.0
Other assignment	2.6	2.7	2.8	2.1	0.6	3.7	2.3	1.7	3.8	2.0	1.1	4.7
Elementary/secondary teaching experience												
3 or fewer years	2.5	2.5	2.5	2.0	0.8	2.9	2.0	2.1	3.2	2.2	1.0	4.5
4 to 9 years	2.0	1.8	1.9	1.6	0.5	2.5	1.9	1.7	2.6	1.6	0.8	3.7
10 to 19 years	1.6	1.8	1.6	1.6	0.3	2.0	1.7	1.6	2.3	1.7	1.0	3.2
20 or more years	1.7	1.9	1.7	1.6	0.3	2.3	1.8	1.4	2.7	1.7	1.0	4.2

See notes at end of table.

Table 3a. Standard errors for the percent of teachers reporting the availability of various technology devices, and of those with the devices available, percent that reported using the devices sometimes or often for instruction during their classes, by school and teacher characteristics: 2009—Continued

Characteristic	Digital camera			MP3 player/iPod			Document camera			Handheld device		
	Availability			Availability			Availability			Availability		
	Available as needed	In classroom every day	Use sometimes or often	Available as needed	In classroom every day	Use sometimes or often	Available as needed	In classroom every day	Use sometimes or often	Available as needed	In classroom every day	Use sometimes or often
All public school teachers	1.1	0.6	0.9	0.7	0.3	1.7	0.9	1.0	1.7	0.7	0.5	3.0
School instructional level												
Elementary	1.4	0.9	1.2	1.0	0.5	2.6	1.1	1.2	2.0	0.8	0.7	3.7
Secondary	1.5	0.9	1.5	1.2	0.6	2.3	1.5	1.2	2.8	1.0	0.5	3.8
School enrollment size												
Less than 300	2.8	2.6	3.1	2.1	1.3	6.6	2.3	2.3	5.9	1.7	1.0	9.0
300 to 999	1.4	0.8	1.3	0.9	0.5	2.5	1.2	1.2	2.2	0.7	0.7	4.0
1,000 or more	2.0	1.2	2.0	1.6	0.7	2.8	2.0	2.0	3.3	1.3	0.6	6.4
Community type												
City	2.2	1.3	1.7	1.7	0.9	3.7	1.8	2.2	3.7	2.2	1.2	6.0
Suburban	1.7	1.2	1.7	1.2	0.7	3.1	1.6	1.6	2.4	1.1	0.7	4.1
Town	2.1	2.0	3.4	2.1	0.9	4.7	1.8	2.3	5.0	1.3	1.5	10.1
Rural	1.7	1.4	2.0	1.1	0.6	3.7	1.6	1.6	3.8	0.9	0.7	6.0
Percent of students in the school eligible for free or reduced-price lunch												
Less than 35 percent	1.5	1.1	1.3	1.2	0.7	2.7	1.5	1.5	2.4	1.0	0.4	4.5
35 to 49 percent	2.2	1.8	2.8	1.8	1.0	4.6	2.3	2.2	4.1	1.3	1.3	8.7
50 to 74 percent	2.0	1.4	2.3	1.4	0.9	3.3	1.7	2.1	3.3	1.3	0.8	6.6
75 percent or more	2.3	1.2	3.0	1.6	0.7	5.5	2.2	2.1	4.0	1.6	1.5	5.4
Main teaching assignment												
General education in self-contained classroom	1.7	1.3	1.8	1.1	0.7	4.0	1.5	1.8	2.6	0.9	1.0	4.3
Mathematics/computer science, science	2.3	1.4	2.5	2.0	0.9	2.9	1.8	1.8	3.4	1.1	0.6	5.9
Other academic subject	2.0	1.0	2.1	1.8	0.9	3.1	1.7	1.9	3.7	1.6	0.8	9.3
Special education, English as a second language	2.6	1.4	4.0	2.8	1.3	5.8	3.2	1.7	5.6	1.5	0.8	8.5
Other assignment	2.5	2.1	2.6	1.8	1.4	4.8	2.1	1.8	3.7	1.8	1.0	6.5
Elementary/secondary teaching experience												
3 or fewer years	2.7	1.5	3.3	1.7	1.0	3.6	1.8	2.4	4.5	1.4	0.9	9.1
4 to 9 years	1.8	1.1	2.2	1.3	0.9	3.7	1.7	1.3	3.3	1.1	0.8	6.2
10 to 19 years	1.5	1.1	1.9	1.0	0.7	3.7	1.4	1.6	2.9	1.0	0.8	5.5
20 or more years	1.8	1.3	1.7	1.4	0.7	3.1	1.6	1.6	3.2	1.1	0.9	5.3

† Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Teachers' Use of Educational Technology in U.S. Public Schools," FRSS 95, 2009; and Common Core of Data, "Public Elementary/Secondary School Universe Survey," 2005–06.

Table 4a. Standard errors for the percent of teachers reporting that a system on their school or district network was available for various activities, and of those with a system available, percent that reported using the system sometimes or often, by school and teacher characteristics: 2009

Characteristic	Entering or viewing grades		Entering or viewing attendance records		Administering assessments		Entering or viewing results of student assessments		Entering or viewing Individual Education Plans (IEPs) or parts of the IEP relevant to interactions with students	
	Available	Use sometimes or often	Available	Use sometimes or often	Available	Use sometimes or often	Available	Use sometimes or often	Available	Use sometimes or often
All public school teachers	0.5	0.6	0.4	0.7	0.7	1.1	0.6	0.9	0.8	1.1
School instructional level										
Elementary	0.8	0.9	0.6	1.1	0.8	1.3	0.6	1.0	1.1	1.6
Secondary	0.3	0.5	0.5	0.6	1.0	1.9	0.9	1.6	1.1	1.8
School enrollment size										
Less than 300	1.5	1.7	1.7	2.3	1.7	3.8	1.7	3.1	2.3	3.0
300 to 999	0.7	0.9	0.6	0.8	0.9	1.6	0.7	1.1	1.0	1.5
1,000 or more	0.4	0.5	0.8	0.7	1.5	1.8	1.1	1.7	1.6	2.3
Community type										
City	1.1	1.5	1.4	1.3	1.8	1.9	1.3	1.7	1.9	2.5
Suburban	0.8	0.9	0.9	1.4	1.2	1.9	1.0	1.8	1.5	1.7
Town	0.9	1.1	1.2	1.8	1.7	2.8	1.4	2.0	2.2	3.4
Rural	1.0	1.2	0.9	1.2	1.2	1.9	1.2	1.6	1.5	2.4
Percent of students in the school eligible for free or reduced-price lunch										
Less than 35 percent	0.7	0.7	0.8	1.0	1.1	1.6	0.9	1.5	1.1	1.9
35 to 49 percent	1.2	1.6	1.1	1.4	1.7	2.0	1.5	2.6	2.0	3.2
50 to 74 percent	0.8	1.3	1.1	1.8	1.4	2.1	1.1	1.7	2.1	1.8
75 percent or more	1.5	1.4	1.7	2.2	2.0	2.2	1.6	1.7	2.5	2.7
Main teaching assignment										
General education in self-contained classroom	1.1	1.3	1.0	1.6	1.3	1.8	0.9	1.6	1.4	2.1
Mathematics/computer science, science	0.6	0.8	0.8	1.2	1.6	2.3	1.4	1.9	1.9	2.5
Other academic subject	0.6	0.8	0.7	1.1	1.5	2.1	1.2	2.0	1.9	2.5
Special education, English as a second language	1.0	1.5	1.0	2.1	2.0	4.2	1.6	2.7	1.7	2.0
Other assignment	0.7	1.0	1.0	1.4	1.4	3.1	1.5	2.5	2.0	2.6
Elementary/secondary teaching experience										
3 or fewer years	1.1	1.7	1.1	1.2	1.8	3.2	1.8	2.6	1.9	2.9
4 to 9 years	0.9	1.2	0.9	1.1	1.3	2.0	1.1	1.4	1.8	2.1
10 to 19 years	0.9	1.0	0.9	1.3	1.3	1.9	0.9	1.8	1.4	2.2
20 or more years	0.9	1.1	1.1	1.3	1.3	2.1	1.2	1.5	1.7	2.1

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Teachers' Use of Educational Technology in U.S. Public Schools," FRSS 95, 2009; and Common Core of Data, "Public Elementary/Secondary School Universe Survey," 2005–06.

Table 5a. Standard errors for the percent of teachers reporting that remote access to various school or district computer applications, documents, or data was available, and of those with remote access available, percent that reported using it sometimes or often, by school and teacher characteristics: 2009

Characteristic	Remote access to school email		Remote access to documents on the school/district server		Remote access to student data		Remote access to school/district software applications	
	Available	Use sometimes or often	Available	Use sometimes or often	Available	Use sometimes or often	Available	Use sometimes or often
All public school teachers	0.3	0.8	0.8	1.2	0.7	1.1	0.7	1.2
School instructional level								
Elementary	0.4	0.9	1.1	1.5	0.9	1.5	1.0	1.6
Secondary	0.5	1.3	1.3	1.4	1.0	1.7	1.2	1.7
School enrollment size								
Less than 300	1.5	2.1	2.2	3.3	2.4	3.0	2.7	4.0
300 to 999	0.3	1.0	1.0	1.6	0.8	1.6	0.8	1.5
1,000 or more	0.4	1.2	1.8	2.0	1.3	1.9	1.5	2.0
Community type								
City	0.5	1.6	1.6	2.5	1.5	2.5	1.5	2.7
Suburban	0.5	1.1	1.5	1.9	1.3	1.6	1.5	1.9
Town	1.0	1.7	2.4	3.3	2.3	3.4	2.0	2.5
Rural	0.7	1.8	1.5	2.2	1.3	2.2	1.5	2.2
Percent of students in the school eligible for free or reduced-price lunch								
Less than 35 percent	0.4	1.1	1.5	1.6	1.1	1.5	1.2	1.7
35 to 49 percent	0.8	2.2	2.2	2.8	1.7	2.9	1.9	2.7
50 to 74 percent	0.6	1.2	1.8	2.8	1.7	2.3	1.9	2.7
75 percent or more	0.7	1.8	2.2	2.6	1.9	2.5	2.0	2.7
Main teaching assignment								
General education in self-contained classroom	0.5	1.4	1.5	2.2	1.2	2.1	1.4	2.2
Mathematics/computer science, science	0.6	1.8	2.2	2.9	1.7	2.5	2.1	3.2
Other academic subject	0.7	1.7	1.6	2.2	1.7	2.1	1.7	2.3
Special education, English as a second language	0.8	2.1	2.4	3.3	1.8	3.2	2.0	3.5
Other assignment	0.8	1.4	1.8	2.8	2.2	2.7	1.9	3.4
Elementary/secondary teaching experience								
3 or fewer years	1.0	1.8	2.3	3.0	2.2	2.7	2.2	2.5
4 to 9 years	0.5	1.3	1.7	2.1	1.7	2.0	1.7	1.8
10 to 19 years	0.6	1.4	1.3	2.0	0.9	1.9	1.1	2.2
20 or more years	0.6	1.4	1.6	2.0	1.4	2.0	1.4	2.0

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Teachers' Use of Educational Technology in U.S. Public Schools," FRSS 95, 2009; and Common Core of Data, "Public Elementary/Secondary School Universe Survey," 2005–06.

Table 6a. Standard errors for the percent of teachers reporting how frequently they used various types of software and Internet sites for classroom preparation, instruction, or administrative tasks, by school and teacher characteristics: 2009

Characteristic	Word processing software		Database management software		Spreadsheets and graphing programs		Software for managing student records		Software for desktop publishing		Graphics, image-editing software		Software for making presentations	
	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often
All public school teachers	0.3	0.5	0.9	1.0	0.8	1.0	0.5	0.8	0.9	1.1	0.8	0.9	0.8	0.8
School instructional level														
Elementary	0.3	0.6	1.2	1.3	1.1	1.3	0.8	1.2	1.1	1.4	0.9	1.3	1.2	1.3
Secondary	0.4	0.5	1.1	1.3	1.1	1.5	0.6	1.0	1.4	1.4	1.3	1.4	1.0	1.3
School enrollment size														
Less than 300	0.8	1.1	2.1	2.4	2.0	2.4	1.8	2.6	1.8	2.7	2.2	2.5	2.4	2.2
300 to 999	0.3	0.6	1.2	1.4	1.2	1.4	0.7	1.1	1.1	1.4	1.0	1.3	1.0	1.2
1,000 or more	0.6	0.7	1.3	1.8	1.5	1.6	0.8	1.3	1.7	1.8	1.6	1.7	1.5	1.7
Community type														
City	0.8	0.9	1.9	2.3	1.9	2.0	1.1	1.8	2.0	2.1	1.5	2.0	1.6	1.6
Suburban	0.5	0.6	1.3	1.9	1.3	1.7	1.0	1.5	1.4	1.8	1.3	1.5	1.2	1.5
Town	0.5	0.9	1.8	2.2	1.8	2.6	1.3	1.8	1.9	2.4	2.0	2.4	2.3	2.6
Rural	0.5	0.7	1.6	1.5	1.7	1.8	1.1	1.7	1.4	1.5	1.6	1.7	1.5	1.8
Percent of students in the school eligible for free or reduced-price lunch														
Less than 35 percent	0.4	0.6	1.3	1.8	1.2	1.5	0.8	1.3	1.4	1.7	1.4	1.2	1.3	1.5
35 to 49 percent	0.8	0.8	2.5	2.2	1.9	2.6	1.3	2.0	1.8	2.3	2.1	2.5	2.1	2.4
50 to 74 percent	0.6	0.9	1.7	2.0	1.6	1.8	1.0	1.6	1.5	2.3	1.7	1.9	1.6	1.8
75 percent or more	0.7	1.2	1.8	2.4	1.8	2.7	1.4	2.1	1.8	2.3	1.8	2.0	1.9	2.3
Main teaching assignment														
General education in self-contained classroom	0.4	0.8	1.4	1.7	1.5	1.7	1.2	1.6	1.4	1.9	1.2	1.8	1.5	2.0
Mathematics/computer science, science	0.7	0.7	1.7	2.0	1.8	2.2	1.1	1.4	1.9	2.2	2.1	2.1	1.5	1.8
Other academic subject	0.7	0.9	1.8	2.0	1.6	1.9	1.0	1.4	1.8	1.7	2.1	1.7	1.4	1.5
Special education, English as a second language	1.0	1.4	3.4	3.3	2.4	2.5	1.8	2.5	2.0	2.9	2.7	2.5	2.8	2.5
Other assignment	0.5	1.0	2.3	2.5	2.0	2.4	1.2	1.6	1.9	2.3	2.2	2.5	2.2	2.5
Elementary/secondary teaching experience														
3 or fewer years	0.6	0.7	2.4	2.3	2.1	2.2	1.5	2.2	2.1	2.4	2.3	1.9	1.7	2.1
4 to 9 years	0.4	0.7	1.8	1.6	1.8	2.0	1.2	1.7	1.8	1.8	1.9	1.8	1.3	1.8
10 to 19 years	0.5	0.6	1.6	1.9	1.7	1.9	1.0	1.4	1.6	2.1	1.5	2.1	1.5	1.8
20 or more years	0.6	1.1	1.4	1.7	1.9	1.7	1.0	1.6	1.5	1.9	1.5	2.1	1.7	1.8

See notes at end of table.

Table 6a. Standard errors for the percent of teachers reporting how frequently they used various types of software and Internet sites for classroom preparation, instruction, or administrative tasks, by school and teacher characteristics: 2009—Continued

Characteristic	Software for administering tests		Simulation and visualization programs		Drill/practice programs/tutorials		Subject-specific programs		The Internet		Blogs and/or wikis		Social networking websites	
	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often
All public school teachers	0.9	1.0	0.8	1.2	0.8	1.0	0.6	0.9	0.4	0.4	1.0	0.6	0.8	0.6
School instructional level														
Elementary	1.1	1.5	0.9	1.5	0.9	1.1	0.9	1.3	0.5	0.6	1.2	0.7	1.0	0.7
Secondary	1.1	1.5	1.3	1.5	1.2	1.6	1.3	1.6	0.8	1.0	1.5	1.2	1.1	0.8
School enrollment size														
Less than 300	2.1	2.8	1.9	2.7	2.1	2.9	2.3	3.1	1.2	1.4	2.2	2.1	1.9	1.1
300 to 999	1.0	1.3	1.0	1.3	1.0	1.3	0.8	1.1	0.5	0.5	1.1	0.8	1.0	0.7
1,000 or more	1.5	1.8	1.8	2.0	1.7	2.3	1.4	1.9	0.9	1.0	1.5	1.5	1.3	1.1
Community type														
City	1.5	1.7	1.8	2.1	1.6	1.9	1.4	1.4	0.8	1.0	1.8	1.4	1.6	1.5
Suburban	1.5	2.0	1.3	1.9	1.1	1.7	1.0	1.6	0.6	0.7	1.6	1.2	1.2	1.0
Town	2.3	3.4	2.3	2.5	2.3	2.7	1.8	2.9	1.0	1.3	1.8	1.7	2.0	1.1
Rural	1.6	1.9	1.6	1.9	1.6	2.1	1.6	2.0	0.8	0.8	1.6	1.3	1.3	0.9
Percent of students in the school eligible for free or reduced-price lunch														
Less than 35 percent	1.3	1.6	1.2	1.6	1.1	1.6	1.2	1.6	0.5	0.6	1.6	1.2	1.2	0.8
35 to 49 percent	1.7	2.1	2.2	2.1	2.3	2.9	2.1	2.3	1.1	1.2	1.9	1.6	1.6	1.2
50 to 74 percent	1.7	1.9	1.7	1.9	1.6	1.5	1.2	1.7	0.8	1.0	1.4	1.3	1.3	1.2
75 percent or more	1.7	2.4	1.8	2.6	2.1	2.3	1.8	2.3	1.0	1.1	2.1	1.6	1.8	1.7
Main teaching assignment														
General education in self-contained classroom	1.5	1.8	1.3	1.8	1.2	1.8	1.2	1.7	0.7	0.8	1.2	0.9	1.2	0.9
Mathematics/computer science, science	1.8	1.9	1.8	2.3	2.1	2.3	1.4	1.8	1.1	1.3	1.6	1.4	1.4	1.0
Other academic subject	1.5	1.8	1.6	1.9	1.3	2.2	1.7	2.5	0.6	0.6	2.0	1.5	1.5	1.1
Special education, English as a second language	2.5	3.1	2.7	3.0	2.1	2.5	1.9	2.5	1.2	1.2	2.8	2.3	2.1	1.7
Other assignment	2.4	2.7	1.9	2.2	2.2	2.2	1.8	2.5	1.0	1.2	2.0	1.8	2.0	1.5
Elementary/secondary teaching experience														
3 or fewer years	1.7	3.1	2.1	2.4	2.2	2.9	2.1	2.3	0.9	1.0	2.1	1.9	1.6	1.4
4 to 9 years	1.6	1.9	1.7	2.1	1.7	1.6	1.3	1.6	0.8	0.9	1.3	1.3	1.3	1.1
10 to 19 years	1.5	1.7	1.5	1.6	1.4	1.9	1.2	1.7	0.6	0.8	1.8	1.3	1.5	0.7
20 or more years	1.8	1.6	1.4	1.8	1.6	2.0	1.3	1.7	0.9	1.0	1.6	1.2	1.4	1.2

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Teachers' Use of Educational Technology in U.S. Public Schools," FRSS 95, 2009; and Common Core of Data, "Public Elementary/Secondary School Universe Survey," 2005–06.

Table 7a. Standard errors for the percent of teachers reporting how frequently their students performed various activities using educational technology during their classes, based on teachers reporting that the activity applied to their students, by school and teacher characteristics: 2009

Characteristic	Prepare written text		Create or use graphics or visual displays		Learn or practice basic skills		Conduct research		Correspond with others		Contribute to blogs or wikis		Use social networking websites	
	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often
All public school teachers	0.9	1.1	0.8	1.0	0.7	0.8	0.8	1.0	0.8	0.9	0.7	0.8	0.6	0.7
School instructional level														
Elementary	1.1	1.4	1.0	1.3	0.9	1.0	1.2	1.3	1.1	1.4	1.0	0.9	0.6	0.9
Secondary	1.2	1.5	1.3	1.5	1.5	1.5	1.1	1.4	1.4	1.7	1.3	1.5	1.3	1.2
School enrollment size														
Less than 300	2.6	3.1	2.8	2.9	2.4	3.0	2.4	2.8	2.0	2.4	2.0	2.2	2.0	1.3
300 to 999	1.1	1.3	1.1	1.3	0.9	1.1	1.1	1.2	1.1	1.3	1.0	0.9	0.6	0.9
1,000 or more	1.7	1.9	1.7	1.9	1.5	1.7	1.5	1.8	1.8	2.2	1.4	1.6	1.5	1.4
Community type														
City	2.1	2.0	1.8	2.1	1.7	1.9	1.7	2.4	1.7	2.6	1.8	1.2	1.5	1.4
Suburban	1.6	2.1	1.5	2.0	1.3	1.5	1.4	1.8	1.4	1.9	1.3	1.3	1.0	1.2
Town	2.3	2.4	3.1	3.0	2.3	2.4	2.3	2.7	2.8	2.6	1.8	1.6	1.5	1.8
Rural	1.4	1.5	1.6	1.6	1.4	1.9	1.5	1.8	1.6	1.8	1.4	1.4	1.5	1.3
Percent of students in the school eligible for free or reduced-price lunch														
Less than 35 percent	1.4	1.8	1.4	1.5	1.2	1.2	1.2	1.7	1.2	1.7	1.0	1.2	1.0	0.9
35 to 49 percent	2.2	2.7	2.0	2.1	1.7	2.3	1.5	1.9	2.0	2.3	1.6	1.6	1.7	1.5
50 to 74 percent	1.7	1.9	2.1	2.3	1.6	1.9	1.8	2.0	2.0	1.8	1.8	1.3	1.4	1.3
75 percent or more	2.6	2.6	2.0	2.1	1.5	2.0	2.0	2.5	2.1	2.7	2.4	2.1	1.8	2.1
Main teaching assignment														
General education in self-contained classroom	1.6	2.2	1.3	1.7	1.2	1.4	1.5	1.9	1.3	1.5	1.2	0.9	0.9	1.0
Mathematics/computer science, science	1.8	2.1	1.9	2.0	1.6	2.2	1.8	2.0	1.8	2.1	1.8	1.4	1.2	1.4
Other academic subject	1.6	1.8	1.8	2.1	1.7	1.8	1.4	1.7	1.9	2.1	1.8	2.0	1.5	1.5
Special education, English as a second language	2.7	2.8	2.9	2.7	2.4	2.8	2.8	2.9	2.8	3.3	2.8	2.2	2.1	2.3
Other assignment	2.2	2.5	2.1	2.5	2.6	2.7	1.5	2.1	2.4	2.8	2.3	2.1	2.4	2.3
Elementary/secondary teaching experience														
3 or fewer years	1.8	2.3	2.2	2.8	1.7	2.4	2.2	2.6	2.2	2.3	1.8	1.8	1.5	1.7
4 to 9 years	2.0	2.0	1.5	1.7	1.6	1.6	1.7	1.7	1.5	2.1	1.5	1.5	1.5	0.9
10 to 19 years	1.6	1.9	1.6	1.8	1.3	1.9	1.6	1.7	1.7	1.9	1.4	1.3	1.1	1.0
20 or more years	1.5	1.6	1.7	1.8	1.3	1.8	1.3	1.3	1.6	1.8	1.4	1.4	1.3	1.8

See notes at end of table.

Table 7a. Standard errors for the percent of teachers reporting how frequently their students performed various activities using educational technology during their classes, based on teachers reporting that the activity applied to their students, by school and teacher characteristics: 2009—Continued

Characteristic	Solve problems, analyze data, or perform calculations		Conduct experiments or perform measurements		Develop and present multimedia presentations		Create art, music, movies, or webcasts		Develop or run demonstrations, models, or simulations		Design and produce a product	
	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often
All public school teachers	1.0	1.2	1.0	1.1	0.8	1.0	1.0	1.1	0.9	0.9	0.8	0.8
School instructional level												
Elementary	1.3	1.7	1.2	1.4	1.1	1.3	1.4	1.4	1.3	1.2	1.1	1.2
Secondary	1.3	1.8	1.4	1.6	1.5	1.7	1.3	1.4	1.5	1.3	1.8	1.0
School enrollment size												
Less than 300	2.4	2.7	2.6	2.5	2.4	2.8	2.5	2.3	2.6	2.4	2.0	2.4
300 to 999	1.1	1.6	1.3	1.3	1.0	1.3	1.2	1.4	1.3	1.1	1.1	1.1
1,000 or more	1.9	2.2	2.1	1.9	1.8	1.9	1.7	1.9	1.9	1.8	1.9	1.5
Community type												
City	1.9	2.2	2.2	2.0	1.9	2.2	2.0	2.1	2.4	1.8	2.0	1.8
Suburban	1.5	2.1	1.5	1.9	1.7	1.9	1.8	1.6	1.2	1.7	1.4	1.1
Town	2.7	2.6	3.1	3.0	2.0	3.2	2.9	2.8	2.6	2.4	2.3	2.8
Rural	1.6	1.8	1.7	1.8	1.7	2.1	1.5	1.3	1.7	1.4	1.3	1.4
Percent of students in the school eligible for free or reduced-price lunch												
Less than 35 percent	1.7	1.6	1.1	1.6	1.3	1.7	1.4	1.7	1.3	1.4	1.2	1.2
35 to 49 percent	2.1	2.4	1.9	2.1	2.1	2.2	1.9	2.1	1.8	2.0	2.3	1.9
50 to 74 percent	1.6	2.1	1.7	1.9	2.0	2.3	2.0	1.8	2.0	1.5	1.7	1.9
75 percent or more	2.1	3.3	2.8	2.5	2.2	2.9	2.7	2.6	2.4	2.7	2.4	2.1
Main teaching assignment												
General education in self-contained classroom	1.6	2.1	1.7	1.4	1.6	1.5	1.6	1.5	1.3	1.3	1.4	1.0
Mathematics/computer science, science	1.9	2.1	1.7	2.2	1.9	2.6	2.4	2.1	1.9	2.1	1.8	1.6
Other academic subject	2.1	2.5	1.9	2.1	1.8	2.1	1.8	1.9	2.0	1.9	1.7	1.8
Special education, English as a second language	2.9	3.8	2.9	3.0	2.7	3.2	3.3	3.1	3.0	2.1	3.0	1.8
Other assignment	2.8	2.8	3.1	2.7	2.0	2.8	2.1	2.8	2.4	2.6	2.1	2.4
Elementary/secondary teaching experience												
3 or fewer years	2.1	3.3	2.0	2.7	2.2	3.1	2.5	2.5	2.4	2.3	2.0	1.4
4 to 9 years	1.6	2.0	1.8	2.2	1.7	1.6	1.9	1.7	1.4	2.0	2.0	2.0
10 to 19 years	1.5	2.2	1.4	1.8	1.4	1.5	1.8	1.6	2.0	1.4	1.6	1.6
20 or more years	1.9	2.1	2.0	2.0	1.9	2.0	1.8	1.7	1.6	1.8	1.6	1.5

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Teachers' Use of Educational Technology in U.S. Public Schools," FRSS 95, 2009; and Common Core of Data, "Public Elementary/Secondary School Universe Survey," 2005–06.

Table 8a. Standard errors for the percent of teachers reporting how frequently they used various modes of technology to communicate with parents or students, by school and teacher characteristics: 2009

Characteristic	Email or list-serve to send out group updates or information				Email to address individual concerns				Online bulletin board for class discussion			
	Parents		Students		Parents		Students		Parents		Students	
	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often
All public school teachers	0.7	1.0	0.7	0.9	0.5	0.9	0.6	0.9	0.6	0.7	0.5	0.6
School instructional level												
Elementary	0.9	1.3	0.7	1.1	0.7	1.3	0.7	1.1	0.7	0.9	0.7	0.8
Secondary	1.0	1.9	1.3	1.6	0.7	1.1	1.2	1.6	1.0	1.2	0.8	1.3
School enrollment size												
Less than 300	2.0	2.6	1.3	2.4	1.7	2.5	1.4	2.4	1.7	1.6	1.3	0.9
300 to 999	0.8	1.1	0.8	1.0	0.8	1.2	0.7	1.1	0.7	0.8	0.6	0.8
1,000 or more	1.2	2.2	1.4	2.0	0.8	1.5	1.4	2.0	1.2	1.4	1.2	1.5
Community type												
City	1.4	2.6	1.4	2.0	1.3	2.1	1.3	2.1	1.3	1.6	1.4	1.3
Suburban	1.3	1.6	1.0	1.6	0.9	1.6	1.1	1.4	1.0	1.2	0.8	1.2
Town	1.5	2.4	1.6	2.4	1.1	1.9	1.8	2.4	1.6	1.8	1.4	1.6
Rural	1.0	1.5	1.3	1.5	1.1	1.6	0.9	1.8	1.0	1.1	0.8	0.9
Percent of students in the school eligible for free or reduced-price lunch												
Less than 35 percent	0.9	1.6	1.1	1.5	0.5	0.9	1.0	1.7	1.0	1.2	0.8	1.1
35 to 49 percent	2.2	2.3	1.8	1.8	1.4	1.7	1.5	2.0	1.1	1.7	1.0	1.6
50 to 74 percent	1.3	1.8	1.5	1.5	1.4	1.8	1.2	1.7	1.2	1.5	0.8	0.9
75 percent or more	1.9	2.5	1.3	1.9	1.6	2.6	1.3	2.2	1.5	1.8	1.3	1.6
Main teaching assignment												
General education in self-contained classroom	1.1	1.5	0.8	1.1	1.1	1.6	0.8	1.2	0.9	0.9	0.8	0.7
Mathematics/computer science, science	1.5	2.0	1.6	2.0	1.0	1.5	1.8	1.9	1.5	1.7	1.1	1.6
Other academic subject	1.3	2.0	1.6	2.0	1.0	1.6	1.4	2.0	1.4	1.7	1.1	1.4
Special education, English as a second language	2.0	3.5	2.4	2.1	1.7	3.6	2.2	2.8	2.0	2.2	1.4	1.8
Other assignment	1.9	2.3	1.8	2.3	1.8	2.1	2.0	2.3	1.8	1.7	1.6	1.5
Elementary/secondary teaching experience												
3 or fewer years	1.9	2.7	1.4	1.7	1.3	2.3	1.5	2.2	1.5	1.7	1.4	1.8
4 to 9 years	1.4	1.8	1.4	1.4	1.0	1.6	1.3	1.4	1.0	1.5	0.8	1.4
10 to 19 years	0.8	1.6	0.9	1.5	0.9	1.5	1.1	1.6	1.1	1.1	0.9	1.0
20 or more years	1.4	2.0	1.2	1.5	1.1	1.6	1.1	1.7	1.2	1.3	1.1	1.0

See notes at end of table.

Table 8a. Standard errors for the percent of teachers reporting how frequently they use various modes of technology to communicate with parents or students, by school and teacher characteristics: 2009—Continued

Characteristic	Course or teacher web page				Course or teacher blog				Instant messaging			
	Parents		Students		Parents		Students		Parents		Students	
	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often	Rarely	Sometimes or often
All public school teachers	0.7	1.2	0.6	1.1	0.5	0.6	0.5	0.5	0.5	0.5	0.4	0.3
School instructional level												
Elementary	0.8	1.5	0.7	1.4	0.7	0.7	0.5	0.6	0.6	0.7	0.5	0.4
Secondary	1.1	1.8	0.9	1.5	1.0	1.1	0.9	0.9	0.9	0.8	0.6	0.6
School enrollment size												
Less than 300	1.9	3.0	1.9	2.7	1.5	1.3	1.2	1.1	1.6	1.2	0.8	0.6
300 to 999	0.9	1.4	0.7	1.2	0.6	0.7	0.6	0.5	0.6	0.7	0.5	0.4
1,000 or more	1.4	2.4	1.1	2.0	1.1	1.4	1.0	1.4	1.0	0.9	0.7	0.7
Community type												
City	1.7	2.1	1.5	1.9	1.0	1.0	0.9	0.7	1.1	1.3	0.9	0.9
Suburban	1.1	1.9	1.0	1.7	0.9	1.0	0.7	1.1	0.7	0.7	0.5	0.5
Town	1.5	3.0	1.3	2.7	1.0	1.3	0.8	0.9	1.0	1.8	1.4	0.8
Rural	1.3	2.0	1.1	1.8	0.9	1.0	0.7	0.7	0.9	1.0	0.6	0.7
Percent of students in the school eligible for free or reduced-price lunch												
Less than 35 percent	1.0	1.7	0.9	1.6	0.7	1.0	0.6	1.0	0.7	0.6	0.5	0.4
35 to 49 percent	1.6	2.6	2.0	2.6	1.2	1.0	1.2	0.9	1.1	1.1	0.9	0.8
50 to 74 percent	1.5	2.1	1.3	1.8	1.1	1.0	0.9	0.8	1.1	1.2	0.7	0.7
75 percent or more	1.6	2.5	1.3	2.3	1.2	1.5	1.1	0.9	1.3	1.6	0.9	0.9
Main teaching assignment												
General education in self-contained classroom	1.1	1.8	0.8	1.8	0.8	0.8	0.7	0.4	0.7	0.9	0.5	0.5
Mathematics/computer science, science	1.7	2.7	1.3	2.4	1.2	1.0	1.3	1.0	1.1	0.9	0.9	0.9
Other academic subject	1.2	2.1	1.3	2.1	1.2	1.3	0.9	1.2	0.9	1.0	0.8	0.6
Special education, English as a second language	2.5	3.5	1.9	2.4	1.8	2.0	1.4	1.5	1.7	1.6	1.0	1.3
Other assignment	1.8	2.8	1.5	2.6	1.6	1.5	1.3	1.4	1.4	1.5	1.3	0.9
Elementary/secondary teaching experience												
3 or fewer years	1.8	2.0	1.5	2.0	1.3	1.3	0.8	1.1	1.2	0.9	0.6	0.8
4 to 9 years	1.1	1.9	1.2	1.6	1.0	1.0	0.8	1.0	0.9	0.9	0.6	0.6
10 to 19 years	1.2	2.1	1.1	1.7	1.0	1.1	0.8	0.8	0.8	1.0	0.7	0.6
20 or more years	1.4	1.9	1.0	1.7	1.0	1.0	1.0	0.8	1.1	1.0	0.9	0.6

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Teachers' Use of Educational Technology in U.S. Public Schools," FRSS 95, 2009; and Common Core of Data, "Public Elementary/Secondary School Universe Survey," 2005–06.

Table 9a. Standard errors for the percent of teachers reporting the extent to which various kinds of education and training prepared them to make effective use of educational technology for instruction, by school and teacher characteristics: 2009

Characteristic	Undergraduate teacher education program		Graduate teacher education program		Professional development activities		Training provided by staff responsible for technology support and/or integration at the school		Independent learning	
	Not applicable	Moderate or major extent	Not applicable	Moderate or major extent	Not applicable	Not applicable	Moderate or major extent	Not applicable	Moderate or major extent	Not applicable
All public school teachers	0.7	0.7	0.9	0.8	0.4	1.1	0.4	1.0	0.3	0.9
School instructional level										
Elementary	0.8	1.0	1.3	1.3	0.4	1.5	0.6	1.5	0.3	1.2
Secondary	1.3	1.1	1.5	1.1	0.6	1.5	0.5	1.4	0.6	1.1
School enrollment size										
Less than 300	2.7	2.1	2.7	2.7	1.1	2.4	1.5	2.8	1.0	2.2
300 to 999	1.0	1.1	1.3	1.2	0.4	1.4	0.5	1.5	0.4	1.2
1,000 or more	1.6	1.3	1.6	1.4	0.6	1.7	0.7	1.7	0.6	1.4
Community type										
City	1.5	2.0	1.7	1.9	0.8	2.3	1.0	2.4	0.6	1.6
Suburban	1.4	1.3	1.5	1.5	0.6	1.8	0.8	1.9	0.5	1.7
Town	2.0	2.0	2.8	2.9	0.9	2.4	0.8	2.5	0.5	2.0
Rural	1.1	1.5	1.5	1.4	0.6	2.1	0.6	1.7	0.6	1.4
Percent of students in the school eligible for free or reduced-price lunch										
Less than 35 percent	1.2	1.2	1.4	1.3	0.4	1.4	0.6	1.6	0.4	1.4
35 to 49 percent	2.2	2.0	2.4	2.7	0.9	2.7	0.7	2.4	0.6	1.9
50 to 74 percent	1.6	1.7	2.0	1.6	0.8	2.1	1.1	1.6	0.7	1.6
75 percent or more	1.8	2.6	2.4	2.4	0.9	2.6	1.1	2.6	0.8	1.9
Main teaching assignment										
General education in self-contained classroom	1.2	1.5	1.4	1.6	0.5	1.9	0.6	2.0	0.5	1.6
Mathematics/computer science, science	1.7	1.7	1.8	1.9	1.0	1.9	0.8	2.2	0.6	1.5
Other academic subject	2.0	1.7	1.8	1.6	0.7	1.8	0.8	1.7	0.7	1.5
Special education, English as a second language	2.6	2.5	2.5	2.9	1.4	2.9	1.7	2.8	1.1	2.5
Other assignment	2.1	2.3	2.6	2.2	1.0	2.0	1.1	2.8	1.0	2.2
Elementary/secondary teaching experience										
3 or fewer years	1.9	2.3	2.3	2.4	1.4	2.8	1.4	2.3	0.9	2.0
4 to 9 years	1.2	1.7	1.5	1.7	0.6	2.1	0.6	1.7	0.5	1.3
10 to 19 years	1.2	1.3	1.5	1.6	0.5	1.9	0.6	1.7	0.5	1.4
20 or more years	1.7	1.0	1.6	1.6	0.6	1.8	0.7	1.8	0.6	1.6

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Teachers' Use of Educational Technology in U.S. Public Schools," FRSS 95, 2009; and Common Core of Data, "Public Elementary/Secondary School Universe Survey," 2005–06.

Table 10a. Standard errors for the percentage distribution of teachers reporting the number of hours spent in professional development activities for educational technology during the last 12 months, by school and teacher characteristics: 2009

Characteristic	Time spent in professional development activities for educational technology				
	None	1–8 hours	9–16 hours	17–32 hours	33 hours or more
All public school teachers	0.6	0.7	0.8	0.5	0.5
School instructional level					
Elementary	0.8	1.1	1.0	0.7	0.8
Secondary	0.9	1.4	1.1	0.8	0.7
School enrollment size					
Less than 300	1.9	2.7	2.6	1.4	0.9
300 to 999	0.8	1.0	0.9	0.7	0.7
1,000 or more	1.3	1.8	1.3	0.9	1.0
Community type					
City	1.7	2.2	1.5	1.2	1.0
Suburban	1.1	1.7	1.2	1.0	1.1
Town	1.5	2.4	2.3	2.0	1.0
Rural	1.2	1.9	1.5	0.9	0.8
Percent of students in the school eligible for free or reduced-price lunch					
Less than 35 percent	1.0	1.3	1.2	0.8	0.7
35 to 49 percent	1.8	2.1	1.5	1.4	1.1
50 to 74 percent	1.3	1.9	1.6	1.0	0.9
75 percent or more	1.7	2.1	2.0	1.4	1.4
Main teaching assignment					
General education in self-contained classroom	1.2	1.6	1.3	0.9	1.0
Mathematics/computer science, science	1.1	1.8	1.7	1.4	1.0
Other academic subject	1.3	1.9	1.3	1.2	1.1
Special education, English as a second language	1.8	3.2	2.4	1.6	1.8
Other assignment	1.9	2.7	1.8	1.6	1.6
Elementary/secondary teaching experience					
3 or fewer years	1.7	2.3	1.9	1.8	1.1
4 to 9 years	1.1	2.0	1.6	1.1	1.0
10 to 19 years	1.0	1.5	1.3	0.8	0.8
20 or more years	1.4	1.8	1.7	1.0	1.0

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Teachers' Use of Educational Technology in U.S. Public Schools," FRSS 95, 2009; and Common Core of Data, "Public Elementary/Secondary School Universe Survey," 2005–06.

Table 11a. Standard errors for the percentage distribution of teachers who reported participating in professional development activities for educational technology during the last 12 months reporting agreement or disagreement with various statements about those activities, by school and teacher characteristics: 2009

Characteristic	It met my goals and needs		It supported the goals and standards of my state, district, and school		It applied to technology available in my school		It was available at convenient times and places	
	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree
All public school teachers	0.8	0.8	0.7	0.7	0.7	0.7	0.8	0.8
School instructional level								
Elementary	1.0	1.0	1.0	1.0	0.8	0.8	1.1	1.1
Secondary	1.4	1.4	1.0	1.0	1.5	1.5	1.0	1.0
School enrollment size								
Less than 300	2.4	2.4	2.1	2.1	2.1	2.1	2.4	2.4
300 to 999	1.0	1.0	0.9	0.9	0.9	0.9	1.1	1.1
1,000 or more	1.4	1.4	1.3	1.3	1.7	1.7	1.1	1.1
Community type								
City	1.7	1.7	1.7	1.7	1.6	1.6	1.8	1.8
Suburban	1.4	1.4	1.2	1.2	1.0	1.0	1.2	1.2
Town	2.0	2.0	1.7	1.7	1.8	1.8	2.5	2.5
Rural	1.5	1.5	1.3	1.3	1.2	1.2	1.4	1.4
Percent of students in the school eligible for free or reduced-price lunch								
Less than 35 percent	1.3	1.3	1.0	1.0	1.2	1.2	1.0	1.0
35 to 49 percent	1.9	1.9	1.8	1.8	1.9	1.9	1.9	1.9
50 to 74 percent	1.8	1.8	1.3	1.3	1.3	1.3	1.6	1.6
75 percent or more	1.6	1.6	1.6	1.6	1.6	1.6	1.8	1.8
Main teaching assignment								
General education in self-contained classroom	1.3	1.3	1.3	1.3	1.2	1.2	1.4	1.4
Mathematics/computer science, science	1.6	1.6	1.3	1.3	1.5	1.5	1.6	1.6
Other academic subject	1.6	1.6	1.5	1.5	1.4	1.4	2.0	2.0
Special education, English as a second language	2.0	2.0	2.2	2.2	2.1	2.1	2.0	2.0
Other assignment	2.0	2.0	1.5	1.5	1.7	1.7	2.0	2.0
Elementary/secondary teaching experience								
3 or fewer years	2.1	2.1	1.8	1.8	1.9	1.9	2.2	2.2
4 to 9 years	1.5	1.5	1.2	1.2	1.5	1.5	1.5	1.5
10 to 19 years	1.3	1.3	1.2	1.2	1.2	1.2	1.5	1.5
20 or more years	1.5	1.5	1.1	1.1	1.0	1.0	1.4	1.4

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Teachers' Use of Educational Technology in U.S. Public Schools," FRSS 95, 2009; and Common Core of Data, "Public Elementary/Secondary School Universe Survey," 2005–06.

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Appendix B

Technical Notes

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Technical Notes

Fast Response Survey System

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 issue-oriented data within a relatively short time frame. FRSS collects data from state education agencies, local education agencies, public and private elementary and secondary schools, public school teachers, and public libraries. To ensure minimal burden on respondents, the surveys are generally limited to three pages of questions, with a response burden of about 30 minutes per respondent. Sample sizes are relatively small (usually about 1,000 to 1,500 respondents per survey) so that data collection can be completed quickly. Reported data are weighted to produce national estimates of the sampled education sector. The sample size permits limited breakouts by classification variables. However, as the number of categories within the classification variables increases, the sample size within categories decreases, which results in larger sampling errors for the breakouts by classification variables.

Sample Design

The sample for the FRSS 2009 teacher survey on educational technology consisted of 4,133 teachers from public schools in the 50 states and the District of Columbia. This survey was one of three related FRSS surveys conducted under a nested design involving a sample of schools, districts that administer the sampled schools, and teachers within the sampled schools. The selection of teachers included two stages.

For the first stage, a nationally representative sample of 2,005 regular U.S. public schools was selected from the 2005–06 NCES Common Core of Data (CCD) Public School Universe file, which was the most current file available at the time of selection. The sampling frame included 85,719 regular schools. Excluded from the sampling frame were schools with a high grade of prekindergarten or kindergarten and ungraded schools, along with special education, vocational, and alternative/other schools; schools outside the 50 states and the District of Columbia; and schools with zero or missing enrollment. The public school sampling frame was stratified by level (elementary or secondary/combined), categories of enrollment size, and categories for percent of students eligible for free/reduced-price lunch. Schools in the frame were then sorted by type of locale[7] and region to induce additional implicit stratification.

For the second stage, a nationally representative sample of teachers was selected from lists provided by participating schools. The sampling frame included full-time teachers teaching at least one regularly scheduled class (other than physical education) in grades K through 12. Excluded from the sampling frame were administrators, counselors, advisors, and social workers (even if they also taught); teachers who taught only physical education; substitute, itinerant, part-time, and preschool teachers; teacher's aides; and unpaid volunteers. An average of two to three teachers was randomly selected from each participating school at rates that varied by instructional level of the school.

Data Collection and Response Rates

Data collection for the study was conducted in two stages. The first stage was the collection of teacher sampling lists, which coincided with data collection for the school survey.[8] Materials for the study were

[7] The metro-centric locale variable from 2005–06 CCD was used in sampling. Estimates presented by Community type in this report are based on the urban-centric locale variable discussed further in the Definitions of Analysis Variables section of this report.

[8] Although collection of school surveys and collection of teacher sampling lists were conducted together, a school could choose to participate in one survey but not the other (i.e., to complete the school questionnaire but not provide a teacher sampling list, or vice versa).

mailed to the principal of each sampled school in September 2008. The materials introduced the study and requested that a list of eligible teachers be provided by mail or fax. The package included instructions for preparing the list and a form to be returned with the list of teachers. For confidentiality reasons, this form did not include the name of the survey or the name of the school. It contained a random ID number that allowed authorized staff to identify the school. Telephone follow-up for nonresponse and clarification of information on the lists was initiated in early October 2008 and completed in April 2009.

Of the 2,005 schools in the sample, 56 were found to be ineligible for the survey because they were closed, merged, or did not meet the eligibility requirements for inclusion (e.g., they were special education, vocational, or alternative schools). This left a total of 1,949 eligible schools in the sample. Teacher sampling lists were received from 1,563 schools, or 80 percent of the eligible schools. The weighted list collection response rate was 81 percent.[9]

For the second stage of collection, questionnaires and cover letters for the teacher survey were mailed to sampled teachers at their school addresses. Sampling and mailing was conducted in batches, as teacher lists were collected and processed, beginning in January 2009 and ending in April 2009. Respondents were offered the option of completing the survey via the Web. Telephone follow-up for survey nonresponse and data clarification was initiated in early February 2009 and completed in July 2009.

Of the 4,133 teachers in the sample, 150 were found to be ineligible for the survey because they did not meet the eligibility requirements for inclusion (e.g., they were physical education, substitute, itinerant, part-time, or preschool teachers). This left a total of 3,983 eligible teachers in the sample. Completed questionnaires were received from 3,159 teachers, or 79 percent of the eligible teachers in the sample (table B-1). The weighted teacher response rate was 79 percent.[10] Of the teachers who completed the survey, 63 percent completed it by Web, 33 percent completed it by mail, 4 percent completed it by fax, and 1 percent completed it by telephone. The weighted number of eligible teachers in the survey represents the estimated universe of full-time teachers teaching at least one regularly scheduled class (other than physical education) in grades K through 12 in regular public schools in the 50 states and the District of Columbia.[11]

Table B-1. Number and percent of responding teachers in the study sample, and estimated number and percent of teachers the sample represents, by school and teacher characteristics: 2009

Characteristic	Respondent sample (unweighted)		National estimate (weighted)	
	Number	Percent	Number	Percent
All public school teachers	3,159	100	2,396,300	100
School instructional level[1]				
Elementary	1,784	56	1,541,900	64
Secondary	1,286	41	804,600	34
School enrollment size				
Less than 300	382	12	237,200	10
300 to 999	1,923	61	1,516,100	63
1,000 or more	854	27	643,000	27
Community type				
City	678	21	570,200	24
Suburban	1,069	34	915,700	38
Town	450	14	310,100	13
Rural	962	30	600,200	25

See notes at end of table.

[9] The weighted list collection response rate was calculated without nonresponse adjustment.

[10] The weighted teacher response rate was calculated using a base weight that included the school-level and teacher-level base weights but did not include the school or teacher nonresponse adjustments.

[11] For more details about the development of survey weights, see the section of this report on Sampling Errors.

Table B-1. Number and percent of responding teachers in the study sample, and estimated number and percent of teachers the sample represents, by school and teacher characteristics: 2009—Continued

Characteristic	Respondent sample (unweighted)		National estimate (weighted)	
	Number	Percent	Number	Percent
Percent of students in the school eligible for free or reduced-price lunch				
Less than 35 percent	1,295	41	966,100	40
35 to 49 percent	523	17	368,800	15
50 to 74 percent	792	25	589,500	25
75 percent or more	549	17	471,900	20
Main teaching assignment				
General education in self-contained classroom	1,030	33	866,600	36
Mathematics/computer science, science	638	20	445,000	19
Other academic subject[2]	736	23	526,500	22
Special education, English as a second language	303	10	241,400	10
Other assignment[3]	452	14	316,900	13
Elementary/secondary teaching experience				
3 or fewer years	476	15	361,800	15
4 to 9 years	830	26	629,200	26
10 to 19 years	982	31	734,800	31
20 or more years	871	28	670,500	28

[1] Data for combined schools (those with both elementary and secondary grades) are included in the totals and in analyses by other school characteristics but are not shown separately.
[2] Other academic subjects include English/language arts, foreign languages, and social sciences/social studies.
[3] Other assignments include arts and music; health/physical education; vocational, career, or technical education; and other (respondent asked to specify).
NOTE: Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Teachers' Use of Educational Technology in U.S. Public Schools," FRSS 95, 2009; and Common Core of Data, "Public Elementary/Secondary School Universe Survey," 2005–06.

Imputation for Item Nonresponse

Although item nonresponse for key items was very low, missing data were imputed for the items with a response rate of less than 100 percent (table B-2).[12] The missing items included both numerical data such as the number of computers in the classroom every day, as well as categorical data such as whether LCD projectors are available for teachers to use in the classroom every day. The missing data were imputed using a "hot-deck" approach to obtain a "donor" teacher from which the imputed values were derived. Under the hot-deck approach, a donor teacher that matched selected characteristics of the teacher with missing data (the recipient) was identified. The matching characteristics included characteristics of the school and district in which the teacher worked. These included categories of district enrollment size, instructional level of the school, categories of school enrollment size, locale, categories for percent of students in the school eligible for free or reduced-price lunch, the average number of computers per classroom in the school, and whether there were full-time technology staff in the school. In addition, relevant teacher questionnaire items were used to form appropriate imputation groupings. Once a donor was found, it was used to obtain the imputed values for the teacher with missing data. For categorical items, the imputed value was simply the corresponding value from the donor teacher. For numerical items, an appropriate ratio (e.g., proportion of computers in the classroom every day that have Internet access) was calculated for the donor teacher, and this ratio was applied to available data (e.g., reported number of computers in the classroom every day) for the recipient teacher to obtain the corresponding imputed value.

[12] Per NCES standards, all missing questionnaire data are imputed.

Table B-2. Percent of cases with imputed data in the respondent sample, and percent of cases with imputed data the sample represents, by questionnaire item: 2009

Questionnaire item		Respondent sample (unweighted)	National estimate (weighted)
Question 1: Computers in Classroom or Brought into Classroom			
Q1A1	Total number of computers located in your classroom every day	0.16	0.18
Q1B1	Total computers that can be brought into your classroom (number generally brought in at one time)	1.17	1.25
Q1A2	How many computers located in your classroom have Internet access?	0.32	0.30
Q1B2	How many computers brought into your classroom have Internet access?	1.27	1.30
Question 2: Frequency of Teachers or Students Using Computers During Instructional Time			
Q2A	Frequency you or your students use computers during instructional time in your classroom	0.32	0.30
Q2B	Frequency you or your students use computers during instructional time at other location(s) in your school	0.13	0.14
Question 3: Technology Devices Used by Teachers			
Q3A1	Is LCD or DLP projector available to you?	0.41	0.38
Q3B1	Is videoconference unit available to you?	0.79	0.85
Q3C1	Is interactive whiteboard available to you?	0.28	0.32
Q3D1	Is classroom response system available to you?	0.54	0.51
Q3E1	Is digital camera (still or video) available to you?	0.28	0.27
Q3F1	Is MP3 player/iPod available to you?	0.66	0.66
Q3G1	Is document camera available to you?	0.54	0.57
Q3H1	Is handheld device available to you?	0.35	0.33
Q3I1	Are other devices available to you?	0.22	0.23
Q3A2	How frequently do you use LCD or DLP projector for instruction during your class(es)?	1.58	1.54
Q3B2	How frequently do you use videoconference unit for instruction during your class(es)?	0.66	0.72
Q3C2	How frequently do you use interactive whiteboard for instruction during your class(es)?	1.01	1.06
Q3D2	How frequently do you use classroom response system for instruction during your class(es)?	0.85	0.89
Q3E2	How frequently do you use digital camera (still or video) for instruction during your class(es)?	2.18	2.17
Q3F2	How frequently do you use MP3 player/iPod for instruction during your class(es)?	0.82	0.84
Q3G2	How frequently do you use document camera for instruction during your class(es)?	0.70	0.79
Q3H2	How frequently do you use handheld devices for instruction during your class(es)?	0.38	0.40
Q3I2	How frequently do you use other devices for instruction during your class(es)?	0.19	0.21
Question 4: Use of School or District Network for Activities			
Q4A	Use school or district network for: entering or viewing grades	0.13	0.13
Q4B	Use school or district network for: entering or viewing attendance records	0.09	0.08
Q4C	Use school or district network for: administering assessments	0.28	0.31
Q4D	Use school or district network for: entering or viewing results of student assessments	0.25	0.26
Q4E	Use school or district network for: entering or viewing IEPs	0.28	0.26
Question 5: Remote Access to Computer Applications			
Q5A	Use remote access to: school email	0.06	0.07
Q5B	Use remote access to: documents on the school/district server	0.13	0.13
Q5C	Use remote access to: student data	0.19	0.24
Q5D	Use remote access to: school/district software applications	0.25	0.28
Question 6: Types of Software and Internet Sites Used for Instructional and Administrative Purposes			
Q6A	Use for classroom prep, instruction, admin: word processing software	0.19	0.22
Q6B	Use for classroom prep, instruction, admin: database management software	0.57	0.60
Q6C	Use for classroom prep, instruction, admin: spreadsheets and graphing programs	0.28	0.32
Q6D	Use for classroom prep, instruction, admin: software for managing student records	0.25	0.25

See notes at end of table.

Table B-2. Percent of cases with imputed data in the respondent sample, and percent of cases with imputed data the sample represents, by questionnaire item: 2009—Continued

Questionnaire item		Respondent sample (unweighted)	National estimate (weighted)
Q6E	Use for classroom prep, instruction, admin: software for desktop publishing	0.28	0.27
Q6F	Use for classroom prep, instruction, admin: graphics, image-editing software	0.28	0.23
Q6G	Use for classroom prep, instruction, admin: software for making presentations	0.13	0.15
Q6H	Use for classroom prep, instruction, admin: software for administering tests	0.32	0.29
Q6I	Use for classroom prep, instruction, admin: simulation and visualization programs	0.41	0.48
Q6J	Use for classroom prep, instruction, admin: drill/practice programs/tutorials	0.16	0.16
Q6K	Use for classroom prep, instruction, admin: subject-specific programs	0.47	0.49
Q6L	Use for classroom prep, instruction, admin: the Internet	0.35	0.39
Q6M	Use for classroom prep, instruction, admin: blogs and/or wikis	0.51	0.47
Q6N	Use for classroom prep, instruction, admin: social networking websites	0.35	0.33
Q6O	Use for classroom prep, instruction, admin: other applications	0.03	0.02
Question 7: Students' Use of Educational Technology to Perform Activities			
Q7A	Students use educational technology to: prepare written text	0.25	0.25
Q7B	Students use educational technology to: create or use graphics or visual displays	0.22	0.21
Q7C	Students use educational technology to: learn or practice basic skills	0.22	0.20
Q7D	Students use educational technology to: conduct research	0.22	0.22
Q7E	Students use educational technology to: correspond with others via email, network, or Internet	0.51	0.47
Q7F	Students use educational technology to: contribute to blogs or wikis	0.51	0.47
Q7G	Students use educational technology to: use social networking websites	0.63	0.65
Q7H	Students use educational technology to: solve problems, analyze data, or perform calculations	0.38	0.41
Q7I	Students use educational technology to: conduct experiments or perform measurements	0.47	0.44
Q7J	Students use educational technology to: develop and present multimedia presentations	0.41	0.41
Q7K	Students use educational technology to: create art, music, movies, or webcasts	0.35	0.34
Q7L	Students use educational technology to: develop or run demonstrations, models, or simulations	0.51	0.53
Q7M	Students use educational technology to: design and produce a product	0.38	0.36
Q7N	Students use educational technology to: perform other activities	0.22	0.22
Question 8: Communication with Parents and Students Using Technology			
Q8A1	Communicate with parents using: email or list-serve to send out group updates or information	0.38	0.37
Q8B1	Communicate with parents using: email to address individual concerns	0.28	0.28
Q8C1	Communicate with parents using: online bulletin board for class discussion	0.35	0.33
Q8D1	Communicate with parents using: course or teacher web page	0.51	0.54
Q8E1	Communicate with parents using: course or teacher blog	0.44	0.45
Q8F1	Communicate with parents using: instant messaging	0.44	0.43
Q8A2	Communicate with students using: email or list-serve to send out group updates or information	1.33	1.34
Q8B2	Communicate with students using: email to address individual concerns	1.46	1.49
Q8C2	Communicate with students using: online bulletin board for class discussion	1.46	1.45
Q8D2	Communicate with students using: course or teacher web page	1.58	1.60
Q8E2	Communicate with students using: course or teacher blog	1.58	1.63
Q8F2	Communicate with students using: instant messaging	1.49	1.43

See notes at end of table.

Table B-2. Percent of cases with imputed data in the respondent sample, and percent of cases with imputed data the sample represents, by questionnaire item: 2009—Continued

Questionnaire item		Respondent sample (unweighted)	National estimate (weighted)
Question 9: Preparation and Training for Using Educational Technology for Instruction			
Q9A	Prepared you to use educational technology for instruction: undergraduate teacher education program	0.47	0.46
Q9B	Prepared you to use educational technology for instruction: graduate teacher education program	0.51	0.49
Q9C	Prepared you to use educational technology for instruction: professional development activities	0.41	0.41
Q9D	Prepared you to use educational technology for instruction: training from technology support and/or integration staff at your school	0.35	0.34
Q9E	Prepared you to use educational technology for instruction: independent learning	0.47	0.48
Q9F	Prepared you to use educational technology for instruction: other activity	0.25	0.26
Question 10: Time Spent in Professional Development for Educational Technology			
Q10	During last 12 months, hours spent in professional development for educational technology	0.41	0.41
Question 11: Agreement or Disagreement with Statements on Professional Development			
Q11A	Opinion on professional development in ed tech in last 12 months: It met my goals and needs	0.35	0.36
Q11B	Opinion on professional development in ed tech in last 12 months: It supported the goals and standards of my state, district, and school	0.47	0.53
Q11C	Opinion on professional development in ed tech in last 12 months: It applied to technology available in my school	0.51	0.53
Q11D	Opinion on professional development in ed tech in last 12 months: It was available at convenient times and places	0.63	0.66
Question 14: Number of Students in Classroom			
Q14	This school year, how many students, on average, do you have in your classroom at one time?	0.19	0.16
Question 15: Number of Years Spent Teaching			
Q15	Including this school year, how many years have you worked as an elementary or secondary teacher?	0.13	0.12

NOTE: Data were imputed using hot-deck imputation procedures.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Teachers' Use of Educational Technology in U.S. Public Schools," FRSS 95, 2009.

Data Reliability

Although the Teachers' Use of Educational Technology in U.S. Public Schools survey was designed to account for sampling error and to minimize nonsampling error, estimates produced from the data collected are subject to both types of error. Sampling error occurs because the data are collected from a sample rather than a census of the population, and nonsampling errors are errors that occur during the collection and processing of the data.

Sampling Errors

The responses were weighted to produce national estimates (table B-1). The weights were designed to reflect the variable probabilities of selection of the sampled schools and teachers and were adjusted for differential unit (teacher sampling list and questionnaire) nonresponse. Both list collection and questionnaire nonresponse weighting adjustments were made within classes defined by variables correlated with response propensity: instructional level (elementary or secondary/combined), categories of school enrollment size, categories for percent of students eligible for free or reduced-price lunch, and locale. In addition, the questionnaire nonresponse adjustment classes used the sampling batch as an indicator of how early or late in the field period the teacher lists were received for sampling. Within the final weighting classes, the base weights (i.e., the reciprocal of teachers' probabilities of selection) of the responding teachers were inflated by the inverse of the

weighted response rate for the class. The findings in this report are estimates based on the sample selected and, consequently, are subject to sampling variability. General sampling theory was used to estimate the sampling variability of the estimates and to test for statistically significant differences between estimates.

The standard error is a measure of the variability of an estimate 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 percent of teachers who have computers in the classroom every day is 96.8 percent, and the standard error is 0.3 percent (tables 1 and 1a). The 95 percent confidence interval for the statistic extends from [96.8 – (0.3 x 1.96)] to [96.8 + (0.3 x 1.96)], or from 96.2 to 97.4 percent. The 1.96 is the *critical value* for a statistical test at the 0.05 significance level (where 0.05 indicates the 5 percent of all possible samples that would be outside the range of the confidence interval).

Because the data from the FRSS teacher technology survey were collected using a complex sampling design, the variances of the estimates from this survey (e.g., estimates of proportions) are typically different from what would be expected from data collected with a simple random sample. Not taking the complex sample design into account can lead to an underestimation of the standard errors associated with such estimates. To generate accurate standard errors for the estimates in this report, standard errors were computed using a technique known as jackknife replication. As with any replication method, jackknife replication involves constructing a number of subsamples (replicates) from the full sample and computing the statistic of interest for each replicate. The mean square error of the replicate estimates around the full sample estimate provides an estimate of the variance of the statistic. To construct the replications, 50 stratified subsamples of the full sample were created and then dropped one at a time to define 50 jackknife replicates. A computer program (WesVar) was used to calculate the estimates of standard errors.

All specific statements of comparisons made in this report have been tested for statistical significance at the .05 level using Student's *t*-statistic to ensure that the differences are larger than those that might be expected due to sampling variation. Adjustments for multiple comparisons were not included. Student's *t* values were computed to test the difference between estimates with the following formula:

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

where E_1 and E_2 are the estimates to be compared and se_1 and se_2 are their corresponding standard errors. Many of the variables examined are related to one another, and complex interactions and relationships have not been explored.

Nonsampling Errors

Nonsampling error is the term used to describe variations in the estimates that may be caused by population coverage limitations and data collection, processing, and reporting procedures. The sources of nonsampling errors are typically problems like unit and item nonresponse, differences in respondents' interpretations of the meaning of questions, response differences related to the particular time the survey was conducted, and mistakes made during data preparation. It is difficult to identify and estimate either the amount of nonsampling error or the bias caused by this error. To minimize the potential for nonsampling error, this study used a variety of procedures, including a pretest of the questionnaire with public elementary and secondary school teachers. The pretest provided the opportunity to check for consistency of interpretation of questions and definitions and to eliminate ambiguous items. The questionnaire and instructions were also extensively reviewed by NCES and the data requester at the Office of Educational Technology. In addition, manual and machine editing of the questionnaire responses was 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 for surveys received by mail, fax, or telephone.

One potential source of nonsampling error is nonresponse bias. NCES statistical standards and guidelines require a nonresponse bias analysis if the unit response rate at any stage of data collection is less than 85 percent. For this survey, unit nonresponse occurred when an eligible sampled school did not provide a teacher sampling list or an eligible sampled teacher did not complete the questionnaire. The unweighted and weighted list collection response rates are 80 and 81 percent, respectively. The corresponding teacher response rates are both 79 percent, resulting in unweighted and weighted overall response rates of 64 percent and 65 percent, respectively. Therefore, a nonresponse bias analysis was conducted for the survey. The analysis looked for potential nonresponse biases and examined whether any additional weighting adjustments for nonresponse beyond the usual FRSS procedures should be considered.

The analysis included an examination of the impact of school-level nonresponse (i.e., schools that did not provide a teacher list for sampling) and the impact of teacher-level nonresponse within responding schools. For each type of nonresponse, an examination of response rates by school characteristics and a comparison of the base-weighted distributions of characteristics for the total sample versus the respondents were conducted. School characteristics where the response rates varied significantly for subgroups were identified. Next, comparisons were made of data before and after the nonresponse adjustments were made to the weights. These comparisons involved distributions of respondents by school characteristics, estimates of CCD data items, and selected survey results.

The analysis found that school and teacher response rates generally varied by locale, region, minority status (defined by percent combined enrollment of Black, Hispanic, Asian/Pacific Islander, or American Indian/Alaska Native students), and enrollment size of school. Teacher response rates also varied significantly by sampling batch, which is an indicator of how early or late in the data collection period the teacher sampling list was received. To compensate for the differential response rates, weight adjustments were used to derive adjusted teacher weights for analysis purposes. These adjustments were made in two stages. First, adjustments were made to the school component of the teacher weight to compensate for nonresponse during list collection. The nonresponse-adjusted school weights were used to compute the teacher base weights, which were then adjusted for teacher nonresponse. In general, such weight adjustments will reduce nonresponse bias if the variables used in forming the weight adjustment classes are correlated with response propensity (the probability that a sampled school or teacher will respond to the survey) and with the characteristics obtained from the survey.

There are reasons to believe that the nonresponse-adjusted weights developed for the survey will be reasonably effective in reducing potential biases. First, the school-level weight adjustments removed most of the disparities between the weighted distributions of the responding schools and the distributions of the total school sample. Although some differences were not eliminated completely (i.e., by locale), the differences do not seem to be large enough to have a material impact on the weighted estimates derived from the survey. For example, for elementary schools, the mean absolute relative bias across the categories of variables included in the nonresponse bias analysis went from 4.8 percent before adjustment to 1.9 percent after adjustment. Similarly, for secondary schools, the mean absolute relative bias across all categories went from 5.3 percent before adjustment to 2.2 percent after adjustment. A comparison of weighted estimates of selected school-level characteristics available in the CCD files seems to bear this out. Except for some district-level attributes (which were not controlled for in the weighting process), the school-level weight adjustment procedures eliminated or reduced the difference between the nonresponse-adjusted estimate for the responding schools and the corresponding base-weighted estimate for the total sample of schools.

Similarly, the second-stage nonresponse adjustment of the teacher weights appeared to be reasonably effective in reducing any residual differences between the distributions of the responding and nonresponding teachers. A comparison of weighted teacher estimates of selected survey items before and after nonresponse adjustment indicated that there generally were no significant differences between the nonresponse-adjusted estimates and the corresponding base-weighted estimates prior to adjustment. This suggests that much of the bias reductions

were likely captured in the school-level nonresponse adjustments. The absence of statistically significant differences may also suggest that the correlation between the survey responses and the variables used in the weighting adjustment (which are expected to be among the most important predictors of response propensity) is sufficiently small that any adjustment methodology involving these variables will not have an appreciable impact on the weighted estimates.

Although it is possible to conduct more in-depth analysis and possibly refine the weighting procedures, the results of this analysis suggested that any potential improvements would be modest at best. Therefore, NCES determined that no additional analysis or adjustments to the weights was needed. Additional information about the nonresponse bias analysis is available in the survey documentation for the public-use data file (NCES 2010–043).

Definitions of Analysis Variables

Many of the school and teacher characteristics, described below, may be related to each other. For example, school enrollment size and community type are related, with city schools typically being larger than rural schools. Other relationships between these analysis variables may exist. However, this *First Look* report focuses on national estimates and bivariate relationships between the analysis variables and questionnaire variables rather than more complex analyses.

School Instructional Level—This variable is based on the grades reported in question 16 on the FRSS survey *Educational Technology in U.S. Public Schools, Fall 2008*, which was conducted in coordination with the teacher survey using the same sample of schools. There was no item nonresponse for this question. However, for teachers in schools that did not complete a school survey, this variable was based on data from the 2005–06 CCD School Universe file. Data for combined schools (those with both elementary and secondary grades as defined below) are included in the totals and in analyses by other school characteristics, but are not shown separately. Thus, data are reported for the categories below.

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 Enrollment Size—This variable indicates the total number of students enrolled in the school based on data from the 2005–06 CCD School Universe file. There were no missing data for the responding teachers. The variable was collapsed into the three categories below.

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

Community Type—This variable indicates the type of community in which the school is located, as defined in the 2005–06 CCD Public School Locale Code file. These codes identify the geographic status of a school based on a school's physical address. This classification system is referred to as the "urban-centric" classification system to distinguish it from the previous "metro-centric" classification system. The urban-centric locale codes are assigned through a methodology developed by the U.S. Census Bureau's Population Division in 2005. This classification system has four major locale categories—city, suburban, town, and rural—each of which is subdivided into three subcategories. These 12 categories are based on several key concepts that Census uses to define an area's urbanicity: principal city, urbanized area, and urban cluster, as discussed below.

- A principal city is a city that contains the primary population and economic center of a metropolitan statistical area, which, in turn, is defined as one or more contiguous counties that have a "core" area with a large population nucleus and adjacent communities that are highly integrated economically or socially with the core.

- Urbanized areas and urban clusters are densely settled "cores" of Census-defined blocks with adjacent densely settled surrounding areas. Core areas with populations of 50,000 or more are designated as urbanized areas; those with populations between 25,000 and 50,000 are designated as urban clusters. Rural areas are designated by Census as those areas that do not lie inside an urbanized area or urban cluster.

The variable used in this report was based on the 12-category urban-centric locale variable from CCD and collapsed into the four categories below. There were no missing data for the responding teachers.

City—Territory inside an urbanized area and inside a principal city
Suburban—Territory outside a principal city and inside an urbanized area
Town—Territory inside an urban cluster
Rural—Territory outside an urbanized area and outside an urban cluster

Percent of Students in the School Eligible for Free or Reduced-Price Lunch—This item serves as a measure of the concentration of poverty at the school. This variable is based on responses to question 15 on the FRSS survey *Educational Technology in U.S. Public Schools, Fall 2008,* which was conducted in coordination with the teacher survey using the same sample of schools. If this information was not provided by the school, this variable was obtained from the 2005–06 CCD School Universe file. Data were available for all responding teachers from either question 15 on the school survey or CCD. The four categories used in the report are listed below.

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

Main Teaching Assignment—This variable is based on responses to question 12 on the teacher survey questionnaire, which asks for the main teaching assignment (the field in which the teacher taught the most classes) this 2008–09 school year. There was no item nonresponse for this question. This variable was collapsed into the categories below.

General education in self-contained classroom—Includes response category "General education in self-contained classroom *(definition on cover)*." The following definition of teacher in a self-contained classroom was given on the cover: teaches all or most academic subjects to the same group of students all or most of the day.

Mathematics/computer science, science—Includes response categories of "Mathematics/computer science" and "Science."

Other academic subject—Includes response categories of "English/language arts," "Foreign languages," and "Social sciences/social studies."

Special education, English as a second language—Includes response categories of "Special education" and "English as a second language." These categories were combined to group teachers who provide specialized services to students because they may use educational technology differently than other teachers, and to create a group with sufficient sample size to report findings.

Other assignment—Includes response categories of **"**Arts and Music," "Health/physical education," "Vocational, career, or technical education," and "Other (specify)."

Elementary/Secondary Teaching Experience—This variable is based on responses to question 15 on the teacher survey questionnaire, which asks how many years (including this school year) the teacher worked as an elementary or secondary teacher, including years spent teaching full and part time and in public and private schools. If question 15 was not answered, this variable was imputed as described in the section above for

Imputation for Item Nonresponse. The weighted percent that was imputed for this item was 0.12 percent. The categories used in the report are listed below.

3 or fewer years
4 to 9 years
10 to 19 years
20 or more years

Definitions of Terms Used in This Report

The following is the exact wording of the definitions that were included on the questionnaire.

Technology: Information technology such as computers, devices that can be attached to computers (e.g., LCD projector, interactive whiteboard, digital camera), networks (e.g., Internet, local networks), and computer software. We specifically are not including non-computer technologies such as overhead projectors and VCRs.

Classroom response system: Wireless system allowing a teacher to pose a question and students to respond using "clickers" or hand-held response pads, with responses compiled on a computer.

Document camera: Device that transmits images of 2- or 3-dimensional objects, text, or graphics to a computer monitor or LCD projector.

Blogs: Websites where an individual or group creates a running log of entries that can be read by other users, such as in a journal.

Wikis: Collaborative websites that allow users to freely create and edit web page content (e.g., Wikipedia).

Social networking websites: Online social networks for communities of people who share interests and activities or who are interested in exploring the interests and activities of others (e.g., Facebook, MySpace).

Teacher in a self-contained classroom: Teaches all or most academic subjects to the same group of students all or most of the day.

Descriptions of the acronyms for the following were not included on the questionnaire.

LCD projector: Liquid Crystal Display.

DLP projector: Digital Light Processing.

Contact Information

For more information about the survey, contact Peter Tice, Early Childhood, International, and Crosscutting Studies Division, National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education, 1990 K Street NW, Washington, DC 20006, e-mail: peter.tice@ed.gov; telephone: (202) 502-7497.

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Appendix C

Questionnaire

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U.S. DEPARTMENT OF EDUCATION NATIONAL CENTER FOR EDUCATION STATISTICS WASHINGTON, D.C. 20006–5651 **TEACHERS' USE OF EDUCATIONAL TECHNOLOGY IN U.S. PUBLIC SCHOOLS** FAST RESPONSE SURVEY SYSTEM	FORM APPROVED O.M.B. No.: 1850–0857 EXPIRATION DATE: 08/2010

This survey is authorized by law (P.L. 103-382). While participation in this survey is voluntary, your cooperation is critical to make the results of this survey comprehensive, accurate, and timely. Your answers may be used only for statistical purposes and may not be disclosed, or used, in identifiable form for any other purpose unless otherwise compelled by law. (Public Law 107-279, Education Sciences Reform Act, Section 183.)

Definitions

Technology: Information technology such as computers, devices that can be attached to computers (e.g., LCD projector, interactive whiteboard, digital camera), networks (e.g., Internet, local networks), and computer software. We specifically are not including non-computer technologies such as overhead projectors and VCRs.

Classroom response system: Wireless system allowing a teacher to pose a question and students to respond using "clickers" or hand-held response pads, with responses compiled on a computer.

Document camera: Device that transmits images of 2- or 3-dimensional objects, text, or graphics to a computer monitor or LCD projector.

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Social networking websites: Online social networks for communities of people who share interests and activities or who are interested in exploring the interests and activities of others (e.g., Facebook, MySpace).

Teacher in a self-contained classroom: Teaches all or most academic subjects to the same group of students all or most of the day.

IF ABOVE INFORMATION IS INCORRECT, PLEASE UPDATE DIRECTLY ON LABEL.

Name of Person Completing This Form: _____

Title/Position: _____

Telephone Number: _____ Email: _____

Best days and times to reach you (in case of questions): _____

THANK YOU. PLEASE KEEP A COPY OF THE SURVEY FOR YOUR RECORDS.

PLEASE RETURN COMPLETED FORM TO:	**IF YOU HAVE ANY QUESTIONS OR COMMENTS, CONTACT:**
Mail: Cindy Gray (8096.15.03) Westat 1650 Research Boulevard Rockville, Maryland 20850-3195 **Fax:** 800-254-0984	Cindy Gray at Westat 800-937-8281, Ext. 4336 or 301-251-4336 Email: cgray@westat.com

1. Please report the following about computers in your classroom:

   In row a, report the number of computers that are located in your classroom every day and the number of these with Internet access. *(If none, enter 0.)*

   In row b, report the number of computers that can be brought into your classroom (e.g., laptops on carts) and the number of these that have Internet access. *Indicate the number that are generally brought in at one time. (If none, enter 0.)*

	Total number	Number with Internet access
a. Located in your classroom every day	_____	_____
b. Can be brought into your classroom (e.g., laptops on carts) *(the number that are generally brought in at one time)*	_____	_____

2. How frequently do you or your students use computers **during instructional time** in the following locations? *For row a, only select "not available" if you have **no** computers in your classroom and can **not** bring in computers (i.e., you entered zeros in both questions 1a and 1b). (Circle one on each line.)*

	Not available	Never	Rarely	Sometimes	Often
a. In your classroom	1	2	3	4	5
b. Other location in your school	1	2	3	4	5

3. For each of the devices below, indicate in **Part 1** its availability to you. *Include only devices provided by the school or district. (Circle one type of availability for each device.)*

   For devices that are available to you (as needed or every day), indicate in **Part 2** how frequently they are used for instruction during your class(es). *Include only devices provided by the school or district.*

Device	1. Type of availability			2. Frequency of use if available			
	Not available	Available as needed	In classroom every day	Never	Rarely	Sometimes	Often
a. LCD or DLP projector	1	2	3	1	2	3	4
b. Videoconference unit	1	2	3	1	2	3	4
c. Interactive whiteboard (e.g., SMART Board, Activboard)	1	2	3	1	2	3	4
d. Classroom response system *(definition on cover)*	1	2	3	1	2	3	4
e. Digital camera (still or video)	1	2	3	1	2	3	4
f. MP3 player/iPod	1	2	3	1	2	3	4
g. Document camera *(definition on cover)*	1	2	3	1	2	3	4
h. Handheld device (e.g., Palm OS, Windows CE, Pocket PC, BlackBerry)	1	2	3	1	2	3	4
i. Other (*specify*) _____	1	2	3	1	2	3	4

4. How frequently do you use a system on your school or district network for the following? *Select "not available" if your school or district does not make a system **on the network** available **to you** for that activity. (Circle one on each line.)*

	Not available	Never	Rarely	Sometimes	Often
a. Entering or viewing grades	1	2	3	4	5
b. Entering or viewing attendance records	1	2	3	4	5
c. Administering assessments	1	2	3	4	5
d. Entering or viewing results of student assessments	1	2	3	4	5
e. Entering or viewing Individual Education Plans (IEPs) or parts of the IEP relevant to your interactions with the student	1	2	3	4	5

5. How frequently do you use **remote access** (e.g., access from home) for the following? S*elect "not available" if your school or district does not give you remote access for that item. (Circle one on each line.)*

	Not available	Never	Rarely	Some-times	Often
a. Remote access to your school email	1	2	3	4	5
b. Remote access to your documents on the school/district server	1	2	3	4	5
c. Remote access to student data	1	2	3	4	5
d. Remote access to school/district software applications	1	2	3	4	5

6. In general, how frequently do you use the following for classroom preparation, instruction, or administrative tasks? *(Circle one on each line.)*

	Never	Rarely	Some-times	Often
a. Word processing software	1	2	3	4
b. Database management software (e.g., Access)	1	2	3	4
c. Spreadsheets and graphing programs (e.g., Excel)	1	2	3	4
d. Software for managing student records	1	2	3	4
e. Software for desktop publishing	1	2	3	4
f. Graphics, image-editing software (e.g., Photoshop, KidPix)	1	2	3	4
g. Software for making presentations (e.g., PowerPoint, Keynote)	1	2	3	4
h. Software for administering tests	1	2	3	4
i. Simulation and visualization programs	1	2	3	4
j. Drill/practice programs/tutorials	1	2	3	4
k. Subject-specific programs	1	2	3	4
l. The Internet	1	2	3	4
m. Blogs and/or wikis *(definitions on cover)*	1	2	3	4
n. Social networking websites *(definition on cover)*	1	2	3	4
o. Other applications (*specify)*_____	1	2	3	4

7. In general, how frequently do your **students** perform the following activities **using educational technology** during your class(es)? *Select "not applicable" for activities that do not apply to your students. (Circle one on each line.)*

	Not applicable	Never	Rarely	Some-times	Often
a. Prepare written text (e.g., word processing, desktop publishing)	1	2	3	4	5
b. Create or use graphics or visual displays (e.g., graphs, diagrams, pictures, maps)	1	2	3	4	5
c. Learn or practice basic skills (e.g., reading or math skills)	1	2	3	4	5
d. Conduct research (e.g., Internet searching, using reference materials on CD-ROM)	1	2	3	4	5
e. Correspond with others (e.g., students, teachers, experts) via email, network, or Internet	1	2	3	4	5
f. Contribute to blogs or wikis *(definitions on cover)*	1	2	3	4	5
g. Use social networking websites *(definition on cover)*	1	2	3	4	5
h. Solve problems, analyze data, or perform calculations	1	2	3	4	5
i. Conduct experiments or perform measurements	1	2	3	4	5
j. Develop and present multimedia presentations	1	2	3	4	5
k. Create art, music, movies, or webcasts	1	2	3	4	5
l. Develop or run demonstrations, models, or simulations	1	2	3	4	5
m. Design and produce a product (e.g., computer-aided manufacturing)	1	2	3	4	5
n. Other (*specify*) _____	1	2	3	4	5

8. How frequently do you use the following to communicate with parents and students?
*(On each line, circle one response for parents in **Part 1** and one response for students in **Part 2**.)*

Communication mode	1. Parents				2. Students			
	Never	Rarely	Some-times	Often	Never	Rarely	Some-times	Often
a. Email or list-serve to send out group updates or information	1	2	3	4	1	2	3	4
b. Email to address individual concerns	1	2	3	4	1	2	3	4
c. Online bulletin board for class discussion (e.g., Blackboard, Moodle)	1	2	3	4	1	2	3	4
d. Course or teacher web page	1	2	3	4	1	2	3	4
e. Course or teacher blog *(definition on cover)*	1	2	3	4	1	2	3	4
f. Instant messaging	1	2	3	4	1	2	3	4

9. To what extent has each of the following prepared you to make effective use of educational technology for instruction?
If you did not participate in an activity, select "not applicable." (*Circle one on each line.*)

	Not applicable	Not at all	Minor extent	Moderate extent	Major extent
a. Undergraduate teacher education program	1	2	3	4	5
b. Graduate teacher education program	1	2	3	4	5
c. Professional development activities	1	2	3	4	5
d. Training provided by staff responsible for technology support and/or integration at your school	1	2	3	4	5
e. Independent learning	1	2	3	4	5
f. Other (*specify*) _____	1	2	3	4	5

10. During the last 12 months, how many hours did you spend in professional development activities for **educational technology** (e.g., workshops, courses, coordinated workgroups)? *(Circle only one.)*

0 hours ..... 1 ***(Skip to Q12.)***
1–8 hours 2
9–16 hours 3
17–32 hours 4
33 hours or more 5

11. Please indicate the extent to which you agree or disagree with the following statements as they relate to the professional development in **educational technology** that you took during the last 12 months.
(*Circle one on each line.*)

	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree
a. It met my goals and needs	1	2	3	4
b. It supported the goals and standards of my state, district, and school	1	2	3	4
c. It applied to technology available in my school	1	2	3	4
d. It was available at convenient times and places	1	2	3	4

12. This school year, what is your main teaching assignment (the field in which you teach the most classes)? *(Circle one.)*

Special education 1
General education in a self-contained classroom *(definition on cover)* 2
Arts and Music 3
English/language arts 4
English as a second language 5
Foreign languages 6
Health/physical education 7
Mathematics/computer science 8
Science 9
Social sciences/social studies 10
Vocational, career, or technical education 11
Other (*specify*) _____ 12

13. What grade(s) do you currently teach at this school? *(Circle all that apply.)*

PK K 1 2 3 4 5 6 7 8 9 10 11 12 Ungraded

14. This school year, how many students, on average, do you have in your classroom **at one time**? _____

15. Including this school year, how many years have you worked as an elementary or secondary teacher?
Include years spent teaching full and part time and in public and private schools. _____ Years