
NATIONAL CENTER FOR EDUCATION STATISTICS

Statistical Analysis Report

October 1997

Distance Education in Higher Education Institutions

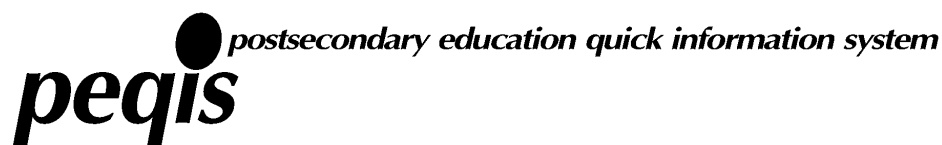
peqis *postsecondary education quick information system*

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Distance Education in Higher Education Institutions



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Highlights

The Survey on Distance Education Courses Offered by Higher Education Institutions was requested by the National Institute on Postsecondary Education, Libraries, and Lifelong Learning, U.S. Department of Education. The survey was designed to provide the first nationally representative data about distance education course offerings in higher education institutions. The study obtained information about the percentage of institutions that currently offer and that plan to offer distance education courses in the next 3 years; distance education course offerings, including the types of technologies used to deliver distance education courses and the sites to which such courses are directed; distance education enrollments and completions; characteristics of distance education courses and programs; distance education program goals; future plans for distance education course offerings; and factors keeping institutions from starting or expanding their distance education offerings. For this study, distance education was defined as education or training courses delivered to remote (off-campus) locations via audio, video, or computer technologies. Data were collected in fall 1995 from 2-year and 4-year higher education institutions and were weighted to provide national estimates.

- A third of higher education institutions offered distance education courses in fall 1995, another quarter planned to offer such courses in the next 3 years, and 42 percent did not offer and did not plan to offer distance education courses in the next 3 years (table 1). Public institutions offered distance education courses with much greater frequency than did private institutions: 58 percent of public 2-year and 62 percent of public 4-year institutions offered distance education courses in fall 1995, compared with 2 percent of private 2-year and 12 percent of private 4-year institutions.
- An estimated 25,730 distance education courses with different catalog numbers were offered by higher education institutions in academic year 1994-95 (table 2). Public 4-year institutions offered 45 percent, public 2-year institutions 39 percent, and private 4-year institutions 16 percent of the distance education courses in 1994-95. About half of the institutions that offered distance education courses in fall 1995 offered 10 or fewer such courses in academic year 1994-95 (figure 2).
- Distance education courses were delivered by two-way interactive video at 57 percent, and by one-way prerecorded video at 52 percent of the institutions offering distance education courses in fall 1995 (table 3). About a quarter of the institutions used two-way audio with one-way video, and computer-based technologies other than two-way online

interactions during instruction (e.g., the Internet) to deliver their distance education courses.

- About half of the higher education institutions that offered distance education courses in fall 1995 directed such courses to students' homes (table 4). Institutions also frequently directed distance education courses to other branches of their institution (39 percent) and other college campuses (35 percent). About a quarter of the institutions directed distance education courses to elementary/secondary schools.
- More higher education institutions offered distance education courses designed primarily for undergraduate students (81 percent of institutions) and graduate students (34 percent of institutions) than for any other type of student (table 6). Professionals seeking recertification were targeted by 39 percent, and other workers seeking skill updating or retraining were targeted by 49 percent of institutions that offered distance education courses in fall 1995 (table 8).
- There were an estimated 753,640 students formally enrolled in distance education courses in academic year 1994-95 (table 10). Public 2-year institutions enrolled 55 percent, public 4-year institutions 31 percent, and private 4-year institutions 14 percent of the students enrolled in distance education courses in 1994-95.
- About a quarter of the institutions that offered distance education courses in fall 1995 offered degrees that students could complete by taking distance education courses exclusively, and 7 percent offered certificates that could be completed that way (table 11). There were an estimated 690 degrees and 170 certificates offered in fall 1995 that students could receive by taking distance education courses exclusively. An estimated 3,430 students received degrees and 1,970 received certificates in 1994-95 by taking distance education courses exclusively.
- Access to library resources varied depending on the type of library resource. Access to an electronic link with the institution's library was available for some or all courses at 56 percent of the institutions, and cooperative agreements for students to use other libraries were available at 62 percent of institutions (tables 12 and 13). Institution library staff were assigned to assist distance education students at 45 percent of the institutions, while library deposit collections were available at remote sites at 39 percent of institutions.

- Increasing student access was an important goal for most distance education programs, with making courses available at convenient locations rated as very important by 82 percent of institutions, and reducing time constraints for course taking rated as very important by 63 percent of institutions (table 16). Making educational opportunities more affordable for students, another aspect of student access, was rated as very important by about half of the institutions. Goals concerning increasing the institution's audiences and enrollments were also perceived as quite important, with increasing the institution's access to new audiences and increasing the institution's enrollments rated as very important by 64 percent and 54 percent of institutions, respectively. In general, institutions indicated that most of the goals were met to a minor or moderate extent. Goals particularly likely to be met to a major extent concerned student access.
- Among all institutions, including those with no future plans to offer distance education courses, factors frequently reported as keeping the institution from starting or expanding their distance education course offerings to a major extent were program development costs (43 percent), limited technological infrastructure to support distance education (31 percent), and equipment failures and costs of maintaining equipment (23 percent; table 23). However, in general, most factors were not perceived to be major hindrances keeping institutions from starting or expanding their distance education offerings.

Table of Contents

Section		Page
	Highlights	iii
1	Background	1
2	Distance Education Course Offerings	5
	Institutions Offering Distance Education Courses	5
	Number of Distance Education Courses Offered	8
	Types of Technologies Used to Deliver Distance Education Courses	10
	Delivery of Distance Education Courses to Remote Sites	11
	Primary Student Audience for Distance Education Courses	14
	Individuals Targeted for Distance Education Courses.....	17
	Primary Course Developers.....	18
3	Distance Education Enrollments and Completions.....	21
	Number of Students Enrolled in Distance Education Courses	21
	Degrees or Certificates Received Through Distance Education	24
4	Characteristics of Distance Education Courses and Programs	27
	Availability of Resources for Students Enrolled in Distance Education Courses	27
	Procedures for Test Administration	29
	Training Opportunities for Faculty	30
5	Distance Education Program Goals	31
6	Future Plans for Distance Education Course Offerings.....	35
	Delivery of Distance Education Courses to Remote Sites in the Next 3 Years.....	35
	Technologies to be Pursued During the Next 3 Years.....	37
7	Factors Keeping Institutions from Starting or Expanding Distance Education Course Offerings	39
8	Summary	43

9	Survey Methodology and Data Reliability.....	47
	Postsecondary Education Quick Information System.....	47
	Sample and Response Rates	48
	Sampling and Nonsampling Errors	49
	Variances.....	50
	Background Information.....	51

List of Appendices

Appendices		Page
A	Tables of Standard Errors	A-1
B	Survey Questionnaire	B-1

List of Tables

Table

1	Percent of higher education institutions currently offering distance education courses, percent planning to offer them in the next 3 years, and percent not currently offering or planning to offer them, by institutional characteristics: 1995	6
2	Total number and percentage distribution of distance education courses with different catalog numbers offered in academic year 1994-95, by institutional characteristics	8
3	Percent of higher education institutions currently offering distance education courses that use various types of technologies to deliver distance education courses, by institutional characteristics: 1995	11
4	Percent of higher education institutions currently offering distance education courses directed to different types of remote sites, by institutional characteristics: 1995	12
5	Total number of distance education courses directed by higher education institutions to different types of remote sites, by institutional characteristics: 1995.....	13
6	Percent of higher education institutions currently offering distance education courses designed primarily for specific types of students, by institutional characteristics: 1995	14
7	Total number of distance education courses designed by higher education institutions primarily for specific types of students, by institutional characteristics: 1995	16

8	Percent of higher education institutions currently offering distance education courses targeted toward certain types of individuals, by institutional characteristics: 1995	17
9	Percent of higher education institutions currently offering distance education courses composed by various types of developers, by institutional characteristics: 1995	18
10	Total number and percentage distribution of students formally enrolled in the institution's distance education courses in academic year 1994-95, by institutional characteristics	22
11	Percent of higher education institutions currently offering distance education courses that offer degrees and certificates to students taking distance education courses exclusively, total number of degrees and certificates students can receive by taking distance education courses only, and total number of such degree and certificate recipients in 1994-95, by institutional characteristics	24
12	Percent of higher education institutions currently offering distance education courses that have various resources available for students enrolled in distance education courses: 1995	28
13	Percent of higher education institutions currently offering distance education courses indicating that various resources are available for some or all courses for students enrolled in distance education courses, by institutional type: 1995	28
14	Percent of higher education institutions currently offering distance education courses using various procedures to administer tests to students enrolled in for-credit distance education courses: 1995	30
15	Percent of higher education institutions currently offering distance education courses indicating whether certain training opportunities are required, available but not required, or not available to faculty teaching distance education courses: 1995.....	30
16	Percent of higher education institutions currently offering distance education courses indicating the importance of various goals to their distance education programs, and the extent to which the institution is meeting those goals: 1995	31
17	Percent of higher education institutions currently offering distance education courses indicating that various goals are very important to their distance education programs, by institutional type: 1995	32
18	Percent of higher education institutions currently offering distance education courses indicating the extent to which their distance education program has met various goals, by importance of the goal to the institution: 1995.....	34

19	Percent of higher education institutions specifying plans regarding the number of distance education courses directed to various remote sites in the next 3 years: 1995	36
20	Percent of higher education institutions specifying that they plan to start or increase the number of distance education courses directed to various remote sites in the next 3 years, by institutional type: 1995.....	36
21	Percent of higher education institutions indicating their plans for the next 3 years concerning the number of distance education courses using various types of technology: 1995.....	37
22	Percent of higher education institutions currently offering distance education courses that use various types of technologies to deliver distance education courses, and the percent of higher education institutions currently offering or planning to offer distance education courses in the next 3 years that plan to start or increase their use of various types of technologies in the next 3 years: 1995	38
23	Percent of higher education institutions indicating the extent to which various factors are keeping the institution from starting or expanding their distance education course offerings: 1995	40
24	Percent of higher education institutions indicating the extent to which various factors are keeping the institution from starting or expanding their distance education course offerings, by distance education program status: 1995	41
25	Number and percent of higher education institutions in the study, and the estimated number and percent in the nation, for the total sample and for institutions currently offering distance education courses, by institutional characteristics: 1995	49

List of Figures

1	Percent of higher education institutions currently offering distance education courses that have a separate distance education department/office, by institutional characteristics: 1995	7
2	Percent of higher education institutions offering distance education courses in fall 1995 that offered various numbers of distance education courses in academic year 1994-95	9
3	Percent of distance education courses that are offered only as distance education courses, by institutional characteristics: 1995.....	10
4	Percent of distance education courses offered in fall 1995 that were composed by various types of developers.....	19

5	Percent of higher education institutions currently offering distance education courses that enrolled various numbers of students in those courses in academic year 1994-95	23
6	Percent of higher education institutions offering degrees and certificates exclusively through distance education courses that offered various numbers of such degrees and certificates: 1995	25

1. Background

Technology-based distance education is emerging as an increasingly important component of higher education. Publications such as the *Chronicle of Higher Education* regularly feature articles about the distance education efforts of various higher education institutions and systems, states, and consortia. According to the *Chronicle of Higher Education* (July 6, 1994), while distance education to date has primarily concentrated on part-time students, students who cannot travel easily to campus, and courses in selected graduate programs (such as engineering and business administration), distance education specialists and academic policymakers expect technology to help higher education institutions provide a wide range of programs, including undergraduate degree programs, to larger proportions of the student population.

Many states have active distance education programs. For example, the Education Network of Maine, an independent arm of the Maine university system, televises college courses to 11 regional centers and other sites throughout the state and helps make available 85 courses and 14 degree programs, which served about 2,900 students in the fall of 1995 (*Chronicle of Higher Education*, May 31, 1996). Colorado took a somewhat different approach when it established Colorado Electronic Community College as the state's 12th community college. Colorado Electronic Community College was created when the state's other 11 community colleges joined forces with Mind Extension University (now known as Jones Education Connection), a for-profit institution that uses cable television and videotapes to deliver courses from more than 30 colleges and universities. The focus of the new institution is to reach people in rural areas of Colorado who are far from other colleges (*Chronicle of Higher Education*, December 8, 1995). Among the other notable education networks for distance education run by states and higher education systems are EdNet in Oregon, the Iowa Communications Network, the TeleLinking Network in Kentucky, and BadgerNet in Wisconsin.

In the West, the governors of 15 states (and one U.S. territory) are developing a "virtual university" called the Western Governors University. This virtual university will have no campus and will rely heavily on computers and other technology such as interactive video to deliver instruction. Other states and institutions have joined together into cooperatives and consortia to support and offer distance

education. Examples of such cooperatives and consortia include the Western Cooperative for Educational Telecommunications, a project of the Western Interstate Commission for Higher Education, and the Committee on Institutional Cooperation, which consists of 12 large institutions, including Pennsylvania State University, the University of Iowa, Ohio State University, the University of Minnesota, the University of Wisconsin, and the University of Illinois (*Chronicle of Higher Education*, December 8, 1995). A number of large universities (e.g., the University of Maryland, Duke University, and Purdue University) offer complete master's degrees in business through the Internet.

In recent years, 60 community colleges have joined with 22 public television stations around the country to offer associate's degree programs through distance education telecourses under a program called "Going the Distance" (*Higher Education & National Affairs*, American Council on Education, August 15, 1994). This program is part of an initiative of the Public Broadcasting Service (PBS) aimed at expanding career opportunities for working adults and increasing work force competitiveness through adult education services. PBS has offered telecourses through PBS stations and local colleges since 1981, but students could not use them to completely fulfill degree requirements. Enrollment in PBS telecourses has grown from 55,000 in 1981 to about 400,000 in 1996 (information from the Adult Learning Service, PBS, August 27, 1997). "Going the Distance" focuses on reaching students who could not otherwise attend college and work toward a degree (*The Washington Post*, August 4, 1994).

While those examples highlight the growing importance of distance education for higher education, they do not provide information about distance education on a national scale. This PEQIS study was designed to provide nationally representative data about distance education course offerings in higher education institutions. The study obtained information about the percentage of institutions that currently offer and that plan to offer distance education courses in the next 3 years; distance education course offerings, including the types of technologies used to deliver distance education courses and the sites to which such courses are directed; distance education enrollments and completions; characteristics of distance education courses and programs; distance education program goals; future plans for distance education course offerings; and factors keeping institutions from starting or expanding their distance education offerings.

For this study, distance education was defined as education or training courses delivered to remote (off-campus) locations via audio, video, or computer technologies. For purposes of this study, the following types of courses were not included: (1) courses conducted exclusively on campus, although some on-campus instruction might be involved in the courses that were included; (2) courses conducted exclusively via correspondence, although some instruction might be conducted through correspondence in the courses that were included; and (3) courses in which the instructor traveled to a remote site to deliver instruction in person.

The following institutional characteristics were used as variables for analyzing the survey data:

- Type of institution: public 2-year, private 2-year, public 4-year, private 4-year. Type was created from a combination of level (2-year, 4-year) and control (public, private). Two-year institutions are defined as institutions at which the highest level of offerings is at least 2 but less than 4 years (below the baccalaureate degree); 4-year institutions are those at which the highest level of offering is 4 or more years (baccalaureate or higher degree).¹ Private comprises private nonprofit and private for-profit institutions; these private institutions are reported together because there are too few private for-profit institutions in the sample for this survey to report them as a separate category.
- Region: Northeast, Southeast, Central, and West, based on the National Assessment of Educational Progress (NAEP) definitions of region. The states in each region are as follows:
 - *Northeast*: Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.
 - *Southeast*: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Puerto Rico, South Carolina, Tennessee, Virginia, and West Virginia.

¹ Definitions for level are from the data file documentation for the Integrated Postsecondary Education Data System (IPEDS) Institutional Characteristics file, U.S. Department of Education, National Center for Education Statistics.

- *Central:* Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.
- *West:* Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oklahoma, Oregon, Texas, Utah, Washington, and Wyoming.

Size of institution: less than 3,000 students (small); 3,000 to 9,999 students (medium); and 10, 000 or more students (large).

The survey was conducted in fall of 1995 by the National Center for Education Statistics using the Postsecondary Education Quick Information System (PEQIS). PEQIS is designed to collect limited amounts of policy-relevant information on a quick turn-around basis from a previously recruited, nationally representative sample of postsecondary institutions. PEQIS surveys are generally limited to two to three pages of questions with a response burden of 30 minutes per respondent.² The survey was mailed to the PEQIS survey coordinators at 1,276 2-year and 4-year higher education institutions.³ Coordinators were told that the survey was designed to be completed by the person(s) at the institution most knowledgeable about the institution's distance education course offerings. The unweighted survey response rate was 94 percent (the weighted survey response rate was 96 percent). Data were adjusted for questionnaire nonresponse and weighted to provide national estimates. The section of this report on survey methodology and data reliability provides a more detailed discussion of the sample and survey methodology. The survey questionnaire is reproduced in appendix B.

All specific statements of comparisons made in this report have been tested for statistical significance through chi-square tests and *t*-tests adjusted for multiple comparisons using the Bonferroni adjustment and are significant at the 95 percent confidence level or better. However, not all statistically different comparisons have been presented, since some were not of substantive importance.

² Additional information about PEQIS is presented in the methodology section of this report.

³ Higher education institutions are institutions accredited at the college level by an agency recognized by the Secretary of the U.S. Department of Education, and are a subset of all postsecondary education institutions.

2. Distance Education Course Offerings

This section provides information about the distance education courses offered by higher education institutions. These are the first nationally representative data about such distance education offerings. Institutions were asked whether they currently offer any distance education courses or planned to offer any such courses in the next 3 years. Institutions that currently offered distance education courses (i.e., offered distance education courses in fall 1995) were asked about the number of courses offered in academic year 1994-95, the types of technologies used to deliver courses, the kinds of remote sites to which courses were directed, the types of students for whom courses were designed, and the primary developers of distance education course curricula.

Institutions Offering Distance Education Courses

A third of higher education institutions offered distance education courses in fall 1995, another quarter planned to offer such courses in the next 3 years, and 42 percent did not offer and did not plan to offer distance education courses in the next 3 years (table 1). A much greater percentage of public than of private institutions offered distance education courses: 58 percent of public 2-year and 62 percent of public 4-year institutions offered distance education courses, compared with 2 percent of private 2-year and 12 percent of private 4-year institutions. The percentage of institutions offering distance education courses also varied by institutional size and geographic region, with fewer small institutions and fewer institutions in the Northeast offering distance education.

Table 1.—Percent of higher education institutions currently offering distance education courses, percent planning to offer them in the next 3 years, and percent not currently offering or planning to offer them, by institutional characteristics: 1995

Institutional characteristic	Currently offering distance education courses	Planning to offer distance education courses in the next 3 years	Not currently offering and not planning to offer distance education courses
All institutions	33	25	42
Institutional type			
Public 2-year.....	58	28	14
Private 2-year.....	2	14	84
Public 4-year.....	62	23	14
Private 4-year.....	12	27	61
Geographic region			
Northeast	20	27	53
Southeast	31	28	41
Central.....	39	24	37
West	40	23	37
Size of institution			
Less than 3,000	16	27	56
3,000 to 9,999	61	24	15
10,000 or more	76	14	10

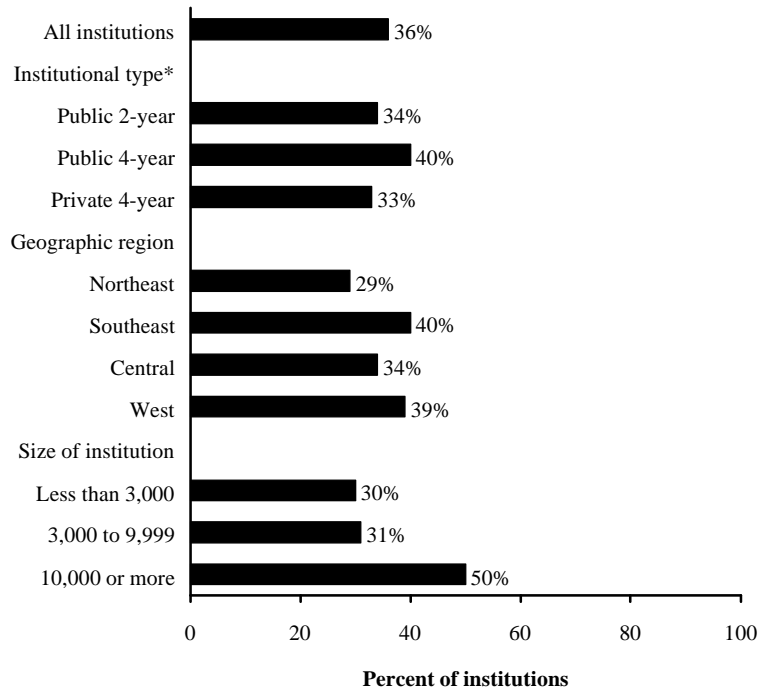
NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Percents may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Some of the variation in distance education offerings by region and size was related to the control of the institutions: 66 percent of institutions in the Northeast are private, compared with about half of the institutions in the other regions; and 72 percent of small institutions (i.e., those with less than 3,000 students) are private, compared with 24 percent of medium institutions (those with 3,000 to 9,999 students), and 11 percent of large institutions (those with 10,000 or more students; not shown in tables). This report focuses on presenting the findings by institutional type (which is a combination of institutional level and control), but the findings by region and size are presented in the tables for those interested in these variables.

About a third (36 percent) of higher education institutions offering distance education courses in fall 1995 had a separate distance education department or office (figure 1). Large institutions were particularly likely to have such a department or office.

Figure 1.—Percent of higher education institutions currently offering distance education courses that have a separate distance education department/office, by institutional characteristics: 1995



*Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals and in analyses by other institutional characteristics.

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Percents are based on institutions that offered distance education courses in fall 1995.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Number of Distance Education Courses Offered

In academic year 1994-95, an estimated 25,730 distance education courses with different catalog numbers⁴ were offered by higher education institutions (table 2). Public 4-year institutions offered 45 percent of the distance education courses, public 2-year institutions offered 39 percent, and private 4-year institutions offered 16 percent of the distance education courses in 1994-95. About half of the institutions that offered distance education courses in fall 1995 offered 10 or fewer such courses in academic year 1994-95, with 24 percent offering 1 to 4 courses and 21 percent offering 5 to 10 courses (figure 2). About a quarter of the institutions offered more than 25 distance education courses.

Table 2.—Total number and percentage distribution of distance education courses with different catalog numbers offered in academic year 1994-95, by institutional characteristics

Institutional characteristic	Number	Percentage distribution
All institutions	25,730	100
Institutional type*		
Public 2-year	10,150	39
Public 4-year	11,470	45
Private 4-year	4,030	16
Geographic region		
Northeast.....	2,670	10
Southeast.....	5,590	22
Central	8,230	32
West.....	9,240	36
Size of institution		
Less than 3,000.....	6,070	24
3,000 to 9,999.....	7,970	31
10,000 or more.....	11,700	45

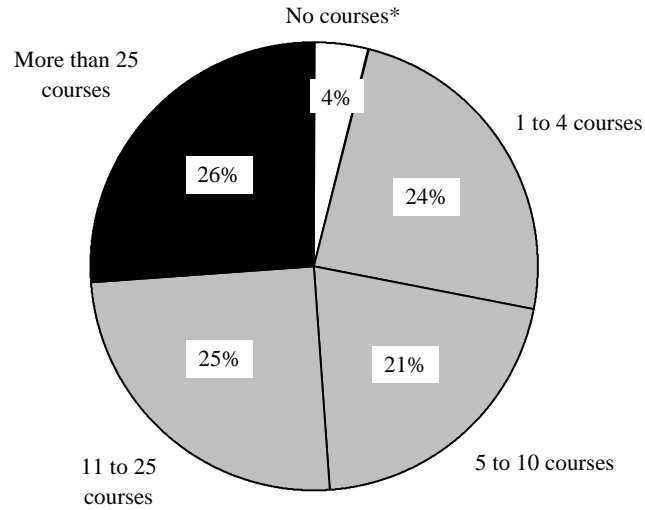
*Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals and in analyses by other institutional characteristics.

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. The numbers of courses have been rounded to the nearest 10. Numbers may not sum to totals because of rounding. Percents are computed within each classification variable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

⁴ Courses with different catalog numbers excluded multiple sections of the same course (e.g., five sections of English 101 would be counted as one course).

Figure 2.—Percent of higher education institutions offering distance education courses in fall 1995 that offered various numbers of distance education courses in academic year 1994-95



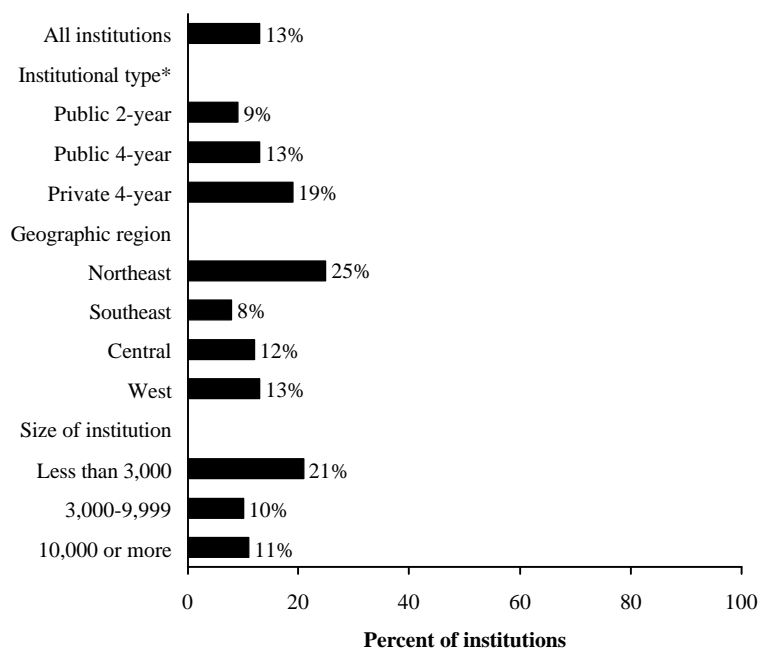
*Approximately 4 percent of the institutions offered distance education courses in fall 1995, but did not offer such courses in academic year 1994-95.

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Percents are based on institutions that offered distance education courses in fall 1995.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Institutions were asked how many of their distance education courses are offered only as distance education courses (i.e., there is no equivalent course taught on campus). Institutions offered an estimated 3,260 courses only as distance education courses (not shown in tables). The percentage of distance education courses offered exclusively through distance education did not vary by institutional type. Public 2-year institutions offered 9 percent of their distance education courses exclusively as distance education courses; public 4-year institutions, 13 percent; and private 4-year institutions, 19 percent (figure 3).

Figure 3.—Percent of distance education courses that are offered only as distance education courses, by institutional characteristics: 1995



*Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals and in analyses by other institutional characteristics.

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Percents are based on institutions that offered distance education courses in fall 1995.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Types of Technologies Used to Deliver Distance Education Courses

Two-way interactive video and one-way prerecorded video were used to deliver distance education courses by 57 percent and 52 percent, respectively, of the institutions offering distance education courses in fall 1995 (table 3). About a quarter of the institutions used two-way audio with one-way video, and computer-based technologies other than two-way online interactions during instruction (e.g., the Internet). Each of the other technologies was used by 14 percent or fewer of the institutions.

Public 4-year institutions were more likely than other types of institutions to use two-way interactive video and two-way audio with one-way video, while public 2-year institutions were more likely than other types of institutions to use one-way prerecorded video

(table 3). Two-way online interactions during instruction and other computer-based technologies were used more frequently by private 4-year than by public 2-year institutions.

Table 3.—Percent of higher education institutions currently offering distance education courses that use various types of technologies to deliver distance education courses, by institutional characteristics: 1995

Institutional characteristic	Type of technology									
	Two-way interactive video	Two-way audio, one-way video	One-way live video	One-way pre-recorded video	Audio-graphics	Two-way audio	One-way audio	Two-way online interactions	Other computer-based technology	Other technologies
All institutions	57	24	9	52	3	11	10	14	22	5
Institutional type*										
Public 2-year.....	49	18	9	67	1	5	10	8	14	5
Public 4-year.....	78	36	13	42	5	17	6	17	26	6
Private 4-year.....	40	14	4	30	3	16	20	25	38	7
Geographic region										
Northeast	51	15	6	43	2	7	6	15	22	6
Southeast	60	24	7	64	2	11	5	11	10	4
Central.....	68	23	6	39	3	16	15	13	26	6
West	46	28	17	62	3	7	11	16	26	6
Size of institution										
Less than 3,000	51	20	4	42	1	10	12	13	18	4
3,000 to 9,999	56	17	8	57	2	10	9	9	19	4
10,000 or more	67	40	19	59	6	13	9	22	31	9

*Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals and in analyses by other institutional characteristics.

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Percents are based on institutions that offered distance education courses in fall 1995. Percents sum to more than 100 because an institution could use more than one type of technology.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Delivery of Distance Education Courses to Remote Sites

About half of the higher education institutions that offered distance education courses in fall 1995 directed distance education courses to students' homes (table 4). Other sites to which institutions frequently directed courses were other branches of their institution (39 percent) and other college campuses (35 percent). About a quarter of the institutions directed distance education courses to elementary/secondary schools, and 18 percent directed courses to work sites. Courses were directed to libraries, community-based

organizations (e.g., YMCA), and correctional institutions by 10 percent or less of the institutions.

The types of remote sites to which courses were directed showed some variation by institutional type. For example, public 4-year institutions directed courses to other college campuses more frequently than did public 2-year or private 4-year institutions, while public 2-year institutions directed courses to students' homes more frequently than did public 4-year institutions (table 4).

Table 4.—Percent of higher education institutions currently offering distance education courses directed to different types of remote sites, by institutional characteristics: 1995

Institutional characteristic	Type of remote site								
	Other branches of the institution	Other college campuses	Students' homes	Work sites	Libraries	Elementary/secondary schools	Community-based organizations	Correctional institutions	Other sites
All institutions	39	35	49	18	10	24	4	6	13
Institutional type*									
Public 2-year.....	39	25	58	8	14	24	2	10	7
Public 4-year.....	45	56	38	31	10	32	6	5	21
Private 4-year.....	27	22	41	23	1	10	3	0	15
Geographic region									
Northeast.....	34	17	49	23	7	31	2	8	15
Southeast.....	38	31	50	16	14	18	3	3	15
Central.....	38	49	36	16	10	35	4	5	14
West.....	43	33	62	20	9	14	4	10	9
Size of institution									
Less than 3,000.....	41	28	42	7	8	24	3	7	11
3,000 to 9,999.....	32	33	49	18	11	20	2	6	13
10,000 or more.....	48	48	57	35	12	30	6	8	16

*Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals and in analyses by other institutional characteristics.

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Percents are based on institutions that offered distance education courses in fall 1995. Percents sum to more than 100 because an institution could direct courses to more than one type of remote site. Zeros appear in the table when no institution in the sample gave the indicated response.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Institutions were asked how many of their distance education courses were directed to each type of remote site. If a course was directed to more than one type of site, the institution was instructed to count the course for each type of site to which it was directed. Thus, the numbers of courses directed to specific sites are duplicated counts. Institutions directed an estimated 10,380 distance education courses to students' homes and 9,580 courses to other branches of their institution (table 5). A sizable number of courses were also directed to other college campuses and work sites.

Table 5.—Total number of distance education courses directed by higher education institutions to different types of remote sites, by institutional characteristics: 1995

Institutional characteristic	Type of remote site								
	Other branches of the institution	Other college campuses	Students' homes	Work sites	Libraries	Elementary/secondary schools	Community-based organizations	Correctional institutions	Other sites
All institutions	9,580	5,700	10,380	5,240	2,030	2,220	540	1,630	1,860
Institutional type*									
Public 2-year.....	3,720	1,720	5,010	470	1,030	850	50	810	440
Public 4-year.....	5,400	3,870	3,230	3,460	970	1,310	480	820	850
Private 4-year.....	450	110	2,090	1,250	(+)	60	10	0	570
Geographic region									
Northeast.....	940	160	1,120	850	90	160	10	30	190
Southeast.....	1,930	1,290	2,220	1,330	750	400	280	340	420
Central.....	2,610	2,160	2,840	910	430	1,110	90	350	720
West.....	4,100	2,090	4,210	2,150	760	550	170	910	530
Size of institution									
Less than 3,000.....	2,670	1,510	2,480	170	350	670	70	320	490
3,000 to 9,999.....	2,380	1,520	3,440	830	550	470	20	440	750
10,000 or more.....	4,520	2,660	4,450	4,240	1,130	1,080	450	870	620

*Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals and in analyses by other institutional characteristics.

(+) Rounds to fewer than 10 courses.

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. The numbers of courses directed to specific sites are duplicated counts. If a course was directed to more than one type of site, the course was counted for each type of site where it was directed. The numbers of courses have been rounded to the nearest 10. Numbers may not sum to totals because of rounding. Zeros appear in the table when no institution in the sample gave the indicated response.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Primary Student Audience for Distance Education Courses

More higher education institutions offered distance education courses designed primarily for undergraduate and graduate students than for any other type of student (table 6). Eighty-one percent of institutions that offered distance education courses in fall 1995 reported offering distance education courses designed primarily for undergraduate students, and 34 percent reported offering courses designed primarily for graduate students. Fewer institutions offered courses designed primarily for the other types of students listed. Thirteen percent of institutions offered distance education courses designed primarily for professional continuing education students, and 6 percent or fewer offered courses designed primarily for each of the following types of students: elementary/secondary, adult basic education, other continuing education students, and other types of students.

Table 6.—Percent of higher education institutions currently offering distance education courses designed primarily for specific types of students, by institutional characteristics: 1995

Institutional characteristic	Type of student						
	Elementary/ secondary	Under- graduate	Graduate	Adult basic education	Professional continuing education	Other continuing education	Other
All institutions	6	81	34	2	13	6	2
Institutional type*							
Public 2-year.....	5	97	3	4	5	5	2
Public 4-year.....	11	75	66	1	26	9	2
Private 4-year.....	1	47	60	0	11	3	1
Geographic region							
Northeast	11	75	33	1	11	5	2
Southeast	5	80	37	3	11	4	2
Central.....	5	84	31	2	18	10	1
West	6	83	34	4	11	3	2
Size of institution							
Less than 3,000	2	78	26	2	13	5	2
3,000 to 9,999	8	83	26	2	8	7	1
10,000 or more	10	82	56	3	22	5	1

*Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals and in analyses by other institutional characteristics.

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Percents are based on institutions that offered distance education courses in fall 1995. Percents sum to more than 100 because an institution could offer different courses designed primarily for different types of students. Zeros appear in the table when no institution in the sample gave the indicated response.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Public 2-year institutions were more likely than public 4-year institutions, which in turn were more likely than private 4-year institutions, to offer distance education courses designed primarily for undergraduate students (table 6). Public 4-year institutions also were more likely than other types of institutions to offer distance education courses designed primarily for professional continuing education students.

Institutions were asked how many of their distance education courses were designed primarily for each type of student. They were instructed not to double count courses (i.e., if a course was designed for more than one type of student, they were to count it for the group for which it was primarily designed). Institutions offered 15,680 courses designed primarily for undergraduate students and 7,590 courses designed primarily for graduate students (table 7). Institutions offered many fewer courses primarily designed for other types of students. Public 2-year institutions offered more courses designed primarily for undergraduate students and public 4-year institutions offered more courses designed primarily for graduate students than did other types of institutions.

Table 7.—Total number of distance education courses designed by higher education institutions primarily for specific types of students, by institutional characteristics: 1995

Institutional characteristic	Type of student						
	Elementary/ secondary	Under- graduate	Graduate	Adult basic education	Professional continuing education	Other continuing education	Other
All institutions	360	15,680	7,590	70	1,750	540	50
Institutional type*							
Public 2-year.....	70	9,620	140	60	130	140	30
Public 4-year.....	280	4,750	5,040	10	1,350	210	20
Private 4-year.....	(+)	1,250	2,410	0	230	190	(+)
Geographic region							
Northeast.....	40	1,630	650	(+)	300	130	10
Southeast.....	20	3,100	2,200	10	240	20	20
Central.....	130	5,210	2,020	10	710	290	(+)
West.....	160	5,750	2,720	50	500	100	10
Size of institution							
Less than 3,000.....	20	4,350	1,300	30	300	120	30
3,000 to 9,999.....	140	5,890	1,650	20	260	200	10
10,000 or more.....	200	5,440	4,640	20	1,190	230	10

*Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals and in analyses by other institutional characteristics.

(+) Rounds to fewer than 10 courses.

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. The numbers of courses designed for various types of students are for fall 1995. These numbers exceed the total number of courses offered in academic year 1994-95 because approximately 4 percent of the institutions offered distance education courses in fall 1995 but did not offer such courses in academic year 1994-95. These institutions account for approximately 300 additional courses. The numbers of courses have been rounded to the nearest 10. Numbers may not sum to totals because of rounding. Zeros appear in the table when no institution in the sample gave the indicated response.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Individuals Targeted for Distance Education Courses

Professionals seeking recertification and other workers seeking skill updating or retraining were targeted by more institutions that offered distance education courses in fall 1995 than were other types of individuals (table 8). Thirty-nine percent of institutions that offered distance education courses in fall 1995 targeted professionals seeking recertification, and 49 percent targeted other workers seeking skill updating or retraining. About 15 percent of institutions targeted individuals with disabilities, military personnel, and other types of individuals. Non-English-speaking individuals and Native Americans/Alaskan Natives on tribal lands were targeted by 3 percent and 7 percent of institutions, respectively. Public 4-year institutions were more likely than other types of institutions to target professionals seeking recertification and other workers seeking skill updating or retraining.

Table 8.—Percent of higher education institutions currently offering distance education courses targeted toward certain types of individuals, by institutional characteristics: 1995

Institutional characteristic	Type of individual						
	Non-English-speaking individuals	Military personnel	Individuals with disabilities	Native Americans/Alaskan Natives on tribal lands	Professionals seeking recertification	Other workers seeking skill updating or retraining	Other types of individuals
All institutions	3	12	16	7	39	49	17
Institutional type*							
Public 2-year.....	4	11	22	8	24	45	18
Public 4-year.....	2	15	12	8	65	60	15
Private 4-year.....	1	9	7	1	30	37	17
Geographic region							
Northeast	2	11	20	2	40	51	18
Southeast	3	16	15	1	40	47	12
Central.....	3	6	11	9	41	52	16
West	5	16	21	13	35	47	21
Size of institution							
Less than 3,000	2	6	8	9	30	39	17
3,000 to 9,999	3	13	19	6	36	50	15
10,000 or more	4	19	22	6	54	61	19

*Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals and in analyses by other institutional characteristics.

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Percents are based on institutions that offered distance education courses in fall 1995. Percents sum to more than 100 because an institution's distance education courses could target more than one type of individual.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Primary Course Developers

Three-quarters of the higher education institutions that offered distance education courses in fall 1995 used distance education course curricula developed by the institution's subject area departments or schools (table 9). Courses developed by commercial or noncommercial vendors were used by 30 percent of the institutions. Courses from other types of developers were each used by 12 percent or fewer of the institutions. More public 2-year institutions than public and private 4-year institutions used courses developed by commercial or noncommercial vendors, while more public and private 4-year than public 2-year institutions used courses developed by the institution's subject area departments or schools.

Table 9.—Percent of higher education institutions currently offering distance education courses composed by various types of developers, by institutional characteristics: 1995

Institutional characteristic	Type of developer					
	Institution's distance education department/office	Institution's subject area departments or schools	Another institution of higher education	Commercial or noncommercial vendor	Other developer	Developer unknown
All institutions	7	75	12	30	6	(+)
Institutional type*						
Public 2-year.....	7	66	17	45	5	1
Public 4-year.....	6	87	9	17	7	0
Private 4-year.....	11	82	4	11	7	0
Geographic region						
Northeast	5	70	8	33	6	0
Southeast	7	68	11	38	3	1
Central.....	6	88	14	16	6	1
West	10	71	15	37	10	(+)
Size of institution						
Less than 3,000	7	74	14	23	5	0
3,000 to 9,999	5	71	11	33	6	1
10,000 or more	9	83	12	33	8	(+)

*Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals and in analyses by other institutional characteristics.

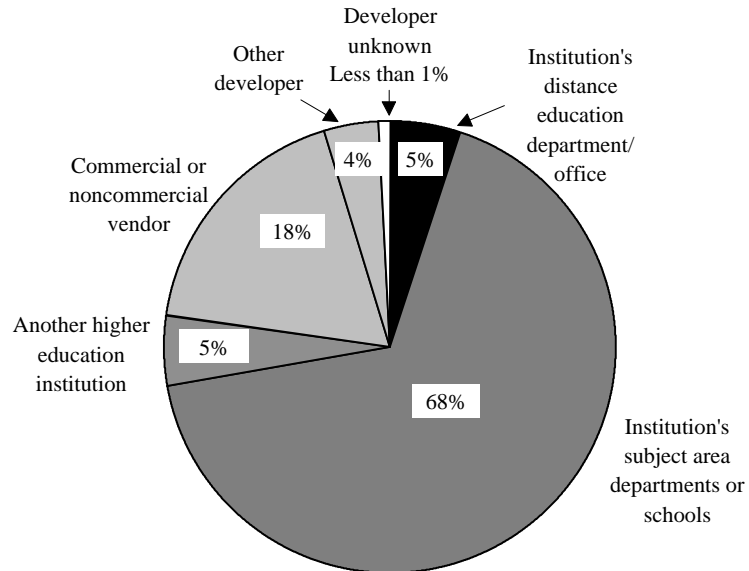
(+) Less than 0.5 percent.

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Percents are based on institutions that offered distance education courses in fall 1995. Percents sum to more than 100 because an institution could offer different courses composed by different developers. Zeros appear in the table when no institution in the sample gave the indicated response.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Institutions were asked how many of their distance education course curricula were developed primarily by various types of developers. Institutions were instructed not to double count courses, i.e., they were to count each course only once and to count it for its primary developer. Two-thirds of the distance education courses offered in fall 1995 were developed by the institution's subject area departments or schools, and 18 percent were developed by commercial or noncommercial vendors (figure 4). Each of the other types of developers composed 5 percent or fewer of the distance education courses.

Figure 4.—Percent of distance education courses offered in fall 1995 that were composed by various types of developers



NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Percents are based on institutions that offered distance education courses in fall 1995.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

3. Distance Education Enrollments and Completions

This section provides the first nationally representative information about distance education enrollments and completions. Institutions that offered any distance education courses in fall 1995 were asked about the number of students formally enrolled in distance education courses, whether students could complete degrees or certificates by taking distance education courses exclusively, and the number of students completing such degrees or certificates.

Number of Students Enrolled in Distance Education Courses

Institutions that offered any distance education courses in fall 1995 were asked how many students were formally enrolled in the institution's distance education courses in academic year 1994-95. If a student was enrolled in multiple courses, institutions were instructed to count the student for each course in which he or she was enrolled. There were an estimated 753,640 students formally enrolled in distance education courses at these higher education institutions in academic year 1994-95⁵ (table 10). Public 2-year institutions enrolled the most distance education students: 414,160 (55 percent) of the students enrolled in distance education courses were at public 2-year institutions. Public 4-year institutions also enrolled many distance education students, with 234,020 students, i.e., 31 percent, of the students enrolled in distance education courses in 1994-95.

⁵ To put this number into context, there were approximately 14.3 million students enrolled in higher education institutions in fall 1994 (U.S. Department of Education. National Center for Education Statistics. *Digest of Education Statistics 1996*. Washington, DC: 1996; information from table 174).

Table 10.—Total number and percentage distribution of students formally enrolled in the institution's distance education courses in academic year 1994-95, by institutional characteristics

Institutional characteristic	Number	Percentage distribution
All institutions.....	753,640	100
Institutional type*		
Public 2-year.....	414,160	55
Public 4-year.....	234,020	31
Private 4-year.....	104,960	14
Geographic region		
Northeast.....	72,960	10
Southeast.....	200,230	27
Central.....	205,030	27
West.....	275,420	37
Size of institution		
Less than 3,000.....	116,320	15
3,000 to 9,999.....	232,750	31
10,000 or more.....	404,570	54

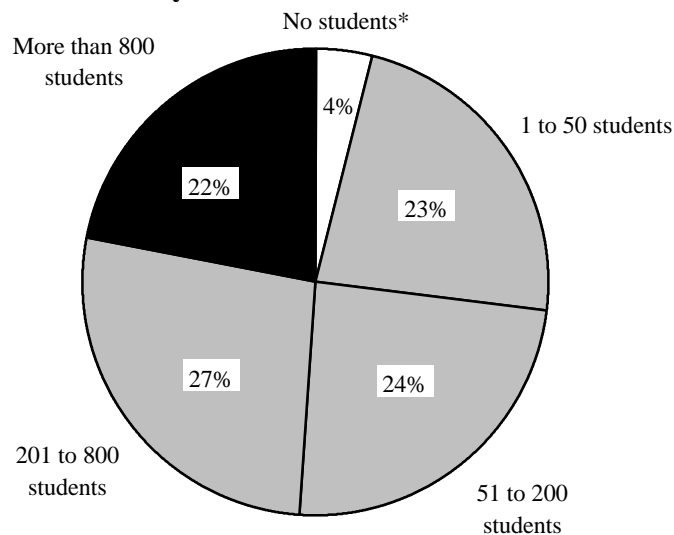
*Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals and in analyses by other institutional characteristics.

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. The number of students have been rounded to the nearest 10. Numbers may not sum to totals and percents may not sum to 100 because of rounding. Percents are computed within each classification variable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

About half of the institutions that offered any distance education courses in fall 1995 enrolled 200 or fewer students in those courses, with 23 percent enrolling from 1 to 50 students, and 24 percent enrolling from 51 to 200 students (figure 5). Twenty-two percent of the institutions enrolled more than 800 students.

Figure 5.—Percent of higher education institutions currently offering distance education courses that enrolled various numbers of students in those courses in academic year 1994-95



*Approximately 4 percent of the institutions offered distance education courses in fall 1995, but did not offer such courses (and therefore did not enroll any students) in academic year 1994-95.

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Percents are based on institutions that offered distance education courses in fall 1995.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Degrees or Certificates Received Through Distance Education

Institutions were asked whether students could complete degrees or certificates by taking distance education courses exclusively, and if so, how many different degrees or certificates could be received in this way. About a quarter of the institutions that offered distance education courses in fall 1995 offered degrees that students could complete by taking distance education courses exclusively, and 7 percent offered certificates that could be completed this way (table 11). More public and private 4-year than public 2-year institutions offered degrees that students could complete by taking distance education courses exclusively.

Table 11.—Percent of higher education institutions currently offering distance education courses that offer degrees and certificates to students taking distance education courses exclusively, total number of degrees and certificates students can receive by taking distance education courses only, and total number of such degree and certificate recipients in 1994-95, by institutional characteristics

Institutional characteristic	Percent offering		Total number offered		Total number of recipients	
	Degrees	Certificates	Degrees	Certificates	Degrees	Certificates
All institutions	23	7	690	170	3,430	1,970
Institutional type*						
Public 2-year.....	12	3	130	20	170	50
Public 4-year.....	35	9	390	90	2,180	1,770
Private 4-year.....	29	14	160	60	1,080	160
Geographic region						
Northeast	14	5	50	30	90	10
Southeast	24	6	180	30	1,080	240
Central.....	26	7	270	30	560	1,260
West	23	8	200	80	1,700	460
Size of institution						
Less than 3,000	17	5	160	30	1,080	100
3,000 to 9,999	19	7	210	50	710	160
10,000 or more	34	10	320	90	1,640	1,720

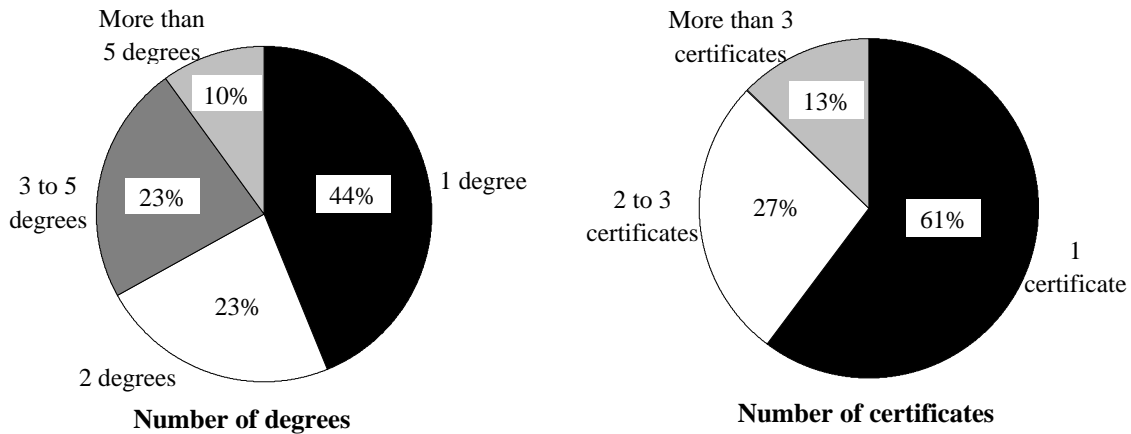
*Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals and in analyses by other institutional characteristics.

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Percents are based on institutions that offered distance education courses in fall 1995. The numbers of degrees and certificates offered and the numbers of degree and certificate recipients have been rounded to the nearest 10. Numbers may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

There were an estimated 690 degrees and 170 certificates offered in fall 1995 that students could receive by taking distance education courses exclusively (table 11). Public 4-year institutions offered more of these degrees than did private 4-year and public 2-year institutions, and offered more certificates than did public 2-year institutions. Most institutions that offered degrees or certificates that students could receive by taking distance education courses exclusively only offered a few of them. Forty-four percent of institutions offering such degrees offered 1 degree, and 23 percent offered 2 degrees; among institutions offering certificates, 61 percent offered 1 certificate and 27 percent offered 2 or 3 certificates (figure 6).

Figure 6.—Percent of higher education institutions offering degrees and certificates exclusively through distance education courses that offered various numbers of such degrees and certificates: 1995



NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Percents are based on institutions in fall 1995 that offered at least one degree or certificate that students could complete by taking distance education courses exclusively. Percents may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Institutions were asked how many students received degrees or certificates in academic year 1994-95 by taking distance education courses exclusively. An estimated 3,430 students received degrees and 1,970 received certificates by taking distance education courses exclusively⁶ (table 11). Public 4-year institutions had many more degree and certificate recipients than did public 2-year institutions, and more certificate recipients than did private 4-year institutions. About half (49 percent) of the institutions that offered degrees that students could complete by taking distance education courses exclusively had 10 or fewer degree recipients in academic year 1994-95 (not shown in tables). The distribution of certificate recipients is not estimated because there are too few cases for a reliable estimate.

⁶ To put these numbers into context, there were approximately 2.2 million degrees awarded at the associate through doctorate level and approximately 72,000 less-than-1-year awards in 1992-93, the most recent year for which data are available (U.S. Department of Education. National Center for Education Statistics. *Digest of Education Statistics 1996*. Washington, DC: 1996; information from tables 240 and 242).

4. Characteristics of Distance Education Courses and Programs

To date, information has not been available on a national basis about some of the general characteristics of distance education courses and programs that affect the distance education experience for students. This section provides information about the resources available to students enrolled in distance education courses, procedures used to administer tests to students enrolled in for-credit distance education courses, and training opportunities for faculty teaching distance education courses.

Availability of Resources for Students Enrolled in Distance Education Courses

Institutions that offered distance education courses in fall 1995 were asked about the availability of various resources for students enrolled in their distance education courses. Institutions were asked to indicate whether the resource was available for all courses, available for some courses, or not available. Access to instructors in some form was generally available to students. Instructors visiting remote site(s) on occasion was available for some courses at 42 percent of institutions and for all courses at 25 percent of institutions (table 12). Toll-free telephone, E-mail, or other online access to the instructor was available for some courses at 24 percent and for all courses at 58 percent of institutions. Access to a teaching assistant, tutor, or facilitator was somewhat less available. These staff were regularly available at remote site(s) or by telephone, E-mail, or other online access for some or all courses at about half of the institutions (tables 12 and 13). Telephone, E-mail, or other online access to technical support staff was available to students for some or all courses at about two-thirds of the institutions. Online access to wide area networks (e.g., the Internet) was available at about half of the institutions.

Table 12.—Percent of higher education institutions currently offering distance education courses that have various resources available for students enrolled in distance education courses: 1995

Resource	Not available	Available for some courses	Available for all courses	Don't know
Instructor visits remote site(s) on occasion.....	32	42	25	2
Toll-free telephone, E-mail, or other online access to instructor	17	24	58	2
Teaching assistant, tutor, or facilitator regularly available at remote site(s).....	41	32	23	3
Toll-free telephone, E-mail, or other online access to teaching assistant, tutor, or facilitator.....	47	22	27	3
Toll-free telephone, E-mail, or other online access to technical support staff	35	17	46	2
Access to an electronic link with institution's library	40	18	39	4
Institution library staff assigned to assist distance education students ..	50	11	33	5
Cooperative agreements for students to use other libraries.....	30	18	45	8
Deposit collections at remote sites.....	51	21	18	10
Online access to wide area networks (e.g., Internet).....	44	27	26	4

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Percents are based on institutions that offered distance education courses in fall 1995. Percents are computed across each row, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Table 13.—Percent of higher education institutions currently offering distance education courses indicating that various resources are available for some or all courses for students enrolled in distance education courses, by institutional type: 1995

Resource	All institutions	Institutional type*		
		Public 2-year	Public 4-year	Private 4-year
Instructor visits remote site(s) on occasion	67	62	82	48
Toll-free telephone, E-mail, or other online access to instructor.....	82	73	89	91
Teaching assistant, tutor, or facilitator regularly available at remote site(s)	56	44	76	50
Toll-free telephone, E-mail, or other online access to teaching assistant, tutor, or facilitator	50	34	64	65
Toll-free telephone, E-mail, or other online access to technical support staff	63	54	72	74
Access to an electronic link with institution's library.....	56	40	78	62
Institution library staff assigned to assist distance education students ..	45	41	45	53
Cooperative agreements for students to use other libraries.....	62	58	75	54
Deposit collections at remote sites	39	38	47	25
Online access to wide area networks (e.g., Internet)	53	36	76	55

*Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals.

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Percents are based on institutions that offered distance education courses in fall 1995.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Access to library resources varied depending on the type of library resource. Access to an electronic link with the institution's library was available for some or all courses at 56 percent of the institutions, and cooperative agreements for students to use other libraries were available at 62 percent of institutions (tables 12 and 13). Institution library staff were assigned to assist distance education students at 45 percent of the institutions, while library deposit collections were available at remote sites at 39 percent of institutions.

The availability of these resources for students showed some variation by institutional type (table 13). In particular, students at public 4-year institutions more frequently had access to the resources than did those at public 2-year institutions, with the exception of institution's library staff assigned to assist distance education students and library deposit collections at remote sites.

Procedures for Test Administration

In order to better understand if and how students enrolled in distance education courses are evaluated, institutions were asked about test administration for students enrolled in for-credit distance education courses. If tests are administered, institutions were asked whether various testing procedures were used "almost never," "sometimes," or "almost always."

Almost all of the institutions (98 percent) administered some type of test to students enrolled in for-credit distance education courses (not shown in tables). A third of the institutions administering tests indicated that they almost always used tests that are group administered (non-interactively) at remote learning sites, and a third indicated that they almost always used tests administered at on-campus sites (i.e., distance education students travel to campus; table 14). Fifteen percent of the institutions indicated that they almost always used tests individually mailed or faxed to students, and 8 percent of the institutions almost always used tests taken at remote sites interactively via computer, video, or telephone.

Table 14.—Percent of higher education institutions currently offering distance education courses using various procedures to administer tests to students enrolled in for-credit distance education courses: 1995

Testing procedure	Almost never	Sometimes	Almost always	Don't know
Tests individually mailed or faxed to students, who mail or fax them back	54	28	15	3
Tests taken at remote sites interactively via computer, video, or telephone.....	64	23	8	4
Tests group administered (non-interactively) at remote learning sites....	38	27	33	2
Tests administered at on-campus site (distance education students travel to campus).....	47	19	32	2

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Percents are based on the 98 percent of institutions that offered distance education courses in fall 1995 and administered tests to students enrolled in those courses. Percents are computed across each row, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Training Opportunities for Faculty

Institutions that offered distance education courses in fall 1995 were asked whether various training opportunities for faculty teaching distance education courses were available and whether they were required. The various forms of training opportunities were generally available but not required of faculty teaching distance education courses at about 60 percent of the institutions (table 15). About a quarter of the institutions required faculty to have training in the use and application of distance education technologies, and to consult with support center staff; about 13 percent required training in curriculum development, and about 17 percent training in teaching methods for distance education courses.

Table 15.—Percent of higher education institutions currently offering distance education courses indicating whether certain training opportunities are required, available but not required, or not available to faculty teaching distance education courses: 1995

Training opportunity	Required	Available but not required	Not available
Training in the use and application of distance education technologies	27	59	14
Training in the development of curricula for distance education courses	13	60	27
Training in teaching methods for distance education courses	17	63	19
Consultation with support center staff.....	28	64	8

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Percents are based on institutions that offered distance education courses in fall 1995. Percents are computed across each row, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

5. Distance Education Program Goals

Institutions were asked about the importance of various goals to the institution's distance education program and the extent to which the distance education program is meeting those goals it considers important. Increasing student access was an important goal for most distance education programs. Increasing access by making courses available at convenient locations was rated as very important by 82 percent of institutions, and increasing access by reducing time constraints for course taking was rated as very important by 63 percent of institutions (table 16). Making educational opportunities more affordable for students, another aspect of student access, was rated as very important by about half of the institutions.

Table 16.—Percent of higher education institutions currently offering distance education courses indicating the importance of various goals to their distance education programs, and the extent to which the institution is meeting those goals: 1995

Goal	Importance ¹			Extent goal met ²			
	Not important	Somewhat important	Very important	Not at all	Minor extent	Moderate extent	Major extent
Reducing your institution's per-student costs.....	29	51	20	20	46	29	5
Making educational opportunities more affordable for students	17	34	49	7	35	42	15
Increasing institution enrollments	8	37	54	4	40	46	10
Increasing student access by reducing time constraints for course taking.....	10	27	63	3	25	44	27
Increasing student access by making courses available at convenient locations.....	5	13	82	1	19	40	40
Increasing institution's access to new audiences	3	33	64	5	37	43	15
Improving the quality of course offerings.....	15	39	46	4	41	44	11
Meeting the needs of local employers.....	19	43	38	10	49	33	8

¹Percents are based on institutions that offered distance education courses in fall 1995. Percents are computed across each row, but may not sum to 100 because of rounding.

²Percents are based on institutions that rated that goal as somewhat or very important. Percents are computed across each row, but may not sum to 100 because of rounding.

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Goals concerning increasing the institution's audiences and enrollments were also perceived as quite important, with increasing the institution's access to new audiences and increasing the institution's enrollments rated as very important by 64 percent and 54 percent of institutions, respectively (table 16). Reducing the institution's per-student costs, often mentioned as an important reason for institutions to offer distance education, was rated as very important by 20 percent of the institutions. Meeting the needs of local employers was considered a very important goal by 38 percent of the institutions, and improving the quality of course offerings was considered very important by 46 percent of the institutions.

The percentage of institutions rating various goals as very important showed some variation by institutional type (table 17). Public 2-year institutions were more likely than public 4-year institutions to perceive the following goals to be very important: reducing per-student costs, making educational opportunities more affordable, increasing institution enrollments, and increasing student access by reducing time constraints. Public 2-year institutions were more likely than private 4-year institutions to perceive reducing per-student costs and meeting the needs of local employers as very important.

Table 17.—Percent of higher education institutions currently offering distance education courses indicating that various goals are very important to their distance education programs, by institutional type: 1995

Goal	All institutions	Institutional type*		
		Public 2-year	Public 4-year	Private 4-year
Reducing your institution's per-student costs	20	26	17	9
Making educational opportunities more affordable for students	49	56	44	39
Increasing institution enrollments.....	54	59	48	53
Increasing student access by reducing time constraints for course taking	63	70	58	55
Increasing student access by making courses available at convenient locations.....	82	83	83	78
Increasing institution's access to new audiences.....	64	68	61	54
Improving the quality of course offerings	46	46	47	45
Meeting the needs of local employers	38	43	37	27

*Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals.

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Percents are based on institutions that offered distance education courses in fall 1995.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

In general, institutions indicated that most of the goals were met to a minor or moderate extent (table 16). Goals particularly likely to be met to a major extent concerned student access, with the goal of making courses available at convenient locations met to a major extent by 40 percent of the institutions that considered this important, and the goal of reducing time constraints for course taking met to a major extent by 27 percent of the institutions that perceived this goal as important.

The extent to which institutions believed that they had met various goals varied by how important the particular goal was perceived to be (table 18). In general, institutions that perceived a particular goal as very important more frequently indicated that the goal had been met to a moderate or major extent, while institutions that perceived a goal as somewhat important more frequently indicated that the goal had been met to a minor extent. For example, the majority of institutions that perceived making educational opportunities more affordable for students to be a very important goal indicated that the goal had been met to a moderate extent (52 percent) or major extent (23 percent), while 59 percent of institutions that perceived this goal to be somewhat important indicated that the goal had been met to a minor extent.

Table 18.—Percent of higher education institutions currently offering distance education courses indicating the extent to which their distance education program has met various goals, by importance of the goal to the institution: 1995

Importance of goal	Not at all	Minor extent	Moderate extent	Major extent
Reducing your institution's per-student cost				
Somewhat important.....	21	52	23	3
Very important	18	31	42	9
Making educational opportunities more affordable for students				
Somewhat important.....	10	59	27	4
Very important	5	19	52	23
Increasing institution enrollments				
Somewhat important.....	5	54	37	4
Very important	4	30	51	14
Increasing student access by reducing time constraints for course taking				
Somewhat important.....	5	49	43	4
Very important	2	16	45	37
Increasing student access by making courses available at convenient locations				
Somewhat important.....	1	53	40	6
Very important	1	13	40	46
Increasing institution's access to new audiences				
Somewhat important.....	8	52	37	3
Very important	4	29	46	21
Improving the quality of course offerings				
Somewhat important.....	8	56	34	2
Very important	2	28	53	18
Meeting the needs of local employers				
Somewhat important.....	10	59	31	1
Very important	10	38	35	16

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Percents are based on institutions that offered distance education courses in fall 1995 and that rated that goal as somewhat or very important to their distance education program. Percents are computed across each row, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

6. Future Plans for Distance Education Course Offerings

Institutions' plans for distance education course offerings is important information for policymakers as they consider how distance education may serve students in the future. To provide some of this information, institutions currently offering distance education courses (i.e., in fall 1995) and those planning to offer distance education courses in the next 3 years were asked about the number of distance education courses they plan to direct to various remote sites and the types of technologies they plan to use to deliver these courses. Institutions were asked to indicate whether they plan to reduce the number of courses, keep the same number, start or increase the number of courses, or had no plans with regard to that site or technology.

Delivery of Distance Education Courses to Remote Sites in the Next 3 Years

With the exception of correctional facilities, where 18 percent of the institutions plan to start or increase their distance education course offerings (table 19), about half to three-quarters of the institutions that currently offer or plan to offer distance education courses plan to start or increase their distance education course offerings to the other types of remote sites. About three-quarters of the institutions plan to start or increase their distance education offerings to other branches of their institution or to other college campuses, about two-thirds plan to start or increase their offerings to work sites, 61 percent plan to start or increase their offerings to libraries, elementary/secondary schools, or community-based organizations, and about half plan to start or increase their offerings to students' homes.

Table 19.—Percent of higher education institutions specifying plans regarding the number of distance education courses directed to various remote sites in the next 3 years: 1995

Remote site	Reduce or keep the same number	Start or increase	No plans
Other branches of the institution or other college campuses	3	76	21
Students' homes	3	51	46
Work sites	2	65	32
Libraries, elementary/secondary schools, or community-based organizations....	3	61	35
Correctional institutions	4	18	79

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Percents are based on institutions that offered distance education courses in fall 1995 or that planned to offer distance education courses in the next 3 years. Percents are computed across each row, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

In general, more public 2-year and 4-year institutions than private 4-year institutions plan to start or increase their distance education course offerings to most remote sites (table 20). For example, while 68 percent of public 2-year and 69 percent of public 4-year institutions plan to start or increase their offerings to libraries, elementary/secondary schools, or community-based organizations, 45 percent of private 4-year institutions indicated that they plan to start or increase their offerings to the same sites. Similarly, 82 percent of public 2-year and 86 percent of public 4-year institutions plan to start or increase their offerings to other branches of their institutions or other college campuses, compared with 61 percent of private 4-year institutions.

Table 20.—Percent of higher education institutions specifying that they plan to start or increase the number of distance education courses directed to various remote sites in the next 3 years, by institutional type: 1995

Remote site	All institutions	Institutional type*		
		Public 2-year	Public 4-year	Private 4-year
Other branches of the institution or other college campuses	76	82	86	61
Students' homes	51	58	48	42
Work sites	65	69	70	58
Libraries, elementary/secondary schools, or community-based organizations	61	68	69	45
Correctional institutions	18	23	17	12

*Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals.

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Percents are based on institutions that offered distance education courses in fall 1995 or that planned to offer distance education courses in the next 3 years.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Technologies to be Pursued During the Next 3 Years

About three-quarters of the institutions that currently offer or plan to offer distance education courses plan to start or increase their use of two-way interactive video, two-way online (computer-based) interactions during instruction, and other computer-based technologies to deliver their distance education courses in the next 3 years (table 21). Fewer institutions had plans to start or increase their use of the other technologies, ranging from 8 percent planning to start or increase their use of audiographics to 49 percent planning to start or increase their use of one-way prerecorded video.

Table 21.—Percent of higher education institutions indicating their plans for the next 3 years concerning the number of distance education courses using various types of technology: 1995

Technology	Reduce or keep the same number	Start or increase	No plans
Two-way interactive video.....	2	79	19
Two-way audio, one-way video.....	7	35	58
One-way live video.....	6	28	66
One-way prerecorded video.....	8	49	43
Audiographics.....	3	8	89
Two-way audio (e.g., audio/phone conferencing).....	6	20	75
One-way audio (e.g., radio, audiotapes).....	6	11	83
Two-way online (computer-based) interactions during instruction.....	(+)	71	29
Other computer-based technology (e.g., Internet).....	1	79	20

(+) Less than 0.5 percent.

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Percents are based on institutions that offered distance education courses in fall 1995 or that planned to offer distance education courses in the next 3 years. Percents are computed across each row, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

It is interesting to compare the current use of various technologies with plans for their use in the next 3 years (see table 22). Among institutions that offered distance education courses in fall 1995, two-way interactive video and one-way prerecorded video were the most frequently used technologies, with 57 percent and 52 percent of the institutions reporting that they currently used these technologies to deliver their distance education courses. Among institutions that offered distance education courses in fall 1995 or that planned to offer distance education courses in the next 3 years, 81 percent and 77 percent, respectively, plan to start or increase their use of two-way interactive video, and 52 percent and 44 percent, respectively, plan to start or increase their use of one-way prerecorded video. While 14 percent of institutions that offered distance education

courses in fall 1995 reported that they currently used two-way online interactions during instruction, three-quarters of institutions that offered distance education courses in fall 1995 and 64 percent of institutions that planned to offer distance education courses in the next 3 years plan to start or increase their use of two-way online interactions during instruction. Similarly, while 22 percent of institutions that offered distance education courses in fall 1995 currently used other types of computer-based technologies, 84 percent of institutions that offered distance education courses in fall 1995 and 74 percent of institutions that planned to offer distance education courses in the next 3 years plan to start or increase their use of other computer-based technologies.

Table 22.—Percent of higher education institutions currently offering distance education courses that use various types of technologies to deliver distance education courses, and the percent of higher education institutions currently offering or planning to offer distance education courses in the next 3 years that plan to start or increase their use of various types of technologies in the next 3 years: 1995

Technology	Currently use the technology ¹	Plan to start or increase use of the technology	
		Currently offer distance education courses ¹	Plan to offer distance education courses ²
Two-way interactive video.....	57	81	77
Two-way audio, one-way video.....	24	33	38
One-way live video.....	9	27	31
One-way prerecorded video.....	52	52	44
Audiographics.....	3	9	7
Two-way audio (e.g., audio/phone conferencing).....	11	18	21
One-way audio (e.g., radio, audiotapes).....	10	11	11
Two-way online (computer-based) interactions during instruction.....	14	75	64
Other computer-based technology (e.g., Internet).....	22	84	74

¹Percents are based on institutions that offered distance education courses in fall 1995.

²Percents are based on institutions that did not offer distance education courses in fall 1995, but that planned to offer distance education courses in the next 3 years.

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

7. Factors Keeping Institutions From Starting or Expanding Distance Education Course Offerings

An important question for policymakers is the extent to which various kinds of factors may keep institutions from fully pursuing distance education as an instructional option. To help answer this question, all institutions in the study, including those with no future plans to offer distance education courses, were asked the extent to which each of 16 factors was keeping their institution from starting or expanding their distance education course offerings. The response categories were “not at all,” “minor extent,” “moderate extent,” and “major extent.” Among the factors institutions frequently reported as keeping their institution from starting or expanding their distance education course offerings to a major extent were program development costs (43 percent), limited technological infrastructure to support distance education (31 percent), and equipment failures and costs of maintaining equipment (23 percent; table 23). However, in general, most of the factors listed were not perceived to be major hindrances keeping institutions from starting or expanding their distance education offerings. For example, factors to which many institutions responded “not at all” include inability to obtain state authorization (79 percent), restrictive federal, state, or local policies (58 percent), legal concerns (57 percent), lack of support from institution administrators (60 percent), and lack of fit with the institution’s mission (58 percent).

Table 23.—Percent of higher education institutions indicating the extent to which various factors are keeping the institution from starting or expanding their distance education course offerings: 1995

Factor	Not at all	Minor extent	Moderate extent	Major extent
Lack of fit with institution's mission.....	58	13	10	19
Lack of perceived need (e.g., limited student market)	47	22	15	17
Lack of support from institution administrators	60	21	12	7
Program development costs.....	16	16	25	43
Equipment failures/costs of maintaining equipment	28	23	26	23
Limited technological infrastructure to support distance education	22	22	25	31
Concerns about faculty workload.....	33	32	22	13
Lack of faculty interest.....	35	35	21	9
Lack of faculty rewards or incentives.....	41	29	21	10
Legal concerns (e.g., intellectual property rights, copyright laws).....	57	29	10	4
Concerns about course quality	32	29	22	17
Lack of access to library or other resources for instructional support.....	45	34	15	7
Interinstitutional issues (e.g., allocations of financial aid, course credit)	45	31	18	6
Restrictive federal, state, or local policies (e.g., limitations on the number of distance education credits students may earn, student ineligibility for financial aid).....	58	25	9	7
Inability to obtain state authorization	79	15	3	3

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Percents are based on all higher education institutions. Percents are computed across each row, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

The extent to which some of the factors were perceived to be keeping institutions from starting or expanding their distance education course offerings varied depending on whether institutions currently offered, planned to offer, or did not plan to offer distance education courses in the next 3 years (table 24). For example, 40 percent of institutions that did not plan to offer distance education courses in the next 3 years felt that lack of fit with the institution's mission was keeping them from starting distance education course offerings to a major extent, while 80 percent of institutions currently offering distance education courses (i.e., in fall 1995) and 78 percent of those planning to offer distance education courses felt that it was not at all a factor. Similarly, lack of perceived need was a factor to a major extent for 34 percent of institutions that did not plan to offer distance education courses, while 61 percent of the institutions currently offering and 53 percent of those planning to offer distance education courses felt that it was not at all a factor.

Table 24.—Percent of higher education institutions indicating the extent to which various factors are keeping the institution from starting or expanding their distance education course offerings, by distance education program status: 1995

Factor	Not at all	Minor extent	Moderate extent	Major extent
Lack of fit with institution's mission				
Currently offer.....	80	13	6	2
Plan to offer	78	11	6	5
Do not plan to offer.....	31	15	15	40
Lack of perceived need				
Currently offer.....	61	24	11	3
Plan to offer	53	33	10	4
Do not plan to offer.....	32	13	21	34
Lack of support from institution's administrators				
Currently offer.....	61	27	10	3
Plan to offer	67	19	11	3
Do not plan to offer.....	55	17	15	13
Program development costs				
Currently offer.....	7	25	34	34
Plan to offer	7	13	26	55
Do not plan to offer.....	28	11	18	43
Equipment failures/costs of maintaining equipment				
Currently offer.....	19	33	27	20
Plan to offer	22	25	28	25
Do not plan to offer.....	39	13	23	25
Limited technological infrastructure to support distance education				
Currently offer.....	17	27	28	27
Plan to offer	12	32	26	30
Do not plan to offer.....	31	11	23	35
Concerns about faculty workload				
Currently offer.....	24	38	26	12
Plan to offer	31	38	21	10
Do not plan to offer.....	42	23	20	15
Lack of faculty interest				
Currently offer.....	26	41	23	10
Plan to offer	38	41	17	4
Do not plan to offer.....	41	26	21	11
Lack of faculty rewards or incentives				
Currently offer.....	22	36	29	13
Plan to offer	40	36	17	7
Do not plan to offer.....	56	19	16	8
Legal concerns				
Currently offer.....	49	39	10	2
Plan to offer	55	33	8	3
Do not plan to offer.....	64	19	12	6

Table 24.—Percent of higher education institutions indicating the extent to which various factors are keeping the institution from starting or expanding their distance education course offerings, by distance education program status: 1995--continued

Factor	Not at all	Minor extent	Moderate extent	Major extent
Concerns about course quality				
Currently offer.....	30	40	22	8
Plan to offer	27	39	22	12
Do not plan to offer.....	37	15	21	28
Lack of access to library or other resources for instructional support				
Currently offer.....	46	40	12	2
Plan to offer	43	40	13	4
Do not plan to offer.....	45	25	18	13
Interinstitutional issues				
Currently offer.....	48	36	12	4
Plan to offer	39	34	20	8
Do not plan to offer.....	48	24	21	7
Restrictive federal, state, or local policies				
Currently offer.....	58	30	9	3
Plan to offer	56	28	9	7
Do not plan to offer.....	60	20	10	10
Inability to obtain state authorization				
Currently offer.....	83	14	2	1
Plan to offer	76	18	3	3
Do not plan to offer.....	77	15	3	4

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Percents are based on all higher education institutions. Percents are computed across each row, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

8. Summary

A third of higher education institutions offered distance education courses in fall 1995, another quarter planned to offer such courses in the next 3 years, and 42 percent did not offer and did not plan to offer distance education courses in the next 3 years. Public institutions offered distance education courses much more frequently than did private institutions, with 58 percent of public 2-year and 62 percent of public 4-year institutions offering distance education courses in fall 1995, compared with 2 percent of private 2-year and 12 percent of private 4-year institutions.

In academic year 1994-95, higher education institutions offered an estimated 25,730 distance education courses with different catalog numbers. Public 4-year institutions offered 45 percent, public 2-year institutions 39 percent, and private 4-year institutions 16 percent of the distance education courses in 1994-95. About half of the institutions that offered distance education courses in fall 1995 offered 10 or fewer such courses in academic year 1994-95. Three-quarters of the institutions that offered distance education courses in fall 1995 used courses developed by the institution's subject area departments or schools, and 30 percent used courses developed by commercial or noncommercial vendors.

Distance education courses were delivered by two-way interactive video at 57 percent and by one-way prerecorded video at 52 percent of the institutions offering distance education courses in fall 1995. About a quarter of the institutions used two-way audio with one-way video and a quarter used computer-based technologies other than two-way online interactions during instruction (e.g., the Internet) to deliver their distance education courses. Institutions that offered distance education courses in fall 1995 frequently directed courses to students' homes (49 percent), other branches of their institution (39 percent), and other college campuses (35 percent). About a quarter of the institutions directed distance education courses to elementary/secondary schools, and 18 percent directed courses to work sites.

More higher education institutions offered distance education courses designed primarily for undergraduate students (81 percent of institutions) and graduate students (34 percent of institutions) than for any other type of student. Thirteen percent of institutions offered distance education courses designed primarily for professional

continuing education students. Thirty-nine percent of institutions that offered distance education courses in fall 1995 targeted professionals seeking recertification, and 49 percent targeted other workers seeking skill updating or retraining.

There were an estimated 753,640 students formally enrolled in distance education courses in academic year 1994-95. Public 2-year institutions enrolled 55 percent, public 4-year institutions 31 percent, and private 4-year institutions 14 percent of the students enrolled in distance education courses in 1994-95. About a quarter of the institutions that offered distance education courses in fall 1995 offered degrees that students could complete by taking distance education courses exclusively, and 7 percent offered certificates that could be completed this way. There were an estimated 690 degrees and 170 certificates offered in fall 1995 that students could receive by taking distance education courses exclusively. Most institutions that offered degrees or certificates that students could receive in this way only offered a few of them: 44 percent of institutions offering such degrees offered only 1 degree, and 61 percent of institutions offering such certificates offered only 1 certificate. An estimated 3,430 students received degrees and 1,970 received certificates in 1994-95 by taking distance education courses exclusively.

Increasing student access was an important goal for most distance education programs, with making courses available at convenient locations rated as very important by 82 percent of institutions, and reducing time constraints for course taking rated as very important by 63 percent of institutions. Making educational opportunities more affordable for students, another aspect of student access, was rated as very important by about half of the institutions. Goals concerning increasing the institution's audiences and enrollments were also perceived as quite important, with increasing the institution's access to new audiences and increasing the institution's enrollments rated as very important by 64 percent and 54 percent of institutions, respectively. In general, institutions indicated that most of the goals were met to a minor or moderate extent. Goals particularly likely to be met to a major extent concerned student access. In general, institutions that perceived a particular goal as very important more frequently indicated that the goal had been met to a moderate or major extent, while institutions that perceived a goal as somewhat important more frequently indicated that the goal had been met to a minor extent.

Among institutions that offered distance education courses in fall 1995 and those planning to offer such courses in the next 3 years, about half to three-quarters of the institutions plan to start or

increase their distance education course offerings to most types of remote sites. About three-quarters of these institutions plan to start or increase their use of two-way interactive video, two-way online (computer-based) interactions during instruction, and other computer-based technologies to deliver their distance education courses in the next 3 years.

Among all institutions, including those with no future plans to offer distance education courses, factors frequently reported as keeping the institution from starting or expanding their distance education course offerings to a major extent were program development costs (43 percent), limited technological infrastructure to support distance education (31 percent), and equipment failures and costs of maintaining equipment (23 percent). However, in general, most factors were not perceived to be major hindrances keeping institutions from starting or expanding their distance education offerings.

9. Survey Methodology and Data Reliability

Postsecondary Education Quick Information System

The Postsecondary Education Quick Information System (PEQIS) was established in 1991 by the National Center for Education Statistics, U.S. Department of Education. PEQIS is designed to conduct brief surveys of postsecondary institutions or state higher education agencies on postsecondary education topics of national importance. Surveys are generally limited to two or three pages of questions, with a response burden of about 30 minutes per respondent. Most PEQIS institutional surveys use a previously recruited, nationally representative panel of institutions. The sampling frame for the PEQIS panel recruited in 1992 was constructed from the 1990-91 Integrated Postsecondary Education Data System (IPEDS) Institutional Characteristics file. Institutions eligible for the PEQIS frame for the panel recruited in 1992 included 2-year and 4-year (including graduate-level) institutions (both institutions of higher education and other postsecondary institutions), and less-than-2-year institutions of higher education located in the 50 states, the District of Columbia, and Puerto Rico: a total of 5,317 institutions.

The PEQIS sampling frame for the panel recruited in 1992 was stratified by instructional level (4-year, 2-year, less-than-2-year), control (public, private nonprofit, private for-profit), highest level of offering (doctor's/first professional, master's, bachelor's, less than bachelor's), total enrollment, and status as either an institution of higher education or other postsecondary institution. Within each of the strata, institutions were sorted by region (Northeast, Southeast, Central, West), whether the institution had a relatively high minority enrollment, and whether the institution had research expenditures exceeding \$1 million. The sample of 1,665 institutions was allocated to the strata in proportion to the aggregate square root of full-time-equivalent enrollment. Institutions within a stratum were sampled with equal probabilities of selection. During panel recruitment, 50 institutions were found to be ineligible for PEQIS, primarily because they had closed or offered just correspondence courses. The final unweighted response rate at the end of PEQIS panel recruitment in spring 1992 was 98 percent (1,576 of the 1,615

eligible institutions). The weighted response rate for panel recruitment was 96 percent.

Each institution in the PEQIS panel was asked to identify a campus representative to serve as survey coordinator. The campus representative facilitates data collection by identifying the appropriate respondent for each survey and forwarding the questionnaire to that person.

Sample and Response Rates

The sample for this survey consisted of all of the 2-year and 4-year (including graduate-level) higher education institutions in the PEQIS panel, for a sample of 1,276 institutions. In late September 1995, questionnaires (see appendix B) were mailed to the PEQIS coordinators at the institutions. Coordinators were told that the survey was designed to be completed by the person(s) at the institution most knowledgeable about the institution's distance education courses.

Two institutions were found to be out of the scope of the survey because they were closed, leaving 1,274 eligible institutions. These 1,274 institutions represent the universe of approximately 3,460 2-year and 4-year (including graduate-level) higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Telephone followup of nonrespondents was initiated in late October 1995; data collection and clarification was completed in late January 1996. For the eligible institutions that received surveys, an unweighted response rate of 94 percent (1,203 responding institutions divided by the 1,274 eligible institutions in the sample) was obtained. The weighted response rate for this survey was 96 percent. The unweighted overall response rate was 92 percent (97.6 percent panel recruitment participation rate multiplied by the 94.4 percent survey response rate). The weighted overall response rate was 92 percent (96.1 percent weighted panel recruitment participation rate multiplied by the 95.6 percent weighted survey response rate).

Weighted item nonresponse rates ranged from 0 percent to 3.1 percent. Item nonresponse rates for most items were less than 1 percent. Because the item nonresponse rates were so low, imputation for item nonresponse was not implemented.

Sampling and Nonsampling Errors

The response data were weighted to produce national estimates (see table 25). The weights were designed to adjust for the variable probabilities of selection and differential nonresponse. The findings in this report are estimates based on the sample selected and, consequently, are subject to sampling variability.

Table 25.—Number and percent of higher education institutions in the study, and the estimated number and percent in the nation, for the total sample and for institutions currently offering distance education courses, by institutional characteristics: 1995

Institutional characteristic	Total sample				Currently offering distance education			
	Respondents		National estimate*		Respondents		National estimate*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
All institutions	1,203	100	3,460	100	561	100	1,130	100
Institutional type								
Public 2-year.....	370	31	960	28	240	43	560	49
Private 2-year.....	78	6	360	10	4	1	10	1
Public 4-year.....	349	29	610	18	252	45	380	34
Private 4-year.....	406	34	1,540	44	65	12	180	16
Geographic region								
Northeast.....	292	24	900	26	94	17	180	16
Southeast.....	283	24	830	24	129	23	260	23
Central.....	309	26	920	27	164	29	360	32
West.....	319	27	810	24	174	31	320	29
Size of institution								
Less than 3,000.....	522	43	2,330	67	96	17	380	34
3,000 to 9,999.....	334	28	760	22	201	36	460	41
10,000 or more.....	347	29	370	11	264	47	290	25

*Data presented in all tables are weighted to produce national estimates. The sample was selected with probabilities proportionate to the square root of full-time-equivalent enrollment. Institutions with larger full-time-equivalent enrollments have higher probabilities of inclusion and lower weights. The weighted numbers of institutions have been rounded to the nearest 10.

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Percents may not sum to 100 and numbers may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

The survey estimates are also subject to nonsampling errors that can arise because of nonobservation (nonresponse or noncoverage) errors, errors of reporting, and errors made in data collection. These errors can sometimes bias the data. Nonsampling errors may include such problems as misrecording of responses; incorrect editing, coding, and data entry; differences related to the particular time the survey was conducted; or errors in data preparation. While general sampling theory can be used in part to determine how to estimate the sampling variability of a statistic, nonsampling errors are not easy to measure and, for measurement purposes, usually require that an experiment be conducted as part of the data collection procedures or that data external to the study be used.

To minimize the potential for nonsampling errors, the questionnaire was pretested with respondents at institutions like those that completed the survey. During the design of the survey and the survey pretest, an effort was made to check for consistency of interpretation of questions and to eliminate ambiguous items. The questionnaire and instructions were extensively reviewed by the National Center for Education Statistics and the National Institute on Postsecondary Education, Libraries, and Lifelong Learning, U.S. Department of Education. Manual and machine editing of the questionnaire responses were conducted to check the data for accuracy and consistency. Cases with missing or inconsistent items were recontacted by telephone. Data were keyed with 100 percent verification.

Variances

The standard error is a measure of the variability of estimates due to sampling. It indicates the variability of a sample estimate that would be obtained from all possible samples of a given design and size. Standard errors are used as a measure of the precision expected from a particular sample. If all possible samples were surveyed under similar conditions, intervals of 1.96 standard errors below to 1.96 standard errors above a particular statistic would include the true population parameter being estimated in about 95 percent of the samples. This is a 95 percent confidence interval. For example, the estimated percentage of institutions reporting that the institution plans to offer distance education courses in the future is 25.3 percent, and the estimated standard error is 1.6 percent. The 95 percent confidence interval for the statistic extends from $[25.3 - (1.6 \text{ times } 1.96)]$ to $[25.3 + (1.6 \text{ times } 1.96)]$, or from 22.2 to 28.4 percent. Tables of standard errors for each table and figure in the report are provided in appendix A.

Background Information

Estimates of 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 variances of the statistics.⁷ To construct the replications, 51 stratified subsamples of the full sample were created and then dropped one at a time to define 51 jackknife replicates.⁸ A computer program (WesVarPC), distributed free of charge by Westat through the Internet,⁹ was used to calculate the estimates of standard errors. WesVarPC is a stand-alone Windows application that computes sampling errors for a wide variety of statistics (totals, percents, ratios, log-odds ratios, general functions of estimates in tables, linear regression parameters, and logistic regression parameters).

The test statistics used in the analysis were calculated using the jackknife variances and thus appropriately reflected the complex nature of the sample design. In particular, an adjusted chi-square test using Satterthwaite's approximation to the design effect was used in the analysis of the two-way tables.¹⁰ Finally, Bonferroni adjustments were made to control for multiple comparisons where appropriate. For example, for an "experiment-wise" comparison involving *g* pairwise comparisons, each difference was tested at the 0.05/*g* significance level to control for the fact that *g* differences were simultaneously tested.

The survey was performed under contract with Westat, using the Postsecondary Education Quick Information System (PEQIS). This is the fifth PEQIS survey to be conducted. Westat's Project Director was Elizabeth Farris, and the Survey Managers were Debbie Alexander and Laurie Lewis. Bernie Greene was the NCES Project Officer. The data were requested by the National Institute on Postsecondary Education, Libraries, and Lifelong Learning, U.S. Department of Education.

⁷ K. Wolter. *Introduction to Variance Estimation*, Springer-Verlag, 1985.

⁸ Ibid, 183.

⁹ WesVarPC is available through the Internet at <http://www.westat.com/wesvarpc/index.html/>.

¹⁰ For example, see J.N.K. Rao and A. Scott, "On Chi-square Tests for Multi-way Contingency Tables with Cell Proportions Estimated from Survey Data," *Annals of Statistics* 12 (1984): 46-60.

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Appendix A

Tables of Standard Errors

Table 1a.—Standard errors of the percent of higher education institutions currently offering distance education courses, standard errors of the percent planning to offer them in the next 3 years, and standard errors of the percent not currently offering or planning to offer them, by institutional characteristics: 1995

Institutional characteristic	Currently offering distance education courses	Planning to offer distance education courses in the next 3 years	Not currently offering and not planning to offer distance education courses
All institutions.....	1.0	1.6	1.6
Institutional type			
Public 2-year.....	1.9	2.1	1.7
Private 2-year.....	1.0	3.2	3.3
Public 4-year.....	2.0	2.2	2.2
Private 4-year.....	1.2	2.6	2.9
Geographic region			
Northeast.....	1.8	2.6	3.0
Southeast.....	2.2	3.6	3.2
Central.....	2.3	3.2	3.6
West.....	3.0	3.0	3.9
Size of institution			
Less than 3,000.....	1.2	2.3	2.2
3,000 to 9,999.....	2.0	1.8	1.2
10,000 or more*.....	0.0	0.0	0.0

*The estimated standard error is zero for institutions with 10,000 or more students, because all institutions of this size were included in the sample with certainty.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Table 2a.—Standard errors of the total number and percentage distribution of distance education courses with different catalog numbers offered in academic year 1994-95, by institutional characteristics

Institutional characteristic	Number	Percentage Distribution
All institutions	1,553.8	--
Institutional type ¹		
Public 2-year	688.7	1.7
Public 4-year	631.7	2.9
Private 4-year	871.8	2.7
Geographic region		
Northeast	181.6	1.0
Southeast	305.7	1.6
Central.....	1,359.9	3.9
West	769.6	2.9
Size of institution		
Less than 3,000	1,414.7	4.4
3,000 to 9,999	663.2	2.5
10,000 or more ²	0.0	2.8

--Estimate of standard error is not derived because it is based on a statistic estimated at 100 percent.

¹Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals and in analyses by other institutional characteristics.

²The estimated standard error is zero for institutions with 10,000 or more students, because all institutions of this size were included in the sample with certainty.

NOTE: Standard errors are computed on unrounded numbers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Table 3a.—Standard errors of the percent of higher education institutions currently offering distance education courses that use various types of technologies to deliver distance education courses, by institutional characteristics: 1995

Institutional characteristic	Type of technology									
	Two-way interactive video	Two-way audio, one-way video	One-way live video	One-way pre-recorded video	Audio-graphics	Two-way audio	One-way audio	Two-way online interactions	Other computer-based technology	Other technologies
All institutions	1.5	1.3	0.9	1.6	0.4	1.3	1.7	1.3	2.0	1.0
Institutional type ¹										
Public 2-year.....	2.7	2.2	1.7	2.7	0.4	1.5	1.7	1.1	2.2	1.1
Public 4-year.....	1.6	2.0	0.9	2.1	0.5	1.8	1.2	1.4	2.0	1.0
Private 4-year.....	5.9	5.8	1.4	5.3	1.8	6.2	6.4	6.6	6.8	2.5
Geographic region										
Northeast.....	4.4	3.1	1.1	4.5	0.1	3.7	1.2	3.0	3.6	1.7
Southeast.....	4.0	3.1	2.5	3.3	0.6	2.4	1.4	2.1	1.3	0.6
Central.....	3.7	2.5	1.1	3.9	0.6	3.0	4.8	2.9	4.7	2.1
West.....	2.6	3.5	2.0	3.4	1.1	1.0	1.9	2.1	2.8	1.7
Size of institution										
Less than 3,000.....	4.2	3.2	2.1	3.9	0.9	3.5	4.8	3.5	5.0	2.3
3,000 to 9,999.....	2.0	2.2	1.4	2.1	0.6	1.4	1.3	1.7	2.7	1.5
10,000 or more ²	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

¹Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals and in analyses by other institutional characteristics.

²The estimated standard error is zero for institutions with 10,000 or more students, because all institutions of this size were included in the sample with certainty.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Table 4a.—Standard errors of the percent of higher education institutions currently offering distance education courses directed to different types of remote sites, by institutional characteristics: 1995

Institutional characteristic	Type of remote site								
	Other branches of the institution	Other college campuses	Students' homes	Work sites	Libraries	Elementary/secondary schools	Community-based organizations	Correctional institutions	Other sites
All institutions	1.9	1.8	1.8	1.2	1.1	1.6	0.7	0.8	0.9
Institutional type ¹									
Public 2-year.....	3.0	2.8	2.8	1.5	2.2	2.8	0.7	1.6	1.5
Public 4-year.....	2.2	2.1	2.0	1.9	1.1	1.5	1.2	0.9	1.6
Private 4-year.....	6.2	6.5	6.7	4.0	0.1	4.3	2.7	--	4.5
Geographic region									
Northeast	4.5	3.1	4.3	3.4	2.4	4.3	1.7	2.8	2.9
Southeast	4.0	3.4	4.2	2.2	3.3	2.0	1.4	0.8	2.1
Central.....	3.0	3.4	3.3	2.1	1.8	3.4	1.4	1.3	2.1
West	3.5	3.3	3.7	2.1	1.5	2.1	0.9	2.3	1.6
Size of institution									
Less than 3,000	4.9	4.4	4.4	2.1	2.6	4.4	1.8	1.8	2.5
3,000 to 9,999	2.1	2.8	2.6	2.0	1.6	1.7	0.8	1.2	1.4
10,000 or more ²	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

--Estimate of standard error is not derived because it is based on a statistic estimated at 0 percent.

¹Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals and in analyses by other institutional characteristics.

²The estimated standard error is zero for institutions with 10,000 or more students, because all institutions of this size were included in the sample with certainty.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Table 5a.—Standard errors of the total number of distance education courses directed by higher education institutions to different types of remote sites, by institutional characteristics: 1995

Institutional characteristic	Type of remote site								
	Other branches of the institution	Other college campuses	Students' homes	Work sites	Libraries	Elementary/secondary schools	Community-based organizations	Correctional institutions	Other sites
All institutions	823.0	670.4	911.8	187.3	182.8	222.2	40.9	203.7	307.3
Institutional type ¹									
Public 2-year.....	574.0	316.7	301.5	68.7	181.7	204.6	12.4	202.4	155.4
Public 4-year.....	624.9	592.0	281.0	53.5	11.5	80.9	38.0	35.4	78.8
Private 4-year.....	37.0	28.3	831.2	183.4	(+)	31.1	9.6	--	273.2
Geographic region									
Northeast.....	134.4	32.2	105.0	38.2	25.8	25.0	9.6	11.2	49.1
Southeast.....	155.0	112.9	208.5	51.1	142.5	19.5	37.7	12.7	78.7
Central.....	544.8	264.7	828.0	91.0	81.1	161.3	10.1	128.4	276.0
West.....	631.5	634.0	356.1	173.5	69.2	123.9	8.3	169.3	147.4
Size of institution									
Less than 3,000.....	766.6	630.9	839.3	63.3	113.4	212.8	39.4	136.3	165.8
3,000 to 9,999.....	328.1	255.2	352.1	175.3	135.0	74.6	11.1	135.3	266.4
10,000 or more ²	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(+) Standard error rounds to less than 0.1.

--Estimate of standard error is not derived because it is based on a statistic estimated to be zero.

¹Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals and in analyses by other institutional characteristics.

²The estimated standard error is zero for institutions with 10,000 or more students, because all institutions of this size were included in the sample with certainty.

NOTE: Standard errors are computed on unrounded numbers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Table 6a.—Standard errors of the percent of higher education institutions currently offering distance education courses designed primarily for specific types of students, by institutional characteristics: 1995

Institutional characteristic	Type of student						
	Elementary/ secondary	Under- graduate	Graduate	Adult basic education	Professional continuing education	Other continuing education	Other
All institutions	0.6	1.5	1.4	0.5	1.3	1.0	0.4
Institutional type ¹							
Public 2-year.....	1.1	0.9	1.0	1.0	1.4	1.6	0.8
Public 4-year.....	1.2	2.2	2.4	0.4	1.9	1.1	0.5
Private 4-year.....	0.1	6.5	5.4	--	3.6	1.8	0.1
Geographic region							
Northeast	2.7	3.8	3.4	(+)	2.5	1.9	0.8
Southeast	1.0	3.2	3.3	1.4	2.1	1.5	1.2
Central.....	1.0	3.0	3.0	0.6	2.5	2.6	0.4
West	1.4	3.3	3.0	1.2	1.6	0.8	1.1
Size of institution							
Less than 3,000	1.2	3.8	3.7	1.2	3.2	2.1	1.2
3,000 to 9,999	1.3	1.9	1.5	0.7	1.4	1.4	0.5
10,000 or more ²	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(+) Standard error rounds to less than 0.1.

--Estimate of standard error is not derived because it is based on a statistic estimated at 0 percent.

¹Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals and in analyses by other institutional characteristics.

²The estimated standard error is zero for institutions with 10,000 or more students, because all institutions of this size were included in the sample with certainty.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Table 7a.—Standard errors of the total number of distance education courses designed by higher education institutions primarily for specific types of students, by institutional characteristics: 1995

Institutional characteristic	Type of student						
	Elementary/ secondary	Under- graduate	Graduate	Adult basic education	Professional continuing education	Other continuing education	Other
All institutions	51.5	1,100.9	540.1	26.3	121.8	96.5	17.2
Institutional type ¹							
Public 2-year.....	23.7	655.0	63.8	26.0	47.2	60.5	17.0
Public 4-year.....	45.5	527.0	132.4	4.6	80.3	25.4	3.0
Private 4-year.....	(+)	394.2	519.4	--	51.4	66.9	(+)
Geographic region							
Northeast.....	10.4	162.1	68.8	(+)	20.0	10.0	1.5
Southeast.....	3.7	263.9	154.8	3.6	54.0	7.1	16.0
Central.....	49.9	909.8	485.2	4.8	92.0	93.5	2.6
West.....	11.6	614.6	230.8	25.9	24.8	13.1	6.6
Size of institution							
Less than 3,000.....	10.3	1,000.9	482.7	25.6	83.0	76.4	16.9
3,000 to 9,999.....	51.0	487.5	242.4	6.1	71.9	60.4	3.2
10,000 or more ²	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(+) Standard error rounds to less than 0.1.

--Estimate of standard error is not derived because it is based on a statistic estimated to be zero.

¹Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals and in analyses by other institutional characteristics.

²The estimated standard error is zero for institutions with 10,000 or more students, because all institutions of this size were included in the sample with certainty.

NOTE: Standard errors are computed on unrounded numbers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Table 8a.—Standard errors of the percent of higher education institutions currently offering distance education courses targeted toward certain types of individuals, by institutional characteristics: 1995

Institutional characteristic	Type of individual						
	Non-English-speaking individuals	Military personnel	Individuals with disabilities	Native Americans/Alaskan Natives on tribal lands	Professionals seeking recertification	Other workers seeking skill updating or retraining	Other types of individuals
All institutions	0.6	1.0	1.3	1.0	2.1	2.0	1.6
Institutional type ¹							
Public 2-year.....	1.0	1.6	2.4	1.7	2.8	3.0	2.7
Public 4-year.....	0.6	1.6	1.1	1.5	2.1	2.6	1.3
Private 4-year.....	1.0	2.3	2.7	0.1	6.8	6.5	3.8
Geographic region							
Northeast	0.8	2.7	3.6	0.8	4.4	4.4	4.2
Southeast	1.4	2.1	2.4	0.6	3.7	3.8	2.2
Central.....	0.6	1.4	1.6	2.7	4.6	4.2	2.6
West	1.3	2.1	2.7	2.0	2.5	3.1	3.6
Size of institution							
Less than 3,000	1.2	2.0	2.5	2.4	5.7	5.1	3.8
3,000 to 9,999	1.0	2.0	2.3	1.1	2.0	2.6	1.9
10,000 or more ²	0.0	0.0	0.0	0.0	0.0	0.0	0.0

¹Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals and in analyses by other institutional characteristics.

²The estimated standard error is zero for institutions with 10,000 or more students, because all institutions of this size were included in the sample with certainty.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Table 9a.—Standard errors of the percent of higher education institutions currently offering distance education courses composed by various types of developers, by institutional characteristics: 1995

Institutional characteristic	Type of developer					
	Institution's distance education department/ office	Institution's subject area departments or schools	Another institution of higher education	Commercial or noncommercial vendor	Other developer	Developer unknown
All institutions	1.0	1.7	1.5	1.4	0.9	0.2
Institutional type ¹						
Public 2-year.....	1.5	2.8	2.9	2.6	1.4	0.4
Public 4-year.....	1.1	1.8	1.5	1.7	1.0	--
Private 4-year.....	3.9	4.5	2.4	3.9	2.9	--
Geographic region						
Northeast	0.4	4.2	2.1	4.1	1.4	--
Southeast	2.8	4.2	2.3	4.1	0.5	0.6
Central.....	1.9	2.3	3.3	2.5	1.6	0.4
West	1.8	3.2	2.0	3.3	2.3	(+)
Size of institution						
Less than 3,000	2.6	4.0	3.6	3.6	1.7	--
3,000 to 9,999	1.0	2.5	1.8	2.4	1.3	0.5
10,000 or more ²	0.0	0.0	0.0	0.0	0.0	0.0

(+) Standard error rounds to less than 0.1.

--Estimate of standard error is not derived because it is based on a statistic estimated at 0 percent.

¹Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals and in analyses by other institutional characteristics.

²The estimated standard error is zero for institutions with 10,000 or more students, because all institutions of this size were included in the sample with certainty.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Table 10a.—Standard errors of the total number and percentage distribution of students formally enrolled in the institution’s distance education courses in academic year 1994-95, by institutional characteristics

Institutional characteristic	Number	Percentage distribution
All institutions	30,045.7	--
Institutional type ¹		
Public 2-year	23,587.1	2.0
Public 4-year	13,559.1	1.8
Private 4-year	13,079.0	1.6
Geographic region		
Northeast	6,624.8	0.9
Southeast	11,420.5	1.6
Central.....	25,212.8	2.6
West	11,706.7	1.6
Size of institution		
Less than 3,000	21,339.5	2.5
3,000 to 9,999	22,337.5	2.3
10,000 or more ²	0.0	2.2

--Estimate of standard error is not derived because it is based on a statistic estimated at 100 percent.

¹Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals and in analyses by other institutional characteristics.

²The estimated standard error is zero for institutions with 10,000 or more students, because all institutions of this size were included in the sample with certainty.

NOTE: Standard errors are computed on unrounded numbers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Table 11a.—Standard errors of the percent of higher education institutions currently offering distance education courses that offer degrees and certificates to students taking distance education courses exclusively, total number of degrees and certificates students can receive by taking distance education courses only, and total number of such degree and certificate recipients in 1994-95, by institutional characteristics

Institutional characteristic	Percent offering		Total number offered		Total number of recipients	
	Degrees	Certificates	Degrees	Certificates	Degrees	Certificates
All institutions	1.7	1.0	70.3	17.8	478.7	120.3
Institutional type ¹						
Public 2-year.....	2.2	0.9	37.9	5.0	68.0	23.4
Public 4-year.....	2.2	1.1	21.0	12.1	416.2	83.0
Private 4-year.....	6.3	5.9	48.7	11.4	232.2	85.4
Geographic region						
Northeast	2.1	1.4	6.1	6.0	1.2	(+)
Southeast	2.7	1.5	15.3	4.6	190.1	87.4
Central.....	4.5	2.8	67.1	11.6	164.9	7.7
West	2.0	1.5	20.8	11.6	420.8	82.7
Size of institution						
Less than 3,000	4.8	2.9	63.6	15.3	436.1	82.7
3,000 to 9,999	1.9	1.0	30.0	7.2	197.6	87.3
10,000 or more ²	0.0	0.0	0.0	0.0	0.0	0.0

(+) Standard error rounds to less than 0.1.

¹Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals and in analyses by other institutional characteristics.

²The estimated standard error is zero for institutions with 10,000 or more students, because all institutions of this size were included in the sample with certainty.

NOTE: Standard errors are computed on unrounded numbers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Table 12a.—Standard errors of the percent of higher education institutions currently offering distance education courses that have various resources available for students enrolled in distance education courses: 1995

Resource	Not available	Available for some courses	Available for all courses	Don't know
Instructor visits remote site(s) on occasion.....	1.6	1.7	1.4	0.3
Toll-free telephone, E-mail, or other online access to instructor	1.7	1.4	2.2	0.4
Teaching assistant, tutor, or facilitator regularly available at remote site(s).....	2.0	1.6	1.8	0.5
Toll-free telephone, E-mail, or other online access to teaching assistant, tutor, or facilitator.....	1.9	1.5	1.7	0.4
Toll-free telephone, E-mail, or other online access to technical support staff	1.8	1.3	1.9	0.4
Access to an electronic link with institution's library	1.9	1.4	2.0	0.6
Institution library staff assigned to assist distance education students ..	2.2	1.1	2.1	0.7
Cooperative agreements for students to use other libraries	1.9	1.1	2.1	0.9
Deposit collections at remote sites.....	1.5	1.2	1.5	1.1
Online access to wide area networks (e.g., Internet).....	2.0	1.7	1.6	0.6

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Table 13a.—Standard errors of the percent of higher education institutions currently offering distance education courses indicating that various resources are available for some or all courses for students enrolled in distance education courses, by institutional type: 1995

Resource	All institutions	Institutional type*		
		Public 2-year	Public 4-year	Private 4-year
Instructor visits remote site(s) on occasion	1.6	2.8	1.9	6.7
Toll-free telephone, E-mail, or other online access to instructor.....	1.8	3.0	2.0	3.8
Teaching assistant, tutor, or facilitator regularly available at remote site(s)	2.0	2.6	2.1	6.8
Toll-free telephone, E-mail, or other online access to teaching assistant, tutor, or facilitator	2.0	3.1	2.6	6.6
Toll-free telephone, E-mail, or other online access to technical support staff	1.8	3.0	2.1	5.4
Access to an electronic link with institution's library.....	1.8	3.0	2.4	6.9
Institution library staff assigned to assist distance education students ..	2.2	3.2	2.0	7.0
Cooperative agreements for students to use other libraries.....	1.9	2.4	2.0	6.8
Deposit collections at remote sites	1.5	2.9	2.2	6.4
Online access to wide area networks (e.g., Internet)	2.0	3.2	2.2	6.9

*Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Table 14a.—Standard errors of the percent of higher education institutions currently offering distance education courses using various procedures to administer tests to students enrolled in for-credit distance education courses: 1995

Testing procedure	Almost never	Sometimes	Almost always	Don't know
Tests individually mailed or faxed to students, who mail or fax them back	2.0	2.1	1.1	0.6
Tests taken at remote sites interactively via computer, video, or telephone.....	1.8	1.6	1.1	0.8
Tests group administered (non-interactively) at remote learning sites....	1.8	1.5	2.0	0.5
Tests administered at on-campus site (distance education students travel to campus).....	1.8	1.4	1.5	0.5

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Table 15a.—Standard errors of the percent of higher education institutions currently offering distance education courses indicating whether certain training opportunities are required, available but not required, or not available to faculty teaching distance education courses: 1995

Training opportunity	Required	Available but not required	Not available
Training in the use and application of distance education technologies	1.7	2.1	1.4
Training in the development of curricula for distance education courses	1.3	2.1	1.8
Training in teaching methods for distance education courses	1.4	1.7	1.6
Consultation with support center staff	1.6	2.0	1.2

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Table 16a.—Standard errors of the percent of higher education institutions currently offering distance education courses indicating the importance of various goals to their distance education programs, and the standard errors of the extent to which the institution is meeting those goals: 1995

Goal	Importance			Extent goal met			
	Not important	Somewhat important	Very important	Not at all	Minor extent	Moderate extent	Major extent
Reducing your institution's per-student costs.....	1.9	2.4	1.8	1.6	2.4	2.2	0.7
Making educational opportunities more affordable for students	1.5	1.9	2.0	1.2	2.4	2.6	1.6
Increasing institution enrollments	0.8	1.9	1.9	0.8	1.9	2.0	1.3
Increasing student access by reducing time constraints for course taking	1.4	1.8	2.2	0.7	1.6	2.0	1.8
Increasing student access by making courses available at convenient locations	1.3	1.2	1.7	0.4	1.5	2.2	2.0
Increasing institution's access to new audiences	0.6	2.0	1.8	0.9	2.1	1.9	1.3
Improving the quality of course offerings	1.4	2.4	2.3	1.0	2.3	2.2	1.3
Meeting the needs of local employers.....	1.5	1.8	1.8	1.4	2.0	2.3	1.3

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Table 17a.—Standard errors of the percent of higher education institutions currently offering distance education courses indicating that various goals are very important to their distance education programs, by institutional type: 1995

Goal	All institutions	Institutional type*		
		Public 2-year	Public 4-year	Private 4-year
Reducing your institution's per-student costs	1.8	3.2	1.9	2.5
Making educational opportunities more affordable for students	2.0	2.6	2.2	7.2
Increasing institution enrollments	1.9	2.8	2.2	6.5
Increasing student access by reducing time constraints for course taking	2.2	3.1	2.0	6.6
Increasing student access by making courses available at convenient locations	1.7	2.5	1.7	6.5
Increasing institution's access to new audiences.....	1.8	2.7	2.3	6.7
Improving the quality of course offerings	2.3	3.6	2.4	6.7
Meeting the needs of local employers	1.8	3.0	2.0	4.9

*Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Table 18a.—Standard errors of the percent of higher education institutions currently offering distance education courses indicating the extent to which their distance education program has met various goals, by importance of the goal to the institution: 1995

Importance of goal	Not at all	Minor extent	Moderate extent	Major extent
Reducing your institution's per-student cost				
Somewhat important	2.0	3.0	2.4	0.8
Very important.....	3.1	4.2	4.3	2.0
Making educational opportunities more affordable for students				
Somewhat important	2.2	3.4	2.7	1.0
Very important.....	1.4	2.1	3.2	2.7
Increasing institution enrollments				
Somewhat important	1.2	2.9	3.2	1.0
Very important.....	1.1	2.8	3.0	2.1
Increasing student access by reducing time constraints for course taking				
Somewhat important	1.5	3.5	3.3	1.2
Very important.....	0.7	1.6	2.4	2.2
Increasing student access by making courses available at convenient locations				
Somewhat important	1.1	5.4	5.5	1.5
Very important.....	0.4	1.4	2.4	2.1
Increasing institution's access to new audiences				
Somewhat important	1.8	3.5	3.9	0.8
Very important.....	0.9	2.3	2.3	1.7
Improving the quality of course offerings				
Somewhat important	2.1	3.3	3.0	0.8
Very important.....	0.3	2.9	3.2	2.2
Meeting the needs of local employers				
Somewhat important	1.8	2.9	3.0	(+)
Very important.....	1.8	3.0	3.1	2.6

(+) Standard error rounds to less than 0.1.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Table 19a.—Standard errors of the percent of higher education institutions specifying plans regarding the number of distance education courses directed to various remote sites in the next 3 years: 1995

Remote site	Reduce or keep the same number	Start or increase	No plans
Other branches of the institution or other college campuses	0.4	1.7	1.6
Students' homes	0.5	2.2	2.3
Work sites	0.5	2.3	2.3
Libraries, elementary/secondary schools, or community-based organizations.....	0.5	1.8	1.8
Correctional institutions	0.5	1.5	1.6

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Table 20a.—Standard errors of the percent of higher education institutions specifying that they plan to start or increase the number of distance education courses directed to various remote sites in the next 3 years, by institutional type: 1995

Remote site	All institutions	Institutional type*		
		Public 2-year	Public 4-year	Private 4-year
Other branches of the institution or other college campuses	1.7	1.8	1.5	4.2
Students' homes	2.2	2.8	2.4	4.5
Work sites	2.3	2.6	2.0	5.1
Libraries, elementary/secondary schools, or community-based organizations	1.8	2.6	2.3	3.0
Correctional institutions	1.5	2.3	1.5	2.7

*Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Table 21a.—Standard errors of the percent of higher education institutions indicating their plans for the next 3 years concerning the number of distance education courses using various types of technology: 1995

Technology	Reduce or keep the same number	Start or increase	No plans
Two-way interactive video.....	0.3	1.2	1.2
Two-way audio, one-way video.....	0.8	1.4	1.6
One-way live video.....	0.8	1.8	2.0
One-way prerecorded video.....	0.8	1.6	1.5
Audiographics.....	0.6	0.9	1.0
Two-way audio (e.g., audio/phone conferencing).....	0.9	1.2	1.4
One-way audio (e.g., radio, audiotapes).....	0.8	1.6	1.8
Two-way online (computer-based) interactions during instruction.....	0.2	2.0	2.0
Other computer-based technology (e.g., Internet).....	0.2	1.6	1.6

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Table 22a.—Standard errors of the percent of higher education institutions currently offering distance education courses that use various types of technologies to deliver distance education courses, and standard errors of the percent of higher education institutions currently offering or planning to offer distance education courses in the next 3 years that plan to start or increase their use of various types of technologies in the next 3 years: 1995

Technology	Currently use the technology	Plan to start or increase use of technology	
		Currently offer distance education courses	Plan to offer distance education courses
Two-way interactive video.....	1.5	1.6	2.5
Two-way audio, one-way video.....	1.3	1.6	2.8
One-way live video.....	0.9	1.7	3.6
One-way prerecorded video.....	1.6	1.9	2.4
Audiographics.....	0.4	0.9	1.5
Two-way audio (e.g., audio/phone conferencing).....	1.3	1.5	2.4
One-way audio (e.g., radio, audiotapes).....	1.7	1.3	2.6
Two-way online (computer-based) interactions during instruction.....	1.3	1.8	3.0
Other computer-based technology (e.g., Internet).....	2.0	1.6	2.5

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Table 23a.—Standard errors of the percent of higher education institutions indicating the extent to which various factors are keeping the institution from starting or expanding their distance education course offerings: 1995

Factor	Not at all	Minor extent	Moderate extent	Major extent
Lack of fit with institution's mission.....	1.3	1.1	1.0	1.1
Lack of perceived need (e.g., limited student market)	1.3	1.0	1.3	1.6
Lack of support from institution administrators	1.5	1.1	0.9	0.9
Program development costs.....	1.5	1.2	1.7	1.8
Equipment failures/costs of maintaining equipment	1.4	1.3	1.4	1.3
Limited technological infrastructure to support distance education	1.2	1.2	1.3	1.6
Concerns about faculty workload.....	1.7	1.9	1.2	1.2
Lack of faculty interest.....	1.5	2.1	1.3	1.0
Lack of faculty rewards or incentives.....	1.6	1.6	1.0	0.9
Legal concerns (e.g., intellectual property rights, copyright laws).....	1.3	1.6	0.7	0.6
Concerns about course quality	2.1	1.5	1.2	1.6
Lack of access to library or other resources for instructional support.....	1.8	1.5	1.0	0.7
Interinstitutional issues (e.g., allocations of financial aid, course credit)	1.6	1.4	1.0	0.6
Restrictive federal, state, or local policies (e.g., limitations on the number of distance education credits students may earn, student ineligibility for financial aid).....	1.1	1.2	0.8	0.9
Inability to obtain state authorization	1.0	0.9	0.5	0.7

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Table 24a.—Standard errors of the percent of higher education institutions indicating the extent to which various factors are keeping the institution from starting or expanding their distance education course offerings, by distance education program status: 1995

Factor	Not at all	Minor extent	Moderate extent	Major extent
Lack of fit with institution's mission				
Currently offer.....	1.6	1.3	0.9	0.6
Plan to offer	1.9	1.5	1.2	1.3
Do not plan to offer	2.4	2.2	2.4	2.8
Lack of perceived need				
Currently offer.....	1.8	1.7	1.4	0.9
Plan to offer	3.1	3.1	1.6	1.0
Do not plan to offer	2.7	1.5	3.0	3.3
Lack of support from institution's administrators				
Currently offer.....	2.3	1.6	1.2	0.6
Plan to offer	2.0	2.2	1.8	1.0
Do not plan to offer	2.9	1.7	2.0	1.7
Program development costs				
Currently offer.....	1.2	1.6	1.8	1.9
Plan to offer	1.4	2.1	2.7	2.7
Do not plan to offer	2.8	1.8	2.8	3.5
Equipment failures/costs of maintaining equipment				
Currently offer.....	1.6	1.9	2.1	1.5
Plan to offer	2.1	3.2	2.4	2.7
Do not plan to offer	2.3	1.7	2.5	2.4
Limited technological infrastructure to support distance education				
Currently offer.....	1.4	1.8	1.8	1.7
Plan to offer	1.6	3.0	2.8	3.6
Do not plan to offer	2.5	1.5	2.5	3.5
Concerns about faculty workload				
Currently offer.....	1.8	2.0	1.5	1.2
Plan to offer	3.9	4.8	2.9	1.5
Do not plan to offer	2.9	2.2	2.2	2.5
Lack of faculty interest				
Currently offer.....	1.8	2.0	1.4	1.3
Plan to offer	3.3	3.7	2.6	1.1
Do not plan to offer	3.4	3.6	2.2	1.6
Lack of faculty rewards or incentives				
Currently offer.....	1.8	2.1	1.7	1.5
Plan to offer	3.3	2.8	2.2	1.4
Do not plan to offer	2.6	2.6	1.8	1.8
Legal concerns				
Currently offer.....	2.1	2.1	0.9	0.5
Plan to offer	3.2	4.1	1.6	0.9
Do not plan to offer	1.8	2.0	1.4	1.3

Table 24a.—Standard errors of the percent of higher education institutions indicating the extent to which various factors are keeping the institution from starting or expanding their distance education course offerings, by distance education program status: 1995--continued

Factor	Not at all	Minor extent	Moderate extent	Major extent
Concerns about course quality				
Currently offer.....	2.0	1.9	1.7	1.1
Plan to offer	2.7	2.6	2.1	2.0
Do not plan to offer	4.0	2.0	2.4	3.6
Lack of access to library or other resources for instructional support				
Currently offer.....	2.4	2.1	1.1	0.5
Plan to offer	3.4	3.1	1.8	1.0
Do not plan to offer	3.0	2.9	2.3	1.4
Interinstitutional issues				
Currently offer.....	1.8	2.1	1.4	0.7
Plan to offer	2.9	2.9	2.3	1.5
Do not plan to offer	3.2	2.8	1.9	1.0
Restrictive federal, state, or local policies				
Currently offer.....	1.7	1.5	1.1	0.4
Plan to offer	2.5	2.6	1.6	1.5
Do not plan to offer	2.2	2.0	1.8	1.5
Inability to obtain state authorization				
Currently offer.....	1.2	1.1	0.4	0.3
Plan to offer	2.7	2.0	1.0	1.4
Do not plan to offer	1.8	1.8	1.0	1.4

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Table 26.—Standard errors for the figures and for data not shown in tables: 1995

Item	Estimate	Standard error
Figure 1: Percent of higher education institutions currently offering distance education courses that have a separate distance education department/office, by institutional characteristics: 1996¹		
All institution.....	36	2.2
Public 2-year.....	34	2.8
Public 4-year.....	40	2.2
Private 4-year.....	33	7.5
Northeast.....	29	4.2
Southeast.....	40	3.8
Central.....	34	4.6
West.....	39	3.2
Less than 3,000.....	30	5.6
3,000 to 9,999.....	31	2.6
10,000 or more ²	50	0.0
Figure 2: Percent of higher education institutions offering distance education courses in fall 1995 that offered various numbers of distance education courses in academic year 1994-95¹		
No courses ³	4	0.8
1 to 4 courses.....	24	1.8
5 to 10 courses.....	21	1.5
11 to 25 courses.....	25	1.6
More than 25 courses.....	26	1.9
Figure 3: Percent of distance education courses that are offered only as distance education courses, by institutional characteristics: 1995¹		
All institutions.....	13	1.4
Public 2-year.....	9	1.3
Public 4-year.....	13	2.0
Private 4-year.....	19	6.8
Northeast.....	25	4.4
Southeast.....	8	1.6
Central.....	12	2.6
West.....	13	3.1
Less than 3,000.....	21	6.7
3,000 to 9,999.....	10	1.4
10,000 or more ²	11	0.0
Figure 4: Percent of distance education courses offered in fall 1995 that were composed by various types of developers¹		
Institution's distance education department/office.....	5	0.7
Institution's subject area departments or schools.....	68	2.2
Another higher education institution.....	5	0.6
Commercial or noncommercial vendor.....	18	1.4
Other developer.....	4	0.7
Developer unknown.....	<1	0.1
Figure 5: Percent of higher education institutions currently offering distance education courses that enrolled various numbers of students in those courses in academic year 1994-95¹		
No students ³	4	0.8
1 to 50 students.....	23	1.9
51 to 200 students.....	24	1.7
201 to 800 students.....	27	1.9
More than 800 students.....	22	1.2

Table 26.—Standard errors for the figures and for data not shown in tables: 1995 (continued)

Item	Estimate	Standard error
Figure 6: Percent of higher education institutions offering degrees and certificates exclusively through distance education courses that offered various numbers of such degrees and certificates: 1995⁴		
1 degree.....	44	4.2
2 degrees.....	23	2.5
3-5 degrees.....	23	3.9
More than 5 degrees.....	10	1.4
1 certificate.....	61	8.0
2-3 certificates.....	27	6.5
More than 3 certificates.....	13	3.7
Chapter 2, section on institutions offering distance education courses⁵		
Percent of institutions in the Northeast that are private.....	66	2.4
Percent of institutions in the Southeast that are private.....	48	2.7
Percent of institutions in the Central that are private.....	56	1.4
Percent of institutions in the West that are private.....	46	1.8
Percent of institutions with less than 3,000 students that are private.....	72	0.6
Percent of institutions with 3,000 to 9,999 students that are private.....	24	0.5
Percent of institutions with 10,000 or more students that are private ²	11	0.0
Chapter 3, section on degrees or certificates received through distance education⁶		
Percent of institutions with 10 or fewer degree recipients.....	49	6.3
Chapter 4, section on procedures for test administration¹		
Percent of institutions administering tests.....	98	0.5

¹Percents are based on institutions that offered distance education courses in fall 1995.

²The estimated standard error is zero for institutions with 10,000 or more students, because all institutions of this size were included in the sample with certainty.

³Approximately 4 percent of the institutions offered distance education courses in fall 1995, but did not offer such courses (and therefore did not enroll any students) in academic year 1994-95.

⁴Percents are based on those institutions that offered at least one degree or certificate that students could complete by taking distance education courses exclusively in fall 1995. Percents may not sum to 100 because of rounding.

⁵Percents are based on all higher education institutions, not just those that offered distance education courses in fall 1995.

⁶Percent is based on institutions that offered degrees that students could complete by taking distance education courses exclusively.

NOTE: Data are for higher education institutions in the 50 states, the District of Columbia, and Puerto Rico. Data for private 2-year institutions are not reported as a separate type of institution because too few of them in the sample offered distance education courses in fall 1995 to make reliable estimates. Data for private 2-year institutions are included in the totals and in analyses by other institutional characteristics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Postsecondary Education Quick Information System, Survey on Distance Education Courses Offered by Higher Education Institutions, 1995.

Appendix B

Survey Questionnaire

U.S. DEPARTMENT OF EDUCATION
NATIONAL CENTER FOR EDUCATION STATISTICS
WASHINGTON, D.C. 20208-5651

FORM APPROVED
O.M.B. No.: 1850-0722
EXPIRATION DATE: 12/96

**SURVEY ON DISTANCE EDUCATION COURSES OFFERED
BY HIGHER EDUCATION INSTITUTIONS**

POSTSECONDARY EDUCATION QUICK INFORMATION SYSTEM

This survey is authorized by law (20 U.S.C. 1221e-1). While you are not required to respond, your cooperation is needed to make the results of this survey comprehensive, accurate, and timely.

Definition of distance education for this survey refers to education or training courses delivered to remote (off-campus) location(s) via audio, video, or computer technologies. For purposes of this survey, courses conducted **exclusively** on campus are not included in this definition of distance education (although **some** on-campus instruction may be involved); courses conducted **exclusively** via correspondence are also not included (although **some** instruction may be conducted via correspondence). Distance education also does **not** include courses in which the instructor travels to a remote site to deliver instruction in person.

The survey is designed to be completed by the person(s) most knowledgeable about your institution's distance education course offerings. Since we are interested in all such courses offered by your institution, we ask that you consult with your colleagues in other departments/offices that may also offer distance education courses.

AFFIX LABEL HERE

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

Name of person completing this form: _____ Telephone: _____

Title/position: _____

PLEASE KEEP A COPY OF THIS SURVEY FOR YOUR RECORDS

RETURN COMPLETED FORM TO:	IF YOU HAVE ANY QUESTIONS, CALL:
WESTAT, INC. 1650 Research Boulevard Rockville, Maryland 20850 ATTN: Alexander, 923792	Debbie Alexander 1-800-937-8281, Ext. 2088, or 1-301-294-2088 8:00 a.m.-4:00 p.m., Eastern time Fax #: 1-301-294-3992 E-mail: Alexand1 @ Westat.com

The time required to complete this information collection is estimated to average 30 minutes per response, including the time to review instructions, search existing data resources, gather and maintain the data needed, and complete and review the information collection. If you have any comments concerning the accuracy of the time estimate or suggestions for improving this form, please write to: U.S. Department of Education, Washington, DC 20202-4651. If you have any comments or concerns regarding the status of your individual submission of this form, write directly to: National Center for Education Statistics, U.S. Department of Education, 555 New Jersey Avenue, NW, Washington, DC 20202-5574.

1. Does your institution currently offer any distance education courses (as defined on the front of this questionnaire), or plan to offer any such courses in the next 3 years?
- Yes, currently offer 1
 Not currently offering, but plan to offer 2 (Skip to Q18.)
 No, not currently offering and do not plan to offer 3 (Skip to Q20.)
2. Does your institution have a separate distance education department/office? Yes..... 1 No..... 2
3. What was the total number of distance education courses with different catalog numbers offered by your institution in academic year 1994-95? Total _____
4. How many of your distance education course curricula are developed primarily by each of the following? (Do not double count courses.)
- a. Your institution, by distance education department/office _____
 b. Your institution, by subject-area departments or schools..... _____
 c. Another institution of higher education..... _____
 d. Commercial or noncommercial vendor (e.g., NTU, Annenberg/CPB)..... _____
 e. Other (specify) _____
 f. Developer unknown _____
5. How many of your distance education courses are offered **only** as distance education courses (i.e., there is no equivalent course taught on campus)? Number of courses _____
6. How many distance education courses does your institution direct to each of the following types of remote sites? (If a course is directed to more than one type of site, count the course for each type of site where it is directed.)
- a. Other branches of your institution _____ e. Libraries _____
 b. Other college campuses..... _____ f. Elementary/secondary schools _____
 c. Students' homes..... _____ g. Community-based organizations (e.g., YMCA)..... _____
 d. Work sites..... _____ h. Correctional institutions _____
 i. Other (specify) _____
7. Which types of technology are used to deliver the distance education courses your institution offers? (Circle all that apply.)
- a. Two-way interactive video..... 1 g. One-way audio (e.g., radio, audiotapes)..... 7
 b. Two-way audio, one-way video..... 2 h. Two-way online (computer-based) interactions
 c. One-way live video 3 during instruction 8
 d. One-way prerecorded video 4 i. Other computer-based technology (e.g., Internet)..... 9
 e. Audiographics 5 j. Other (specify) _____ 10
 f. Two-way audio (e.g., audio/phone conferencing) 6
8. How many of your distance education courses are designed primarily for each of the following? (Do not double count courses.)
- a. Elementary/secondary students..... _____ e. Professional continuing education students
 b. Undergraduate students..... _____ (e.g., doctors, teachers) _____
 c. Graduate students _____ f. Other continuing education students..... _____
 d. Adult basic education students
 (e.g., GED, ESL)..... _____ g. Other (specify) _____
9. Do your distance education courses target any of the following? (Circle one on each line.)
- | | Yes | No | | Yes | No |
|---|-----|----|---|-----|----|
| a. Non-English-speaking individuals | 1 | 2 | e. Professionals seeking recertification..... | 1 | 2 |
| b. Military personnel..... | 1 | 2 | f. Other workers seeking skill updating or | | |
| c. Individuals with disabilities | 1 | 2 | retraining | 1 | 2 |
| d. Native Americans/Alaskan Natives on | | | g. Other (specify) _____ | 1 | 2 |
| tribal lands..... | 1 | 2 | | | |
10. How many students were formally enrolled in your institution's distance education courses in academic year 1994-95? (If a student was enrolled in multiple courses, count the student for each course in which he/she was enrolled. Approximate if necessary.)
- Students _____
11. Can students complete degrees or certificates by taking distance education courses **exclusively**?
- Yes 1 No..... 2 (Skip to Q14.)
12. How many different degrees or certificates can students receive by taking distance education courses **exclusively**?
- Number of degrees _____ Number of certificates _____
13. How many students received degrees or certificates in academic year 1994-95 by taking distance education courses **exclusively**?
- Number of degree recipients _____ Number of certificate recipients _____

14. Are the following resources available to students enrolled in your distance education courses? (Circle one on each line.)

	Not available	Available for some courses	Available for all courses	Don't know
a. Instructor visits remote site(s) on occasion.....	1	2	3	4
b. Toll-free telephone, E-mail, or other online access to instructor.....	1	2	3	4
c. Teaching assistant, tutor, or facilitator regularly available at remote site(s).....	1	2	3	4
d. Toll-free telephone, E-mail, or other online access to teaching assistant, tutor, or facilitator.....	1	2	3	4
e. Toll-free telephone, E-mail, or other online access to technical support staff.....	1	2	3	4
f. Access to an electronic link with institution's library.....	1	2	3	4
g. Institution library staff assigned to assist distance education students.....	1	2	3	4
h. Cooperative agreements for students to use other libraries.....	1	2	3	4
i. Deposit collections at remote sites.....	1	2	3	4
j. Online access to wide area networks (e.g., Internet).....	1	2	3	4
k. Other (specify).....	1	2	3	4

15. How often are the following procedures used to administer tests to students in **for-credit** distance education courses? (If no tests are given, check here and skip to Q16.)

	Almost never	Sometimes	Almost always	Don't know
(Circle one on each line.)				
a. Tests are individually mailed or faxed to students, who mail or fax them back.....	1	2	3	4
b. Tests are taken at remote sites interactively via computer, video, or telephone.....	1	2	3	4
c. Tests are group administered (non-interactively) at remote learning sites.....	1	2	3	4
d. Tests are administered at on-campus site (distance education students travel to campus)	1	2	3	4
e. Other (specify).....	1	2	3	4

16. Are the following training opportunities required of or available to **faculty** who teach distance education courses? (Circle one on each line.)

	Required	Available but not required	Not available
a. Training in the use and application of distance education technologies.....	1	2	3
b. Training in the development of curricula for distance education courses.....	1	2	3
c. Training in teaching methods for distance education courses.....	1	2	3
d. Consultation with support center staff.....	1	2	3
e. Other (specify).....	1	2	3

17. How important are the following goals to your institution's distance education program? **For each goal that is somewhat or very important, indicate to what extent your distance education program is meeting that goal.**

	Importance			Extent goal met			
	Not important	Somewhat important	Very important	Not at all	Minor extent	Moderate extent	Major extent
(Circle one on each line.)							
a. Reducing your institution's per-student costs....	1	2	3	1	2	3	4
b. Making educational opportunities more affordable for students.....	1	2	3	1	2	3	4
c. Increasing institution enrollments.....	1	2	3	1	2	3	4
d. Increasing student access by reducing time constraints for course taking.....	1	2	3	1	2	3	4
e. Increasing student access by making courses available at convenient locations.....	1	2	3	1	2	3	4
f. Increasing institution's access to new audiences.....	1	2	3	1	2	3	4
g. Improving the quality of course offerings.....	1	2	3	1	2	3	4
h. Meeting the needs of local employers.....	1	2	3	1	2	3	4
i. Other (specify).....	1	2	3	1	2	3	4

18. In the next 3 years, what are your institution's plans concerning the number of distance education courses directed to the following remote sites? (*Circle one on each line.*)

	Reduce	Keep same number	Start or increase	No plans
a. Other branches of your institution or other college campuses	1	2	3	4
b. Students' homes.....	1	2	3	4
c. Work sites.....	1	2	3	4
d. Libraries, elementary/secondary schools, or community-based organizations.....	1	2	3	4
e. Correctional institutions	1	2	3	4
f. Other (<i>specify</i>).....	1	2	3	4

19. In the next 3 years, what are your institution's plans concerning the number of distance education courses that use the following technologies? (*Circle one on each line.*)

	Reduce	Keep same number	Start or increase	No plans
a. Two-way interactive video.....	1	2	3	4
b. Two-way audio, one-way video.....	1	2	3	4
c. One-way live video	1	2	3	4
d. One-way prerecorded video	1	2	3	4
e. Audiographics	1	2	3	4
f. Two-way audio (e.g., audio/phone conferencing).....	1	2	3	4
g. One-way audio (e.g., radio, audiotapes).....	1	2	3	4
h. Two-way online (computer-based) interactions during instruction.....	1	2	3	4
i. Other computer-based technology (e.g., Internet).....	1	2	3	4
j. Other (<i>specify</i>).....	1	2	3	4

20. To what extent, if any, are the following factors keeping your institution from starting or expanding distance education offerings? (*Circle one on each line.*)

	Not at all	Minor extent	Moderate extent	Major extent
a. Lack of fit with institution's mission	1	2	3	4
b. Lack of perceived need (e.g., limited student market)	1	2	3	4
c. Lack of support from institution administrators.....	1	2	3	4
d. Program development costs	1	2	3	4
e. Equipment failures/costs of maintaining equipment.....	1	2	3	4
f. Limited technological infrastructure to support distance education.....	1	2	3	4
g. Concerns about faculty workload.....	1	2	3	4
h. Lack of faculty interest.....	1	2	3	4
i. Lack of faculty rewards or incentives.....	1	2	3	4
j. Legal concerns (e.g., intellectual property rights, copyright laws)	1	2	3	4
k. Concerns about course quality	1	2	3	4
l. Lack of access to library or other resources for instructional support.....	1	2	3	4
m. Interinstitutional issues (e.g., allocations of financial aid, course credit)	1	2	3	4
n. Restrictive federal, state, or local policies (e.g., limitations on the number of distance education credits students may earn, student ineligibility for financial aid)....	1	2	3	4
o. Inability to obtain state authorization	1	2	3	4
p. Other (<i>specify</i>).....	1	2	3	4

Thank you!