

OSC/OARnet DISTANCE LEARNING TECHNOLOGY PROJECT
SURVEY

Report to the Ohio Learning Network

July, 2000

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INTRODUCTION

The Distance Learning Technology Project Survey was created to determine the status of video, multimedia, and distance education technologies on university/college campuses in Ohio. The survey is a part of the Shared Technical Assistance in Distance Learning Project by OSC and Ohio Academic Resource Network (OARnet) which is being funded by the Ohio Learning Network (OLN).

It is evident that faculty and technical staff across the board have already made efforts to investigate and use a number of online tools and technologies on their campuses. This survey is part of an effort to avoid duplication, and to allow for a wide distribution of these experiments and results. The survey was also targeted to obtain findings related to online education workshops, preferences of tools/software, and the overall status of technological infrastructure across the surveyed campuses. Findings to provide a comparison of 4-year public, 4-year private and 2-year universities/colleges in Ohio were targeted as well. The cross-tabulation tables in Appendix 3 compare these three categories of Ohio universities/colleges in terms of findings on online education, campus infrastructure, training and workshop availability and preferences and statewide initiative preferences. The tables also compare each category to the average for all universities in Ohio.

The information gathered will then be used to identify key investments being made at each of our institutions and potential opportunities for collaboration, training, research and development.

1. INSTRUMENT

The Distance Learning Technology Project Survey aimed to gather information for three main areas of study:

- Status of online education
- Campus technology infrastructure
- Campus preferences on proposed workshops

The survey consisted of 24 questions with 13 subheadings (see Appendix 1). It was sent to 66 university/college campuses in Ohio via e-mail attached in two formats – Microsoft Word and PDF. Respondents were asked to complete the survey in three weeks but many took longer. The respondents returned the surveys either in electronic format or printed form. The response rate was 71.2% (47/66 responses). The list of university/college campuses that responded to the survey is presented in Table 1.1. A complete list of recipients can be found in Appendix 2.

Table 1.1. Survey Respondents - Universities/Colleges

University/College	Location
Antioch College	Yellow Springs
Baldwin-Wallace College	Berea
Belmont Technical College	St. Clairsville
Bowling Green State University	Bowling Green
Capital University	Columbus
Case Western Reserve University	Cleveland
Cedarville College	Cedarville
Cincinnati State Technical and Community College	Cincinnati
Clark State Community College	Springfield
Cleveland State University	Cleveland
College of Mount St. Joseph	Cincinnati
Columbus State Community College	Columbus
Cuyahoga Community College	Cleveland
David N. Myers College	Cleveland
Edison State Community College	Piqua
Franklin University	Columbus
Hocking College	Nelsonville
Kent State University	Kent
Lakeland Community College	Kirtland
Lima Technical College	Lima
Marion Technical College	Marion
Medical College of Ohio	Toledo
Miami University	Oxford
Muskingum College	New Concord
North Central State College	Mansfield
Northwest State Community College	Archbold
Oberlin College	Oberlin
OhioLink	
Ohio Dominican College	Columbus
Ohio Northern University	Ada
Ohio University	Athens
Owens Community College	Toledo
Sinclair Community College	Dayton
Southern State Community College	Hillsboro
Stark State College of Technology	Canton
Terra Community College	Foremout
The McGregor School of Antioch University	Yellow Springs
The Ohio State University	Columbus
The Union Institute	Cincinnati
Tiffin University	Tiffin
University of Akron	Akron
University of Cincinnati	Cincinnati
University of Cincinnati, OMI College of Applied Science	Cincinnati
University of Dayton	Dayton
Ursuline College	Pepper Pike
Wilmington College	Wilmington
Wright State University	Dayton

2. FINDINGS

2.1. ONLINE EDUCATION

The Distance Learning Technology Project Survey was developed as a tool to gather information on the current level of online education activities and tools in use on Ohio university/college campuses. Its aim is to make this information available to others to help share expertise in online education as well as to investigate potential opportunities for collaboration, research and development. The survey was developed by OSC with a funding from OLN.

2.1.1. Outsourcing

The majority of campuses have not utilized an outsourcing service (company) to create and/or host online courses. Only 8 (or 17.0%) of the surveyed 47 campuses revealed that they have employed an outsourcing service. These included OSC's and OARnet's trial servers and industry trial servers. The list of campuses and their respective service companies are shown in Table 2.1.

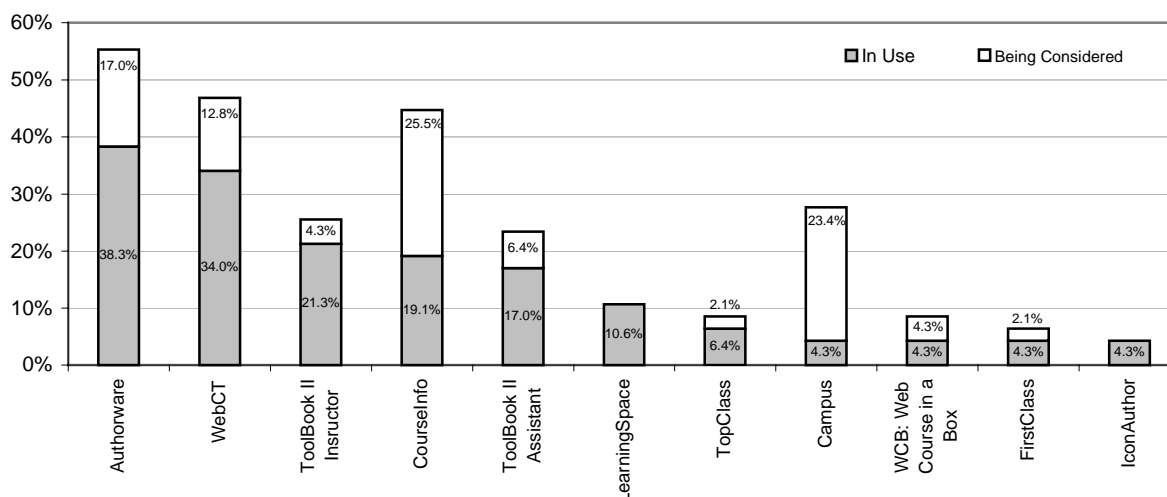
Table 2.1. Outsourcing Services

University/College	Outsourcing Service
Cedarville College	ECollege
Cleveland State University	OARnet
Lakeland Community College	BlackBoard
Muskingum College	OARnet
Ohio Dominican College	Ebitech Inc.
Ohio University	Academic Systems (for Math Dept.)
Tiffin University	ECollege

2.1.2. Online Education Tools

One of the main aims of this survey was to gather information about computer software for distance education, the software currently in use or being considered by university/college campuses in the state of Ohio. Findings indicated that 83.0% of all campuses surveyed had at least one type of online distance education software in use. Findings also revealed that Authorware and WebCT were the two most commonly used software packages for online education. ToolBook II-Instructor, CourseInfo, and ToolBook II-Assistant followed as the next three most used online education tools respectively (Figure 2.1).

Figure 2.1. Most Commonly Used/Considered Online Education Software Packages (n=47)



Another significant finding of the survey was the availability of the most commonly used software. Authorware, the most commonly used online educational software package, was used by 38.3% of the campuses surveyed. The second most used product, WebCT, was used by 34.0%. This points to the findings that the market share is spread quite evenly among competing packages. The relatively low percentage for software in use was an indicator of the fact that many of these software programs are in the process of consideration to be purchased by the different campuses. The findings indicated that the top three software packages (Authorware, WebCT and CourseInfo) were either in use or being considered for purchase in almost half of all campuses surveyed. It is also significant that the total system package of BlackBoard, Campus (formerly called CourseInfo Enterprise Edition) had been considered by 23.4% of the campuses surveyed. CourseInfo, which is also a product of BlackBoard, was being considered by 25.5%.

The campuses were also asked to reveal the online education software they had used and discontinued in the past. ToolBook II Instructor, ToolBook II Assistant and TopClass became the front runners as the most used and discontinued software packages followed closely by CyberProf and WebCT (Table 2.2).

Table 2.2. Most “Used and Dropped” Software (n=47)

Software	Frequency	Percentage
ToolBook II_Instructor	5	10.6%
ToolBook II_Assistant	4	8.5%
TopClass	4	8.5%
CyberProf	2	4.3%
WebCT	2	4.3%

The results of the survey showed that respondents were not actively pursuing the development of their own online education tools. Only 25.5% of the surveyed university/college campuses, or 12 of 47, created their own tools to use as a part of their online education effort (Table 2.3). Yet, it was also discovered that these tools were used quite extensively on some campuses, and only in a developmental phase on others. However, 33.3% these tools developed were available for use to other universities and colleges.

Table 2.3. Online Education Tools Created by Surveyed Campuses

University/College	Own Tool Name/Description	Number of Courses Utilized the Software	Availability to Others
Columbus State Community College	Web-based student e-mail, and foreign language program	NA	no
Franklin University	C2K	50	no
Kent State University	Kent Webtool	20	no
Medical College of Ohio	Segwave Suite	NA	yes
North Central State College	The Audio Lecture System	30	yes
Oberlin College	The Viewpoints Project	3	no
Ohio Northern University	Quizzer	4	no
The Ohio State University	Course Sorcer, TechCheck	NA	yes
University of Cincinnati	Classware	500	no
University of Cincinnati, OMI College of Applied Science	Classware	200	no
University of Dayton	Mentor	37	yes
Wilmington College	Dynamic Web Engine	450	no

2.1.3. HTML Authoring

The World Wide Web (WWW) is one of the most important components of distance education. The survey gathered information on HTML authoring tools used by faculty, support staff and web page designers on campuses around Ohio. The two versions of Microsoft FrontPage - FrontPage 98 and FrontPage 2000- were two of the five most commonly used software packages by faculty, support staff, and web page designers. Composer, DreamWeaver and PageMill were the other software packages used extensively by the respondents (Table 2.4).

Table 2.4. The Most Common HTML Authoring Tools in Use

Software	Faculty (n=46)		Support People and Designers (n=47)	
	Frequency	Percent	Frequency	Percent
FrontPage 98 (Microsoft)	29	63.0%	22	50.0%
Composer (Netscape)	22	47.8%	19	43.2%
FrontPage 2000 (Microsoft)	20	43.5%	19	43.2%
DreamWeaver (Macromedia)	19	41.3%	20	45.5%
PageMill (Adobe)	13	28.3%	15	34.1%

2.1.4. Video and Multimedia Tools

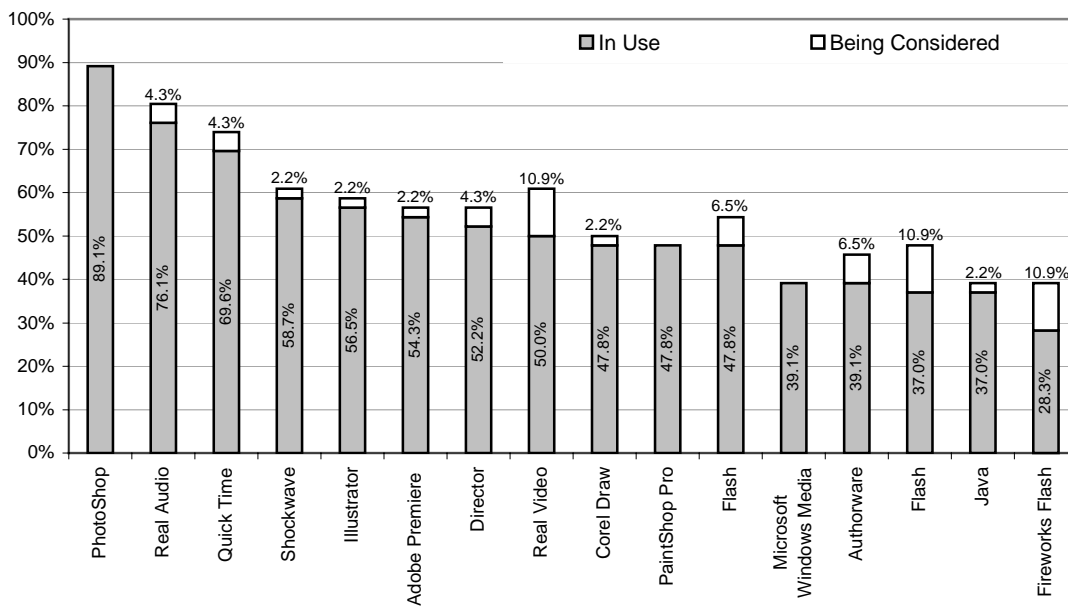
As a part of the survey, respondents were asked about their use of video and multimedia tools. The information gathered indicated that Satellite Downlink, Cable TV, and Two-way Room-to-room Video Systems were available on almost 50% of the campuses surveyed. Closed Circuit Systems and desktop-to-desktop two-way Interactive Systems are the other two common video tools in use on these campuses. Broadcast Video System, Satellite Uplink, Video Asset Web Server, and One-way Room-to-room Video System were among the least available video systems (Table 2.5). Findings also showed that Net Meeting was the most commonly used software in desktop-to-desktop two-way Interactive Systems. It was used by 5 of the 11 campuses where this system was available. Learntime, Learnlink, Meeting Point, Network Assistant, Synchroneyes, Picturatel, CUSeeMe and Zydacron were used less. However, what is interesting is that 81.8% of the campuses indicated that the available desktop-to-desktop two-way Interactive System was not used extensively on their campuses.

Table 2.5. Availability of Video Tools (n=46)

Video Tools	Percentage
Satellite Downlink	63.0%
Cable TV	47.8%
Two-way Room-to-room Video System	47.8%
Closed Circuit System	30.4%
Desktop-to-desktop two-way Interactive System	23.9%
Broadcast Video System	19.6%
Satellite Uplink	17.4%
Video Asset Web Server	13.0%
One-way Room-to-room Video System	10.9%

The survey identified the most commonly used multimedia software by respondents as well. Findings showed that PhotoShop, Real Audio, Quick Time, Shockwave, Illustrator, Adobe Premiere, Director, and Real Video were the most commonly available software, and used by more than 50% of all campuses surveyed. Among all multimedia authoring tools, Adobe Photoshop was actively used by over 89%, followed by Real Audio with 69.7% (Figure 2.2.). Over 10% of the campuses were considering using Real Video, Flash, and Fireworks.

Figure 2.2. Most Commonly Used Multimedia Tools (n=46)



2.1.5. Online Courses

59.6% of the information collected about online courses depended on actual data, and 23.4% depended on estimates made by the respondents. 17.0% of all respondents neglected to mention the source of their data (Appendix 3).

According to the findings of the survey, 65.96% of the respondents provided at least one online course (web-enhanced/web-centric or web-based) in the past three academic years, between Fall, 1996 and Fall, 1999, and 17.02% had no online courses. The remaining 17.02% ignored this question.

However, it is equally significant that among these universities/colleges offering at least one online course in the past 3 academic years, 67.7% offered 10 online courses or fewer in Fall, 1999 semester/quarter, and in each of the previous semesters/quarters. Thus, only 21.28% of all colleges/universities surveyed were able to offer more than 10 online courses in at least one of the quarters/semesters in this academic period, between Fall, 1996 and Fall, 1999 (Table 2.6, Appendix 3).

Table 2.6. Number of Offered Online Courses and Registered Students to Online Courses¹

College/University	1999 Average ²		Fall 1999		1996-1999 Average ³	
	Number of courses	Number of Students	Number of courses	Number of Students	Number of courses	Number of Students
University of Cincinnati ⁴ *	70	n.a.	130	n.a.	41	n.a.
Sinclair Community College	57	387	64	669	34	201
Columbus State Community College	50	1488	60	2500	50	850
David N. Myers College	38	285	38	430	38	175
Baldwin-Wallace College	31	471	100	1500	15	231
Franklin University	21	401	27	641	13	229
Kent State University	14	188	23	248	6	81
Cuyahoga Community College	11	276	14	395	5	121
Edison State Community College	8	130	10	193	4	63
University of Akron*	7	50	8	80	3	21
Ohio Northern University	6	67	7	110	3	31
North Central State College	6	86	10	200	2	34
Belmont Technical College	5	29	8	59	2	12
Lima Technical College	5	17	4	15	3	13

*: estimated values.

The findings showed that 17.02% of the surveyed campuses had never offered an online course by Fall, 1999 quarter/semester (Case Western Reserve University, Oberlin College, Ohio Dominican College, The Union Institute, Stark State College of Technology, Tiffin University, Muskingum College and Medical College of Ohio). It should also be noted that 17.02% of the respondents neglected to answer this question altogether (Cedarville College, Wright State University, Miami University, Ohio University, OhioLink, Capital University, Antioch College,

¹ First 15 campuses in terms of the average number of offered online courses between Fall, 1998 and Fall, 1999. See Appendix 3.a. and Appendix 3.b. for the full list.

² Between the academic quarters/semesters Fall, 1998 and Fall, 1999.

³ Between the academic quarters/semesters Fall, 1996 and Fall, 1999.

⁴ Two responses were received from University of Cincinnati, one for the whole university and one for OMI College of Applied Science. The two responses were combined for this Table 2.6 and Figure 2.3.

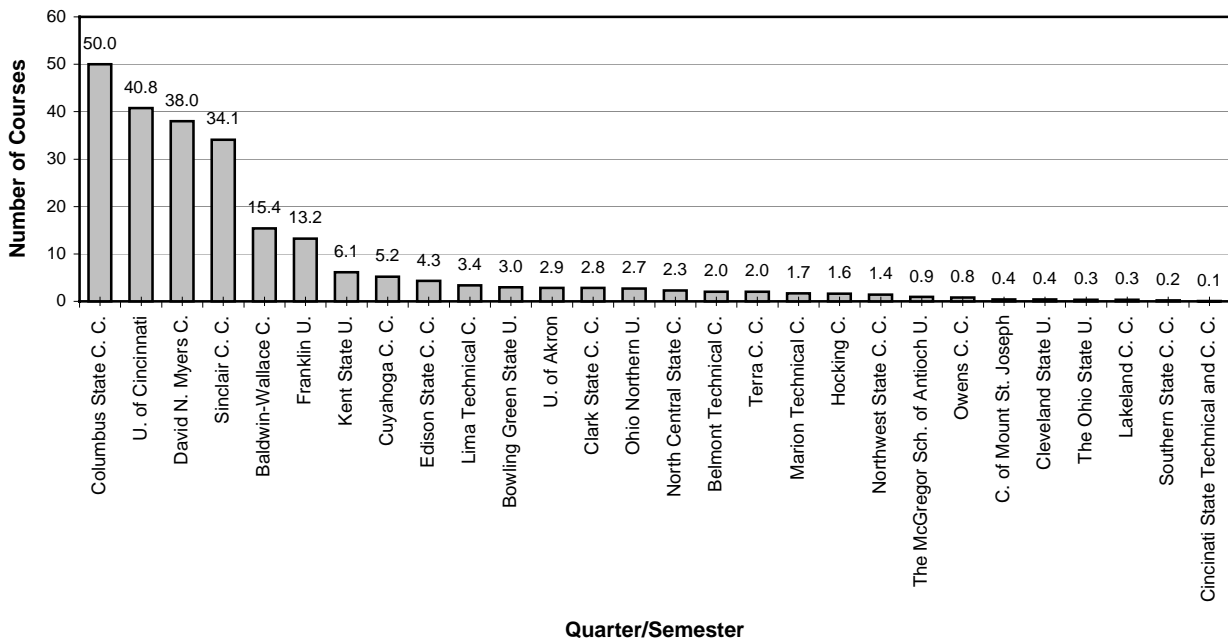
and University of Dayton). This might indicate that these campuses did not have much experience in the area of online courses, or lacked of data.

Among the campuses surveyed (Appendix 1), the University of Cincinnati, Sinclair Community College, Columbus State Community College, Baldwin-Wallace College, David N. Myers College, and Franklin University were able to provide more online courses per quarter/semester than other schools between Fall, 1998 and Fall, 1999 (Table 2.6).

When we examined the number of students registered in online courses in Fall 1999, we encountered quite significant numbers for these campuses. For example during Fall 1999, 2,500 students at Columbus State Community College were estimated to be registered in online classes⁵ - 1500 at Baldwin-Wallace College, 669 at Sinclair Community College, and 641 at Franklin University. At these four campuses, 60, 100, 64 and 27 online courses were offered during the same time period. These four campuses led in the number of registered students for online classes (See Table 2.6.)⁶

However, it would be more informative to examine the average number of online courses (web-enhanced/web-centric or web-based) provided by Ohio campuses for a broader period, between Fall 1996 and Fall 1999, in order to understand the status of online education on these campuses. Figure 2.3 shows the average number of courses for the 28 campuses⁴ that responded to this part of the survey and offered at least one course during these academic periods (Fall 1996 through Fall 1999).

Figure 2.3. Average Number of Courses between Fall, 1996 – Fall, 1999, where available.



⁵ It should be noted that a student may register for more than one online course. The actual number of students registered in online courses will be less than presented in the table. The overlapping amounts are not considered.

⁶ No data was obtained on the number of students registered for online classes at the University of Cincinnati, OMI College of Applied Science, which was the university/college with the highest average number of courses per quarter/semester between Fall, 1998 and Fall, 1999.

It is possible to argue that there are two clusters of campuses (Figure 2.2). The first cluster can be defined as (1) campuses that have provided more than 10 online courses on average per quarter/semester, and (2) campuses that have provided fewer than 10 online courses for the same time period between Fall, 1996 and Fall, 1999. University of Cincinnati, Sinclair Community College, Columbus State Community College, David N. Myers College, Baldwin-Wallace College, and Franklin University can all be included in the first group (called group 1) providing significantly higher numbers of online courses than the others. Thus, the remaining campuses that responded the related question can be included in group 2. The first group includes 5 colleges/universities, and the second one 31 where the total number of universities responded to this question was 37.

Figure 2.4. Average Number of Online Courses between Fall, 1996 – Fall, 1999

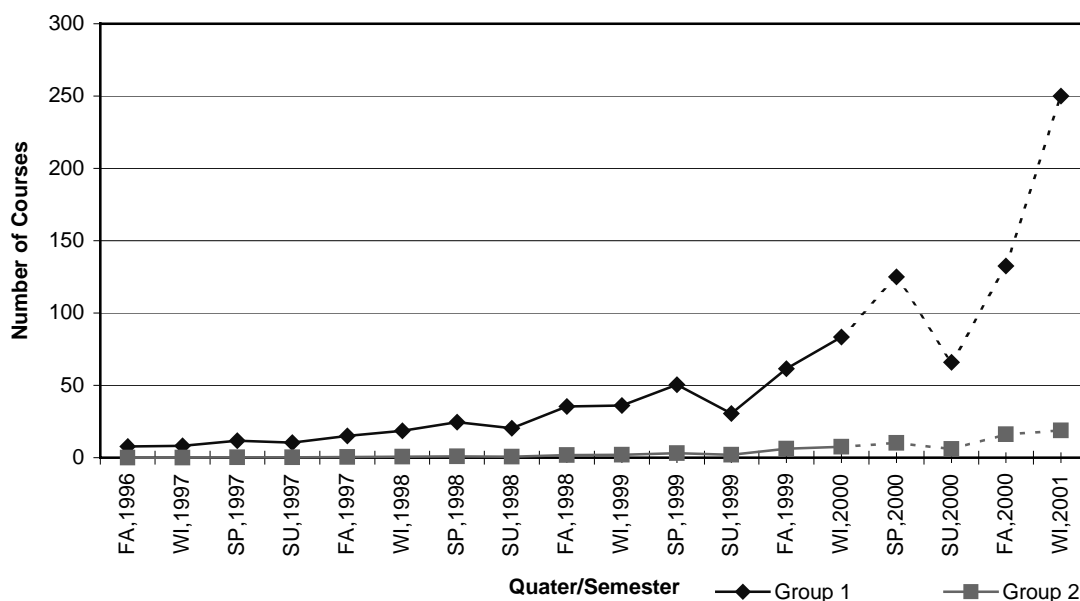


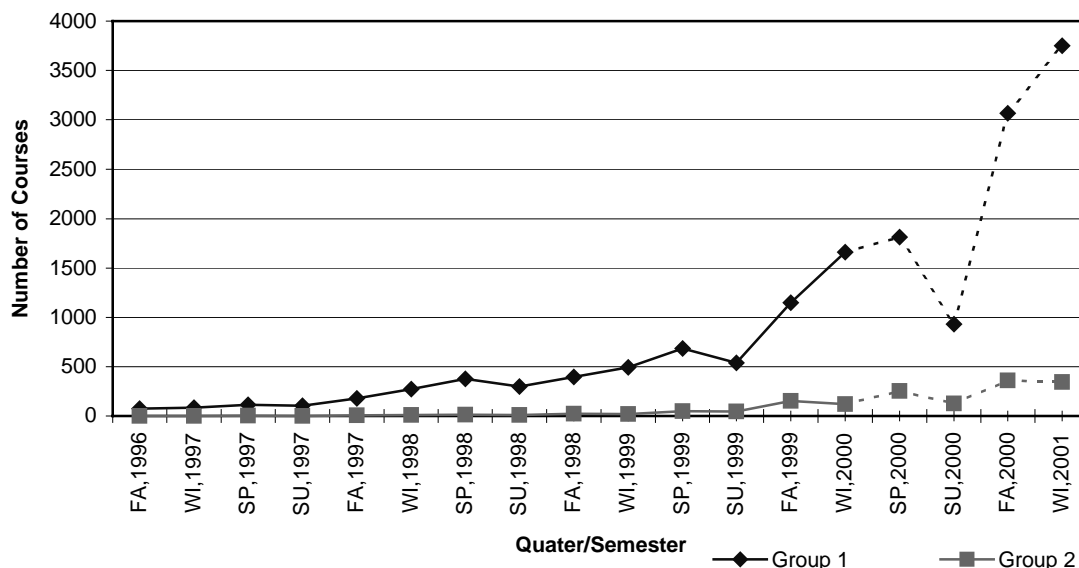
Figure 2.4 illustrates the average number of courses (web-enhanced/web-centric or web-based) offered on campuses surveyed in the last 3 academic years together with their estimates for the following quarters/semesters for group 1 and group 2 separately. It is clear that the number of online courses provided by colleges/universities in Ohio is increasing for both groups. However, there is a significant and growing gap between the number of online courses offered by the two groups.

Figure 2.5. shows the average number of students registered in online courses at Ohio campuses for the two groups between quarters/semesters Fall, 1996 and Fall, 1999. The graph is similar to the one for the average number of courses (Figure 2.4). We observe a similar gap growing in terms of the average number of students as well. This similarity indicates that the class sizes for group 1 and group 2 are similar.

It should also be noted that the peak points are in the Fall quarters/semesters. This might be related to university/college policies and/or to the fact that summer breaks provide instructors/administrators with more time to prepare online courses.

The survey also asked for the number of proposed online courses for the next several quarters/semesters. The findings showed that on average 37.2 online courses will be available on each campus as of semester/quarter Fall, 2000. It should be pointed out that these numbers might be overestimated. A more appropriate approach is to give the average number of courses that will be provided by each group. The findings show that the campuses in group 1 will offer 132.5 online courses on average in Fall, 2000, whereas 11 campuses in group 2 will only offer 16.1. If we use the median value (which is 12 for our sample) to project the number of courses in Fall, 2000, we can estimate that approximately 1020 online courses will be offered throughout Ohio.

Figure 2.5. Average Number of Students Registered for Online Courses between Fall, 1996 – Fall, 1999



2.2. CAMPUS INFRASTRUCTURE

The Distance Learning Technology Project Survey attempted to identify the underlying communication technologies currently in use at Ohio universities/colleges to draw inferences about campus infrastructure readiness. The findings showed that 87.2% of the campuses surveyed had 10 Mb/s switched Ethernet connection support to desktops; whereas, 55.3% of the campuses had 100 Mb/s. It also revealed that on 42.5% of the campuses, more than 75% of desktops had 10Mb/s or better Ethernet connections, and on 20.0% of the campuses surveyed less than 25% of desktops had 10Mb/s or better Ethernet connections. Finally, three of the campuses revealed that they had no desktops with 10Mb/s or better Ethernet connections (Table 2.7). The mean for percentage of desktops with 10Mb/s or better (n=40) for the campuses surveyed was found 59.6%.

Table 2.7. Percentage of Desktops with 10Mb/s or Better Ethernet Connections (n=40)

Percentage of Desktops	Frequency	Percent
0%	3	7.5%
1-24.9%	8	20.0%
25-49.9%	4	10.0%
50-75%	8	20.0%
>75%	17	42.5%
Total	40	100.0%

According to the survey, at least 76.60% of the campuses provided students with remote access. Dialup was the most common method for this. The other methods used by the campuses are presented in Table 2.8.

Table 2.8. Method to Provide Remote Access to Students (n=36)

Method	Frequency	Percent ⁷
Dial up	9	25.0%
Local and private ISP	5	13.9%
Modem bank	2	5.6%
Outsourced	2	5.6%
Other	1	2.8%
None	13	36.1%

The survey findings also pointed out that 68.1% of campuses did not allow unauthenticated access, and the most common way to authenticate access to their network was by using the traditional “login” and “password” method. In other words, more than half of the campuses surveyed revealed that they used basic login and password for authentication (Table 2.9).

Table 2.9. The Method to Authenticate Access to Network (n=32)

Method	Frequency	Percent ⁸
Login and Password	18	56.3%
Kerberos	3	9.4%
Radius Server	2	6.3%
Other	4	12.5%
NA	6	18.8%

The survey also solicited information on the underlying communication technology, namely the available video network types on campuses in Ohio. The most common video network type used was IP (H.323), and 46.7% of the campuses had IP-based networks. In addition, 6.7% of the campuses revealed that they were changing to IP based networks, and 26.7% were considering it. The second most common network type for transmitting video was an ISDN network (H.320). Although this network type was not considered by many campuses, 44.4% of the campuses surveyed had already installed it, and 8.9% were in transition. ATM (MPEG2), ATM, and POTS were found to be less common among campuses; whereas ATM (MPEG2) and ATM seemed to have potential due to their relatively high ‘being considered’ rates. It is worth mentioning that ISDN and ATM were the video network types that had the highest ‘transitioning to’ rate. (Table 2.10).

Table 2.10. Underlying Communication Technologies (n=45)

Standard	Network Type	In Use	Transitioning to	Being Considered
H.310	ATM (MPEG2)	15.6%	4.4%	15.6%
H.320	ISDN	44.4%	8.9%	4.4%
H.321	ATM	22.2%	8.9%	17.8%
H.323	IP	46.7%	6.7%	26.7%
H.324	POTS	22.2%	0.0%	0.0%

⁷ One college uses more than one remote access method, thus the total percentage is over 100%.

⁸ Some colleges use more than one method to authenticate access to network, thus the total percentage is over 100%.

2.3. TRAINING AND WORKSHOPS

2.3.1. Training Opportunities

One of the purposes in developing the Distance Learning Technology Project Survey was to gather data on training opportunities currently offered and workshop preferences for online education at Ohio universities/colleges. Findings showed that training on ‘Putting course materials on the Web’, ‘Multimedia tool usage at introduction level’, and ‘Putting Course Materials Online at introduction level’ had been offered on most campuses. In general, the respondent institutions provided only introductory level courses on online education. A clear lack of advanced and intermediate courses on ‘Teaching courses online’, ‘Video online/on web’, ‘Multimedia tool usage’ and ‘Putting courses online’ is evident (Table 2.11).

Table 2.11. Currently Offered Training Opportunities at Campuses (n=33)

Training Opportunity	Percentage
Putting course materials on the Web.	80.0%
Introduction to multimedia tool usage.	62.2%
Introduction to putting courses online.	60.0%
Fostering threaded discussions, debates online.	37.8%
Intermediate: Putting courses online.	35.6%
Introduction to use of video online/on web.	35.6%
Introduction to teaching courses online.	33.3%
Intermediate: Multimedia tool usage.	26.7%
Supporting group project work online.	24.4%
Advanced: Putting courses online.	20.0%
Advanced: Multimedia tool usage.	13.3%
Intermediate: Video online/on web.	11.1%
Intermediate: Teaching courses online.	6.7%
Advanced: Teaching courses online.	6.7%
Advanced: Video online/on web	6.7%

The campuses were then asked which of the training opportunities they would like to be offered among the ones presented in Table 2.11. They were also asked to put their preferences in order. Their preferences about the subject and level of the training opportunities are summarized in Table 2.12. The ‘Intermediate: Teaching courses online’ option was the most selected choice followed by the ‘Introduction to teaching courses online’ and ‘Advanced: Teaching courses online’. The other most preferred training opportunities were ‘Introduction to putting courses online’, ‘Intermediate: Putting courses online’ and ‘Introduction to use of video online/on web’.

Table 2.12. Most Preferred Training Opportunities (n=27)

Training Opportunity	Total Points ⁹	Activity Rank ¹⁰
Intermediate: Teaching courses online.	64	1
Introduction to teaching courses online.	56	2
Advanced: Teaching courses online.	46	3
Introduction to putting courses online.	39	4
Intermediate: Putting courses online.	25	5

2.3.2. Software Preference

The survey also aimed to identify other aspects related to workshops, software types, duration and preferences. The respondents were asked about the online education software they would like to learn more in depth and which ones they would like to use in a testing environment. Eight of the surveyed campuses chose WebCT, LearningSpace, Oracle Learning Architecture, and WCB: Web Course in a Box, making them the most common ‘want to learn more about it’ software. These were followed by FirstClass, Interactive Learning Network, and TopClass. The campuses selected Authorware, Campus, and WebCT to ‘test drive’ the most, followed by CourseInfo, Voice, and WCB: Web Course in a Box.

Finally, the campuses were asked to indicate which software – online education software and multimedia software – they would like to see covered at workshops. The two most requested software packages were WebCT and Real Video followed by Authorware, CourseInfo, Director and Shockwave (Table 2.13).

Table 2.13. Most Wanted Software to be Covered at a Workshop

Software	Frequency
Webct	10
Real Video	8
Authorware	6
Courseinfo	6
Director	6
Shockwave	5

The respondents also mentioned that they would like to see pedagogical and technological issues covered at workshops: effective communication with students, focus on pedagogy rather than technical aspects, integration of student learning as a support structure for distance education delivery, multimedia tool usage, online testing and assessment, standardization issues regarding distance education learning, ways to package and deliver multimedia, web-based learning administration and human aspects of online education.

⁹ The respondents were asked to indicate five training opportunities that they would like to see covered in workshops most, and they were asked to rank them with respect to their preferences (see Appendix 1). To calculate the total points for each training opportunity, the frequencies for each opportunity for each rank are derived. Each opportunity is given 5 points for each time it is ranked 1, 4 points for being ranked 2, 3 points for being ranked 3, 2 points for being ranked 4, and 1 point for being ranked 5. Then these points are multiplied with the frequencies of matching ranks, and the total points for training opportunities are then found adding by up these points. For example, a training opportunity is ranked 1 by 2 campuses, ranked 3 by 4 campuses, and ranked 4 by 1 campuses. The total points for this opportunity is then: (5 points*2)+(3 points*4)+(2 points*1)=24 points.

¹⁰ The training opportunities are ranked with respect to the total points calculated.

2.3.3. Type/Duration Preferences

The campuses surveyed were also asked to indicate the type/duration of the workshop they thought would be most effective. The most preferred type/duration of workshop was found to be a one-day split between hands-on lab activities and discussions on teaching strategies (Table 2.14).

Table 2.14. Most Preferred Type/Duration for Workshops (n=44)

Type/Duration	Frequency	Percent
One-day split between hands-on lab activities and discussions on teaching strategies	20	45.5%
Two-day split between hands-on lab activities and discussions on teaching strategies	16	36.4%
One-day hands-on workshop focusing on one type of software/course ware	16	36.4%

2.4. INITIATIVE PREFERENCES

Finally, the survey asked respondents for their opinion about the potential statewide initiatives that would assist them in distance learning applications, and then to rank them with respect to their preference. The campuses were also asked to identify the ones that they thought were unnecessary. The top five initiatives are presented in order of preference in Table 2.15. As the table shows, the most preferred initiative was ‘statewide licensing of software’, and a ‘central 24-hours/7-days-a-week support line (800 number) for students and faculty on the use of online course tools’ was ranked next. These were followed by ‘statewide technical support on selected products’ and ‘statewide video network’ (Table 2.15). In contrast, ‘shared caching servers’ and ‘central hosting of online courses’ were selected as the least preferred initiatives (Table 2.16).

Table 2.15. Most Preferred Statewide Initiatives (n=38)

Activity	Total Points ¹¹	Activity Rank ¹²
Statewide licensing of software	305.5	1
Central 24-hours/7-days-a-week support line (#800) for students on the use of online course tools.	262	2
Central 24-hours/7-days-a-week support line (#800) for faculty on the use of online course tools.	224	3
Statewide technical support on selected products	214	4
Statewide video network	181	5

Table 2.16. Least Preferred Statewide Initiatives (n=38)

Activity	Total Points	Activity Rank
Shared caching servers	22.5	13
Central hosting of online courses	49	12
Evaluation of online support tools.	58	11
Evaluation of web-based software tutorials.	77.5	10
Network needs analysis associated with distance learning	98	9

¹¹ The respondents were asked to indicate statewide initiatives that would assist in their application of distance learning, and they were asked to rank them with respect to their preferences. They were also asked to identify the ones that they thought unnecessary (see Appendix 1). To calculate the total points for each activity, the frequencies for each activity for each rank are derived. Each activity is given 13 points for each time it is ranked 1, and 12 points for being ranked 2, 11 points for being ranked 3, ... , 2 points for being ranked 12, and 1 point for being ranked 13. No points are given to an activity if it is not ranked, and –6.5 points are given to each activity for each time it is ranked as unnecessary. Then these points are multiplied with the frequencies of matching ranks, and the total points for each activity are then found adding up these points. For example, an activity is ranked 1 by 5 campuses, ranked 3 by 2 campuses and ranked 4 by 1 campuses, ranked 11 by 2 campuses, and ranked unnecessary by 3 campuses. The total point for this activity is then: (13 points*5)+(11 points*2)+(10 points*4) - (6.5 points*3) = 107.5 points.

¹² The activities are ranked with respect to the total points calculated.

3. CONCLUSION

The Distance Learning Technology Project Survey collected a considerable amount of data and information on the current status of online education on campuses, campus infrastructure and campuses preferences for proposed workshops and initiatives throughout Ohio.

We identified that over 80% of the campuses were using at least one online education software package. Moreover, 61.7% of the campuses revealed that they had only offered a very limited number of online courses (less than or equal to 10 courses per quarter/semester), and 17.0% of the campuses had offered none between Fall, 1996 and Fall, 1999. The survey showed that on average over 37 online courses will be provided per campus per quarter/semester by Fall, 2000. It is clear that sharing expertise and organized efforts will be very effective in increasing the number of courses offered on Ohio campuses. This will also make the use of online education software much more efficient and effective.

Ethernet connection support, remote access availability and video networks are essential elements for the efficient delivery of online courses. Approximately 87.2% of the surveyed campuses had 10 Mb/s switched Ethernet connection support to desktops, and 55.3% had 100 Mb/s connection support. 76.6% of the campuses provided students with remote access.

The survey gave clear guidelines about the expectations for proposed workshops. It was discovered that introductory, intermediate, and advanced levels of teaching online courses would be the most beneficial workshop topics for campuses. One-day workshops split between hands-on lab activities and discussions on teaching strategies would be the most appropriate workshop type. Parallel to the preferences of the surveyed campuses, WebCT and Real Video are the two most requested software packages to be covered at these workshops, followed by Authorware, CourseInfo, Director and Shockwave. We also discovered that campuses wanted to test drive Authorware, Campus and WebCT most.

The survey results indicate that the most concerned initiative on online education is statewide licensing of software. A central 24-hours/7-days-a-week support line (800 number) for faculty and students on the use of online course tools would also be very beneficial. The two other most preferred initiatives are pointed at statewide technical support on selected products and statewide video network.

Further information about the comparison of (1) 4-year public, (2) 4-year private and (3) 2-year universities/colleges in Ohio covering most of the online education topics discussed throughout the report is given in Appendix 3. The cross-tabulation tables compare these three categories of Ohio universities/colleges in terms of findings on online education, campus infrastructure, training and workshop availability and preferences and statewide initiative preferences. The tables cover online courses provided in campuses and number of online students registered, outsourcing, underlying communication technology, available and preferred training opportunities, most used and dropped online education software as well as the most wanted software, and statewide initiative preferences. The tables also provide comparison of each of these three categories to average for all universities/campuses.

OSC/OARnet
Distance Learning Technology Project
Survey

We ask for your cooperation and participation in this statewide survey of campuses as part of a project by the Ohio Supercomputer Center (OSC) and Ohio Academic Resource Network (OARnet) to gather information from campuses statewide and provide shared technical expertise about distance learning technologies to the Ohio Learning Network (OLN) and its member institutions.

CONTACT INFORMATION

Please provide contact information.

Name _____
Title _____
Institution _____
Address _____
Address _____
Phone _____ Fax _____
E-mail _____

Please check the appropriate one.

This survey data represents...

- All Departments/Colleges at our Campus
- Certain Departments/Colleges at our Campus: _____

Once completed, please return this survey to:
WebED Project
OSC
1224 Kinnear Road
Columbus, OH 43212

Or by fax to:
(614) 292-7168

If you have questions, please send an e-mail to Mert Cubukcu at mert@osc.edu.

APPENDIX 1 OSC/OARnet Distance Learning Technology Project Survey Form

We are in the process of selecting software that can be placed on our central servers that will allow your faculty to build courses and offer them to students at no charge during the 1999-2000 year. In return, we are asking only that they and some of their students complete a simple evaluation form about the software. We also are gathering information to help determine the content of workshops that we will offer statewide during the year.

ONLINE LEARNING TOOLS

Below are a list of Web-based education tools. Please indicate your campus' familiarity and use of these tools by placing check marks where appropriate.

SOFTWARE	IN USE	BEING CONSIDERED	WANT TO LEARN MORE ABOUT IT	WOULD LIKE TO "TEST DRIVE"	USED AND DROPPED
Authorware (Macromedia)					
BrightLight (Avalon)					
Campus (Blackboard)					
Centra 99 (Centra)					
ClassNet					
ClassPoint (White Pine)					
ClassWise					
COSE					
CourseInfo (Blackboard)					
Creator					
CyberProf (Univ. of Illinois)					
DataBeam Learning Server					
Distance Learning Environment					
Einstein Network					
Embanet (FirstClass Client)					
FirstClass					
IBT Author					
IconAuthor					
Integrator Pro					
Interactive Learning Network					
IntraLearn					
LearningSpace (Lotus)					
LearnLinc Pro-Net					
Net Synergy					
Oracle Learning Architecture					
Phoenix for Windows					
Quest Writer					
QuestNet+					
Symposium (Centra)					
Socrates					
Team Wave Workplace					
ToolBook II – Assistant (Asymetrix)					
ToolBook II – Instructor (Asymetrix)					
TopClass (WBT)					
Virtual-U					
Voice (Voice Technologies)					
WCB: Web Course in a Box					
Web Worksheet					
WebCT					
WebExpert – Trainer					
WebMentor					
Other _____					
Other _____					
Other _____					

APPENDIX 1 OSC/OARnet Distance Learning Technology Project Survey Form

OUTSOURCING

Have you utilized any outsourcing services to create and/or host your online instruction? (companies such as e-College – formerly RealEducation – Eduprise, and Convene)

- Yes, please indicate _____
- No

HTML AUTHORING

Has your campus encouraged **faculty** to use any certain tool (or tools) for creating web pages?
And, if so which ones:

- Allaire HomeSite
- GoLive (Adobe)
- Composer (Netscape)
- DreamWeaver (Macromedia)
- FrontPage 98 (Microsoft)
- FrontPage 2000 (Microsoft)
- NetObjects Fusion
- PageMill (Adobe)
- Other _____
- Other _____
- Other _____

Do the **designers** and **support people** who help faculty and departments create instructional web pages use certain tools for creating web pages?
And, if so which ones:

- Allaire HomeSite
- GoLive (Adobe)
- Composer (Netscape)
- DreamWeaver (Macromedia)
- FrontPage 98 (Microsoft)
- FrontPage 2000 (Microsoft)
- NetObjects Fusion
- PageMill (Adobe)
- Other _____
- Other _____
- Other _____

ONLINE EDUCATION TOOL CREATION

Has your campus **created any of its own tools** for support of online learning – either web-based courses or tools to enhance a mostly face-to-face course? (an examples would be Course Sorcerer at Ohio State University). If so, what is the name of the product? _____

Are you selling to others or considering making it available to others? _____

How many courses at your campus utilize this? _____

APPENDIX 1 OSC/OARnet Distance Learning Technology Project Survey Form

MULTIMEDIA TOOLS

Below are a list of online learning multimedia software. Please indicate your campus' familiarity and use of these software by placing check marks where appropriate.

category	Software	In Use	Being Considered	Want to Learn more about it	would like to "Test drive"	Used and Dropped
STILL IMAGES	Corel Draw					
	Debabelizer					
	Illustrator					
	LivePro					
	Imageready (Adobe)					
	InDesign (Adobe)					
	PaintShop Pro					
	PhotoShop					
	Other _____					
	Other _____					
AUDIO	Bias Peak					
	Music Match					
	Real Audio					
	Real Audio Jukebox					
	SoundEdit					
	Other _____					
	Other _____					
VIDEO	Adobe After Effects					
	Adobe Premiere					
	Asiarte M.Pack					
	Avid					
	Biris FX					
	Flash					
	Fireworks Flash					
	Heuris Mpeg					
	Livestage					
	Media 100					
	Media Cleaner Pro					
	Microsoft Windows Media					
	Quick Time					
	Real Video					
	Sorenson Video Dev. Edition					
	Targa 2000					
	Other _____					
Other _____						
Other _____						
ANIMATION	Authorware					
	Director					
	Flash					
	Shockwave					
	Electrifier Pro					
	LiveStage					
	Java					
	Other _____					
Other _____						
Other _____						

CAMPUS INFRASTRUCTURE READINESS

Yes No NA

Can the campus backbone support 10 Mb/s switched ethernet connections to most desktops?

Can the campus backbone support 100 Mb/s switched ethernet connections to most desktops?

Is the campus backbone multicast capable?

What % of your desktops have 10 Mb/s switched (or better) ethernet connections?

How does the campus provide students with remote access?

Do you allow unauthenticated access to your network?

If not, how do you authenticate?

Best person to contact for updates of the information on this page:

Name _____ e-mail _____

APPENDIX 1 OSC/OARnet Distance Learning Technology Project Survey Form

VIDEO TOOLS

Please indicate below the types of equipment and facilities your campus has. Please put check marks where appropriate.

- Desktop-to-desktop two-way Interactive System (for example, ClassPoint, LearnLinc, Meeting Point)

Software used _____
 # of ports _____
 Used extensively? Yes No

Software used _____
 # of ports _____
 Used extensively? Yes No

- One-way Room-to-room Video System
- Two-way Room-to-room Video System
 # of rooms _____
 Video technology used _____

- Broadcast Video System
- Closed Circuit System
- Cable TV
- Satellite Uplink
- Satellite Downlink
- Video Asset Web Server

- Other _____
- Other _____

UNDERLYING COMMUNICATION TECHNOLOGY

Please indicate below the underlying communications technologies in use and being considered in your campus. Please put check marks where appropriate.

STANDARD	NETWORK TYPE	IN USE	TRANSITIONING TO	BEING CONSIDERED
H.310	ATM (MPEG2)			
H.320	ISDN			
H.321	ATM			
H.323	IP			
H.324	POTS			

Best person to contact for updates of the information on this page:

Name _____ e-mail _____

APPENDIX 1 OSC/OARnet Distance Learning Technology Project Survey Form

TRAINING

Please indicate the kinds of training opportunities on Web-based education your campus provides to its faculty members.

In the **first** column (“Currently offered”), please indicate which of the training opportunities for faculty and staff are **currently offered** on your campus.

In the **second** column (“Would like to have”), indicate those 5 you would like to see covered in workshops offered by OSC/OARnet (funded by a grant from the Ohio Learning Network) this academic year. Also please **rank importance** with 1 being most important in the blank under “Rank.”

Currently offered	Would like to have	Rank	
<input type="checkbox"/>	<input type="checkbox"/>	___	Putting course materials on the Web.
<input type="checkbox"/>	<input type="checkbox"/>	___	Introduction to putting courses online.
<input type="checkbox"/>	<input type="checkbox"/>	___	Intermediate: Putting courses online.
<input type="checkbox"/>	<input type="checkbox"/>	___	Advanced: Putting courses online.
<input type="checkbox"/>	<input type="checkbox"/>	___	Introduction to teaching courses online.
<input type="checkbox"/>	<input type="checkbox"/>	___	Intermediate: Teaching courses online.
<input type="checkbox"/>	<input type="checkbox"/>	___	Advanced: Teaching courses online.
<input type="checkbox"/>	<input type="checkbox"/>	___	Fostering threaded discussions, debates online.
<input type="checkbox"/>	<input type="checkbox"/>	___	Supporting group project work online.
<input type="checkbox"/>	<input type="checkbox"/>	___	Introduction to multimedia tool usage.
<input type="checkbox"/>	<input type="checkbox"/>	___	Intermediate: Multimedia tool usage.
<input type="checkbox"/>	<input type="checkbox"/>	___	Advanced: Multimedia tool usage.
<input type="checkbox"/>	<input type="checkbox"/>	___	Introduction to use of video online/on web.
<input type="checkbox"/>	<input type="checkbox"/>	___	Intermediate: Video online/on web.
<input type="checkbox"/>	<input type="checkbox"/>	___	Advanced: Video online/on web.

SOFTWARE

Of all the online learning tools and multimedia tools mentioned earlier, what are ones you would most like to see covered at a workshop?

1. _____
2. _____
3. _____
4. _____

Other **Technological** or **Pedagogical** Issues you'd like to see covered at these workshops

WORKSHOPS

Please indicate the type/duration of the workshop that you think would be most effective by placing a check mark where appropriate.

- One-day hands-on workshop focusing on one type of software/courseware
- Two-day hands-on workshop focusing on one type of software/courseware
- One-day introductory workshop followed by distance learning course on the same topic
- One-day introductory workshop followed by self-paced tutorials
- One-day split between hands-on lab activities and discussions on teaching strategies
- Two-day split between hands-on lab activities and discussions on teaching strategies
- Other _____

INITIATIVES

Are there any other potential statewide initiatives that would assist in your application of distance learning? Please rank the following activities with respect to your preferences being '1' highest. Put an "X" next to those you don't think are necessary.

Rank Activity

- ___ Statewide licensing of software
- ___ Shared caching servers
- ___ Statewide technical support on selected products
- ___ Network needs analysis associated with distance learning
- ___ Statewide video network
- ___ Central video storage (for search and on-demand use)
- ___ Central hosting of online courses
- ___ Central 24-hours/7-days-a-week support line (#800) for faculty on the use of online course tools.
- ___ Central 24-hours/7-days-a-week support line (#800) for students on the use of online course tools.
- ___ Evaluation of online support tools.
- ___ Evaluation of web-based software tutorials.
- ___ Statewide licensing of web-based software tutorials.
- ___ Central hosting of web-based software tutorials.
- ___ Other _____

ONLINE COURSES

Please complete this information on online courses offered in your campus to the best of your ability.

The figures below are based upon...

- Actual Data
- Guesstimates

QUARTER/SEMESTER	# OF COURSES OFFERED	# OF TOTAL SECTIONS	TOTAL STUDENTS ENROLLED ONLINE
Fall 1996			
Winter 1997			
Spring 1997			
Summer 1997			
Fall 1997			
Winter 1998			
Spring 1998			
Summer 1998			
Fall 1998			
Winter 1999			
Spring 1999			
Summer 1999			
Fall 1999			
ANTICIPATED			
Winter 2000			
Spring 2000			
Summer 2000			
Fall 2000			
Winter 2001			

Best person to contact for updates of the information on this page:

Name _____ e-mail _____

APPENDIX 2 The List of Survey Recipients

University/College	Location	Type	Send	Response
Antioch College	Yellow Springs	4-year private	yes	yes
Ashland University	Ashland	4-year private	no	yes
Baldwin-Wallace College	Berea	4-year private	yes	yes
Belmont Technical College	St. Clairsville	2-year public/private	yes	yes
Bluffton College	Bluffton	4-year private	no	yes
Bowling Green State University	Bowling Green	4-year public	yes	yes
Capital University	Columbus	4-year private	yes	yes
Case Western Reserve University	Cleveland	4-year public	yes	yes
Cedarville College	Cedarville	4-year public	yes	yes
Central Ohio Technical College	Newark	2-year public/private	no	yes
Cincinnati State Technical and Community College	Cincinnati	2-year public/private	yes	yes
Clark State Community College	Springfield	2-year public/private	yes	yes
Cleveland State University	Cleveland	4-year public	yes	yes
College of Mount Saint Joseph	Cincinnati	4-year private	yes	yes
Columbus State Community College	Columbus	2-year public/private	yes	yes
Cuyahoga Community College (CCC)	Cleveland	2-year public/private	yes	yes
David N. Myers College	Cleveland	4-year public	yes	yes
Denison University	Granville	4-year private	no	yes
Edison State Community College	Piqua	2-year public/private	yes	yes
Franklin University	Columbus	4-year private	yes	yes
Hocking Technical College	Nelsonville	2-year public/private	yes	yes
Jefferson Technical College	Steubenville	2-year public/private	no	yes
Kent State University	Kent	4-year public	yes	yes
Lakeland Community College	Mentor	2-year public/private	yes	yes
Lima Technical College	Lima	2-year public/private	yes	yes
Marietta College	Marietta	4-year private	no	yes
Marion Technical College	Marion	2-year public/private	yes	yes
Medical College of Ohio	Toledo	4-year public	yes	yes
Miami University	Oxford	4-year public	yes	yes
Muskingum Area Technical College	Zanesville	2-year public/private	no	yes
Muskingum College	New Concord	4-year private	yes	yes
North Central State College	Mansfield	2-year public/private	yes	yes
Northeastern Ohio Universities College of Medicine	Rootstown	4-year public	no	yes
Northwest State Community College	Archbold	2-year public/private	yes	yes
Oberlin College	Oberlin	4-year private	yes	yes
Ohio Dominican College	Columbus	4-year private	yes	yes
Ohio Northern University	Ada	4-year private	yes	yes
Ohio University	Athens	4-year public	yes	yes
OhioLink		other	yes	yes
Otterbein College	Westerville	4-year private	no	yes
Owens State Community College	Oregon	2-year public/private	yes	yes
Shawnee State University	Portsmouth	4-year public	no	yes
Sinclair Community College	Dayton	2-year public/private	yes	yes
Southern State Community College	Hillsboro	2-year public/private	yes	yes
Stark State College of Technology	Canton	2-year public/private	yes	yes
Terra State Community College	Fremont	2-year public/private	yes	yes
The Jersuit University	Cleveland	other	no	yes
The McGregor School of Antioch University	Yellow Springs	4-year private	yes	yes
The Ohio State University	Columbus	4-year public	yes	yes
The Union Institute	Cincinnati	4-year private	yes	yes
The University of Toledo	Toledo	4-year public	no	yes
Tiffin University	Tiffin	4-year private	yes	yes
University of Akron	Akron	4-year public	yes	yes
University of Cincinnati	Cincinnati	4-year public	yes	yes
University of Cincinnati, OMI College of Applied Science	Cincinnati	4-year public	yes	yes
University of Dayton	Dayton	4-year private	yes	yes

APPENDIX 2 The List of Survey Recipients

University/College	Location	Type	Send	Response
University of Findlay	Findlay	4-year private	no	yes
University of Rio Grande	Rio Grande	4-year private	no	yes
Ursuline College	Pepper Pike	4-year private	yes	yes
Walsh University	Canton	4-year private	no	yes
Washington State Community College	Marietta	2-year public/private	no	yes
Wilmington College	Wilmington	4-year private	yes	yes
Wittenberg University	Springfield	4-year private	no	yes
Wright State University	Dayton	4-year public	yes	yes
Xavier University	Cincinnati	4-year private	no	yes
Youngstown State University	Youngstown	4-year public	no	yes

APPENDIX 3.a. The Number of Online Courses Offered by the Surveyed Campuses

COURSES	Data	Data										Projection							
		FA,1996	WI,1997	SP,1997	SU,1997	FA,1997	WI,1998	SP,1998	SU,1998	FA,1998	WI,1999	SP,1999	SU,1999	FA,1999	WI,2000	SP,2000	SU,2000	FA,2000	WI,2001
Antioch College	NA	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Baldwin-Wallace College	NA	0	0	0	0	0	12	14	17	17	23	0	100	150	175	100	200	250	
Belmont Technical College	actual	0	0	0	0	0	0	0	1	4	6	4	3	8	5	4	4	10	7
Bowling Green State University	actual	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	3	5	n.a.	n.a.	n.a.	n.a.	n.a.
Capital University	estimate	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Case Western Reserve University	estimate	0	0	0	0	0	0	0	0	0	0	0	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cedarville College	estimate	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cincinnati State Technical and Community College	actual	0	0	0	0	0	0	0	0	0	0	0	1	10	10	12	12	15	
Clark State Community College	actual	0	1	2	n.a.	3	3	3	2	4	3	4	3	6	6	8	6	12	15
Cleveland State University	actual	0	n.a.	0	0	0	n.a.	0	0	0	n.a.	1	0	3	n.a.	6	7	12	n.a.
College of Mount St. Joseph	actual	0	0	0	0	1	n.a.	n.a.	n.a.	1	n.a.	n.a.	1	n.a.	3	5	3	n.a.	n.a.
Columbus State Community College	actual	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	40	n.a.	n.a.	n.a.	60	70	n.a.	n.a.	100	n.a.
Cuyahoga Community College	actual	0	0	0	0	4	4	6	3	9	n.a.	13	9	14	n.a.	25	22	28	n.a.
David N. Myers College	actual	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	38	n.a.	n.a.	n.a.	n.a.	n.a.
Edison State Community College	actual	0	n.a.	0	0	0	n.a.	6	4	6	n.a.	9	8	10	n.a.	13	9	15	n.a.
Franklin University	NA	0	4	n.a.	9	12	12	n.a.	12	17	17	n.a.	22	27	31	n.a.	28	n.a.	n.a.
Hocking College	actual	0	0	0	0	0	0	0	0	2	4	3	5	7	7	12	13	13	13
Kent State University	actual	0	n.a.	0	n.a.	0	n.a.	0	n.a.	5	n.a.	15	n.a.	23	n.a.	17	n.a.	n.a.	n.a.
Lakeland Community College	estimate	0	0	0	0	0	0	0	0	0	1	1	2	3	3	3	12	n.a.	
Lima Technical College	actual	1	1	4	2	2	4	4	2	7	6	6	1	4	6	6	2	7	8
Marion Technical College	estimate	0	0	0	1	1	2	2	2	3	3	3	2	3	5	7	7	7	7
Medical College of Ohio	estimate	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3	n.a.	
Miami University	NA	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Muskingum College	actual	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	n.a.	2	5
North Central State College	actual	0	0	0	0	0	1	1	0	1	8	8	1	10	12	15	1	15	n.a.
Northwest State Community College	actual	1	n.a.	1	1	1	n.a.	1	1	2	n.a.	2	2	2	n.a.	6	7	n.a.	n.a.
Oberlin College	actual	0	0	0	0	0	0	0	0	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ohio Dominican College	estimate	0	0	0	0	0	0	0	0	0	0	0	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ohio Northern University	NA	0	0	0	0	0	1	1	3	4	4	6	9	7	10	10	n.a.	n.a.	n.a.
Ohio University	actual	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
OhioLINK	actual	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Owens Community College	actual	0	n.a.	0	0	0	n.a.	0	0	0	n.a.	0	4	4	n.a.	5	5	22	n.a.
Sinclair Community College	NA	16	14	15	13	23	25	30	22	53	60	68	40	64	66	75	70	80	n.a.
Southern State Community College	actual	0	0	0	0	0	0	0	n.a.	0	0	1	n.a.	1	1	2	n.a.	4	4
Stark State College of Technology	actual	0	0	0	0	0	0	0	0	0	0	0	0	0	0	n.a.	n.a.	n.a.	n.a.
Terra Community College	actual	0	0	0	0	0	2	2	1	3	4	4	4	6	6	6	6	n.a.	n.a.
The McGregor School of Antioch University	actual	0	0	0	0	0	0	1	1	1	2	2	0	5	5	7	0	n.a.	n.a.
The Ohio State University	actual	0	0	0	0	0	0	0	0	0	0	0	1	3	13	4	n.a.	n.a.	n.a.
The Union Institute	actual	0	0	0	0	0	0	0	0	0	0	0	0	0	0	n.a.	n.a.	n.a.	n.a.
Tiffin University	estimate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	
University of Akron	estimate	0	n.a.	0	n.a.	0	n.a.	0	n.a.	5	n.a.	7	n.a.	8	n.a.	8	n.a.	11	n.a.
University of Cincinnati	estimate	0	0	0	0	0	0	0	0	0	0	0	50	60	70	n.a.	100	110	
University of Cincinnati, OMI College of Applied Science	estimate	15	15	20	20	25	25	30	30	50	50	60	60	80	100	n.a.	n.a.	150	n.a.
University of Dayton	NA	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ursuline College	actual	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Wilmington College	actual	0	n.a.	0	0	0	n.a.	0	0	0	n.a.	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Wright State University	NA	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Mean		0.9	1.3	1.2	1.4	2.1	3.4	3.1	3.3	6.5	7.4	7.5	5.9	15.7	22.1	18.6	14.6	37.2	39.8
Median		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.0	2.0	1.0	5.0	6.0	7.0	6.0	12.0	8.0

APPENDIX 3.b. The Number of Students Registered Online Courses Offered by the Surveyed Campuses

STUDENTS	University/College	Data	Data								Projection								
			FA,1996	WI,1997	SP,1997	SU,1997	FA,1997	WI,1998	SP,1998	SU,1998	FA,1998	WI,1999	SP,1999	SU,1999	FA,1999	WI,2000	SP,2000	SU,2000	FA,2000
Antioch College	NA	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Baldwin-Wallace College	actual	0	0	0	0	0	180	210	255	255	255	345	0	1500	2250	2625	1500	3000	3750
Belmont Technical College	actual	0	0	0	0	0	0	0	5	18	37	21	11	59	40	30	30	70	50
Bowling Green State University	NA	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Capital University	NA	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Case Western Reserve University	estimate	0	0	0	0	0	0	0	0	0	0	0	0	0	n.a.	n.a.	n.a.	n.a.	n.a.
Cedarville College	NA	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cincinnati State Technical and Community College	actual	0	0	0	0	0	0	0	0	0	0	0	0	4	60	75	110	130	180
Clark State Community College	actual	0	9	36	n.a.	40	48	65	15	84	63	90	52	100	140	180	100	230	300
Cleveland State University	estimate	0	n.a.	0	0	0	n.a.	0	0	0	n.a.	17	0	19	n.a.	50	70	120	n.a.
College of Mount St. Joseph	estimate	0	0	0	0	15	n.a.	n.a.	n.a.	15	n.a.	n.a.	15	n.a.	15	45	15	n.a.	n.a.
Columbus State Community College	estimate	284	241	283	271	546	615	759	617	1028	1160	1250	1500	2500	3000	n.a.	n.a.	5000	n.a.
Cuyahoga Community College	actual	0	0	0	0	62	83	119	78	169	n.a.	300	241	395	n.a.	600	550	700	n.a.
David N. Myers College	actual	40	n.a.	n.a.	n.a.	90	n.a.	n.a.	n.a.	140	n.a.	n.a.	n.a.	430	n.a.	n.a.	n.a.	n.a.	n.a.
Edison State Community College	actual	0	n.a.	0	0	0	n.a.	62	51	98	n.a.	142	85	193	n.a.	204	120	240	n.a.
Franklin University	actual	0	43	n.a.	109	171	181	n.a.	181	305	275	n.a.	384	641	641	n.a.	516	n.a.	n.a.
Hocking College	actual	0	0	0	0	0	0	0	0	12	26	26	24	81	81	109	88	95	95
Kent State University	actual	0	n.a.	0	n.a.	0	n.a.	0	n.a.	99	n.a.	217	n.a.	248	n.a.	n.a.	n.a.	n.a.	n.a.
Lakeland Community College	actual	0	0	0	0	0	0	0	0	0	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Lima Technical College	actual	4	4	19	5	1	13	14	20	14	33	20	1	15	18	20	10	25	30
Marion Technical College	estimate	0	0	0	5	5	15	15	30	30	50	100	30	100	150	200	220	250	280
Medical College of Ohio	actual	0	0	0	0	0	0	0	0	0	0	0	0	0	0	n.a.	n.a.	n.a.	n.a.
Miami University	estimate	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Muskingum College	estimate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	n.a.	n.a.	n.a.	n.a.
North Central State College	NA	0	0	0	0	0	5	5	0	10	100	100	20	200	250	300	20	300	n.a.
Northwest State Community College	actual	4	n.a.	19	13	35	n.a.	33	20	64	n.a.	77	42	100	n.a.	n.a.	n.a.	n.a.	n.a.
Oberlin College	actual	0	0	0	0	0	0	0	0	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ohio Dominican College	actual	0	0	0	0	0	0	0	0	0	0	0	0	0	n.a.	n.a.	n.a.	n.a.	n.a.
Ohio Northern University	actual	0	0	0	0	0	17	13	34	58	51	57	61	110	50	50	n.a.	n.a.	n.a.
Ohio University	estimate	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
OhioLINK	NA	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Owens Community College	actual	0	n.a.	0	0	0	n.a.	0	0	0	n.a.	0	46	82	n.a.	106	n.a.	n.a.	n.a.
Sinclair Community College	actual	45	49	53	34	81	117	163	136	245	288	457	275	669	750	1000	775	1200	n.a.
Southern State Community College	actual	0	0	0	0	0	0	0	0	n.a.	0	16	n.a.	6	6	15	n.a.	30	30
Stark State College of Technology	actual	0	0	0	0	0	0	0	0	0	0	0	0	0	0	n.a.	n.a.	n.a.	n.a.
Terra Community College	actual	0	0	0	0	0	20	28	19	27	27	23	49	69	45	45	45	n.a.	n.a.
The McGregor School of Antioch University	actual	0	0	0	0	0	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
The Ohio State University	actual	0	0	0	0	0	0	0	0	0	0	0	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
The Union Institute	actual	0	0	0	0	0	0	0	0	0	0	0	0	0	0	n.a.	n.a.	n.a.	n.a.
Tiffin University	actual	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	25
University of Akron	estimate	0	n.a.	0	n.a.	0	n.a.	0	n.a.	20	n.a.	50	n.a.	80	n.a.	80	n.a.	100	n.a.
University of Cincinnati	estimate	0	0	0	0	0	0	0	0	0	0	0	0	1000	1200	1500	n.a.	1800	2100
University of Cincinnati, OMI College of Applied Science	estimate	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
University of Dayton	NA	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ursuline College	actual	0	n.a.	0	n.a.	13	n.a.	11	n.a.	21	n.a.	63	n.a.	87	n.a.	n.a.	n.a.	n.a.	n.a.
Wilmington College	actual	0	n.a.	0	0	0	n.a.	0	0	0	n.a.	0	400	1200	n.a.	1200	400	1300	n.a.
Wright State University	NA	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Mean		10.2	12.4	11.7	13.7	28.6	47.9	45.4	48.7	75.3	98.5	108.7	115.6	309.0	414.1	401.6	268.8	811.9	684.0
Median		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0	13.0	21.0	17.5	84.5	50.0	106.0	100.0	235.0	137.5

COMPARISON TABLES

Response Rate

College Type	Number of Surveys Sent	Number of Surveys Received	Response Rate
Four-Year Public Colleges and Universities	18	14	77.8%
Four-Year Private Colleges and Universities	25	15	60.0%
All Two-Year Colleges and Universities	21	17	81.0%
Other	2	1	50.0%
Total	66	47	71.2%

Title of the Respondent

Title Class	Frequency	Percentage
Director/Administrator/Manager/Coordinator of Distance Learning Facility	11	23.4%
Director/Administrator/Manager/Coordinator of other Computer or Learning Facility	31	66.0%
Technician	3	6.4%
Faculty Member	2	4.3%
Total	47	100.0%

Percentage of desktops with 10Mb/s or better Ethernet connections

Percentage of Desktops	All Colleges/Universities (n=39)		4-Year Public Colleges/Universities (n=10)		4-Year Private Colleges/Universities (n=14)		All 2-Year Colleges/Universities (n=15)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
0%	3	7.7%	2	20.0%	1	7.1%	0	0.0%
1-24.9%	8	20.5%	2	20.0%	3	21.4%	3	20.0%
25-49.9%	4	10.3%	1	10.0%	3	21.4%	0	0.0%
50-75%	8	20.5%	2	20.0%	2	14.3%	4	26.7%
>75%	16	41.0%	3	30.0%	5	35.7%	8	53.3%
Total	39	100.0%	10	100.0%	14	100.0%	15	100.0%

Outsourcing

College Type	Yes	No	Percentage for Yes
Four-Year Public Colleges and Universities (n=14)	3	11	21.4%
Four-Year Private Colleges and Universities (n=15)	3	11	20.0%
All Two-Year Colleges and Universities (n=17)	1	16	5.9%
All Colleges and Universities (n=46)	7	38	15.2%

COMPARISON TABLES

Underlying Communication Technology

H.310 ATM (MPEG2)				
College/University	In Use	Transitioning to	Being Considered	None
Four-Year Public Colleges and Universities (n=14)	21.4%	7.1%	7.1%	64.3%
Four-Year Private Colleges and Universities (n=15)	20.0%	0.0%	13.3%	66.7%
All Two-Year Colleges and Universities (n=15)	6.7%	6.7%	26.7%	60.0%
All Colleges and Universities (n=44)	15.9%	4.5%	15.9%	63.6%

H.320 ISDN				
College/University	In Use	Transitioning to	Being Considered	None
Four-Year Public Colleges and Universities (n=14)	57.1%	7.1%	0.0%	35.7%
Four-Year Private Colleges and Universities (n=15)	33.3%	6.7%	0.0%	60.0%
All Two-Year Colleges and Universities (n=15)	40.0%	13.3%	13.3%	33.3%
All Colleges and Universities (n=44)	43.2%	9.1%	4.5%	43.2%

H.321 ATM				
College/University	In Use	Transitioning to	Being Considered	None
Four-Year Public Colleges and Universities (n=14)	28.6%	7.1%	0.0%	64.3%
Four-Year Private Colleges and Universities (n=15)	20.0%	13.3%	13.3%	53.3%
All Two-Year Colleges and Universities (n=15)	13.3%	6.7%	40.0%	40.0%
All Colleges and Universities (n=44)	20.5%	9.1%	18.2%	52.3%

H.323 IP				
College/University	In Use	Transitioning to	Being Considered	None
Four-Year Public Colleges and Universities (n=14)	28.6%	0.0%	50.0%	21.4%
Four-Year Private Colleges and Universities (n=15)	73.3%	6.7%	0.0%	20.0%
All Two-Year Colleges and Universities (n=15)	40.0%	6.7%	33.3%	20.0%
All Colleges and Universities (n=44)	47.7%	4.5%	27.3%	20.5%

H.324 POTS				
College/University	In Use	Transitioning to	Being Considered	None
Four-Year Public Colleges and Universities (n=14)	0.0%	0.0%	0.0%	100.0%
Four-Year Private Colleges and Universities (n=15)	40.0%	0.0%	0.0%	60.0%
All Two-Year Colleges and Universities (n=15)	26.7%	0.0%	0.0%	73.3%
All Colleges and Universities (n=44)	22.7%	0.0%	0.0%	77.3%

Training Preferences (n=27)

Option	All Colleges/Universities		4-Year Public Colleges/Universities		4-Year Private Colleges/Universities		All 2-Year Colleges/Universities	
	Points	Rank	Points	Rank	Points	Rank	Points	Rank
Intermediate: Teaching courses online.	64	1	24	1	9	6	31	1
Introduction to teaching courses online.	56	2	15	2	12	4	29	2
Advanced: Teaching courses online.	46	3	14	3	14	1	18	4
Introduction to putting courses online.	39	4	2	9	14	1	23	3
Intermediate: Putting courses online.	25	5	4	7	3	12	18	4
Advanced: Putting courses online.	23	6	0	11	9	6	14	7
Putting course materials on the Web.	22	7	0	11	5	9	17	6
Intermediate: Video online/on web.	21	8	5	6	7	8	9	9
Supporting group project work online.	18	9	10	4	5	9	3	13
Introduction to use of video online/on web.	18	9	3	8	3	12	12	8
Fostering threaded discussions, debates online.	17	11	8	5	2	14	7	10
Introduction to multimedia tool usage.	13	12	2	9	5	9	6	11
Advanced: Multimedia tool usage.	13	12	0	11	13	3	0	14
Advanced: Video online/on web	12	14	0	11	12	4	0	14
Intermediate: Multimedia tool usage.	6	15	0	11	1	15	5	12

Training Opportunities - Current Situation at Ohio Campuses (n=46)

Activity	All Colleges/Universities				4-Year Public Colleges/Universities				4-Year Private Colleges/Universities				All 2-Year Colleges/Universities			
	Currently Offered		Would Like to Have		Currently Offered		Would Like to Have		Currently Offered		Would Like to Have		Currently Offered		Would Like to Have	
	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank
Putting course materials on the Web.	78.3%	1	21.7%	15	92.9%	1	7.1%	15	80.0%	1	20.0%	15	64.7%	1	35.3%	14
Introduction to multimedia tool usage.	60.9%	2	28.3%	14	78.6%	2	14.3%	14	60.0%	3	33.3%	8	47.1%	2	35.3%	14
Introduction to putting courses online.	58.7%	3	39.1%	10	57.1%	3	28.6%	11	73.3%	2	33.3%	8	47.1%	2	52.9%	4
Introduction to teaching courses online.	32.6%	6	50.0%	3	28.6%	7	50.0%	3	40.0%	6	46.7%	2	29.4%	5	52.9%	4
Fostering threaded discussions, debates online.	37.0%	4	43.5%	5	50.0%	4	35.7%	6	46.7%	4	40.0%	5	17.6%	7	52.9%	4
Introduction to use of video online/on web.	34.8%	5	41.3%	8	42.9%	5	28.6%	11	26.7%	8	40.0%	5	35.3%	4	52.9%	4
Intermediate: Putting courses online.	32.6%	6	39.1%	10	35.7%	6	35.7%	6	46.7%	4	26.7%	13	17.6%	7	52.9%	4
Intermediate: Multimedia tool usage.	26.1%	8	34.8%	13	28.6%	7	21.4%	13	26.7%	8	33.3%	8	23.5%	6	47.1%	10
Supporting group project work online.	23.9%	9	43.5%	5	28.6%	7	42.9%	4	40.0%	6	33.3%	8	5.9%	12	52.9%	4
Advanced: Putting courses online.	19.6%	10	50.0%	3	28.6%	7	42.9%	4	26.7%	8	33.3%	8	5.9%	12	70.6%	3
Advanced: Multimedia tool usage.	13.0%	11	37.0%	12	14.3%	11	35.7%	6	13.3%	11	26.7%	13	11.8%	9	47.1%	10
Intermediate: Video online/on web.	10.9%	12	43.5%	5	14.3%	11	35.7%	6	6.7%	14	46.7%	2	11.8%	9	47.1%	10
Intermediate: Teaching courses online.	6.5%	13	63.0%	1	7.1%	13	57.1%	2	13.3%	11	53.3%	1	0.0%	14	76.5%	1
Advanced: Teaching courses online.	6.5%	13	60.9%	2	7.1%	13	64.3%	1	13.3%	11	40.0%	5	0.0%	14	76.5%	1
Advanced: Video online/on web	6.5%	13	41.3%	8	7.1%	13	35.7%	6	0.0%	15	46.7%	2	11.8%	9	41.2%	13

"Most wanted Software" to be covered in a Workshop

College/University	Most Wanted Software			Second Most Wanted Software		
	Software	Frequency	Percent	Software	Frequency	Percent
Four-Year Public Colleges and Universities (n=14)	WebCT	4	28.6%	Authorware, Flash, Real Video	2	14.3%
Four-Year Private Colleges and Universities (n=15)	Real Video	3	20.0%	Director	2	13.3%
All Two-Year Colleges and Universities (n=17)	CourseInfo, Shockwave, WebCT	5	29.4%	-	-	-
All Colleges and Universities (n=46)	WebCT	10	21.7%	Real Video	8	13.0%

Statewide Initiative Preferences

n=38

Activity	All Colleges/Universities		4-Year Public Colleges/Universities		4-Year Private Colleges/Universities		All 2-Year Colleges/Universities	
	Points	Rank	Points	Rank	Points	Rank	Points	Rank
Statewide licensing of software	305.5	1	64	3	84	1	157.5	1
Central 24-hours/7-days-a-week support line (#800) for students on the use of online course tools.	262	2	67.5	2	77.5	2	117	4
Central 24-hours/7-days-a-week support line (#800) for faculty on the use of online course tools.	224	3	84	1	61	4	79	8
Statewide technical support on selected products	214	4	52.5	4	52.5	5	109	5
Statewide video network	181	5	28.5	6	32.5	7	120	3
Central video storage (for search and on-demand use)	163.5	6	20.5	8	62.5	3	80.5	7
Statewide licensing of web-based software tutorials.	152.5	7	-3	11	31.5	8	124	2
Central hosting of web-based software tutorials.	103.5	8	-14	13	27	9	90.5	6
Network needs analysis associated with distance learning	98	9	25	7	35	6	38	10
Evaluation of web-based software tutorials.	77.5	10	14.5	10	0.5	11	62.5	9
Evaluation of online support tools.	58	11	37	5	-5	12	26	13
Central hosting of online courses	49	12	17.5	9	4.5	10	27	12
Shared caching servers	22.5	13	-9	12	-5.5	13	37	11

Number of Online Courses Offered and Number of Students Registered

College/University	1999 Average[1]		Fall 1999		1996-1999 Average[2]	
	Number of courses	Number of Students	Number of courses	Number of Students	Number of courses	Number of Students
Four-Year Public Colleges and Universities (n=14)	13.4	147.4	20.8	253.9	9.1	44.7
Four-Year Private Colleges and Universities (n=15)	5.6	204.4	17.4	393.1	3.0	57.1
All Two-Year Colleges and Universities (n=17)	9.6	200.4	11.9	285.8	6.6	86.0
All Colleges and Universities (n=46)	9.4	189.5	15.7	309.0	6.2	67.7

[1] Between the academic quarters/semesters Fall, 1998 and Fall, 1999.

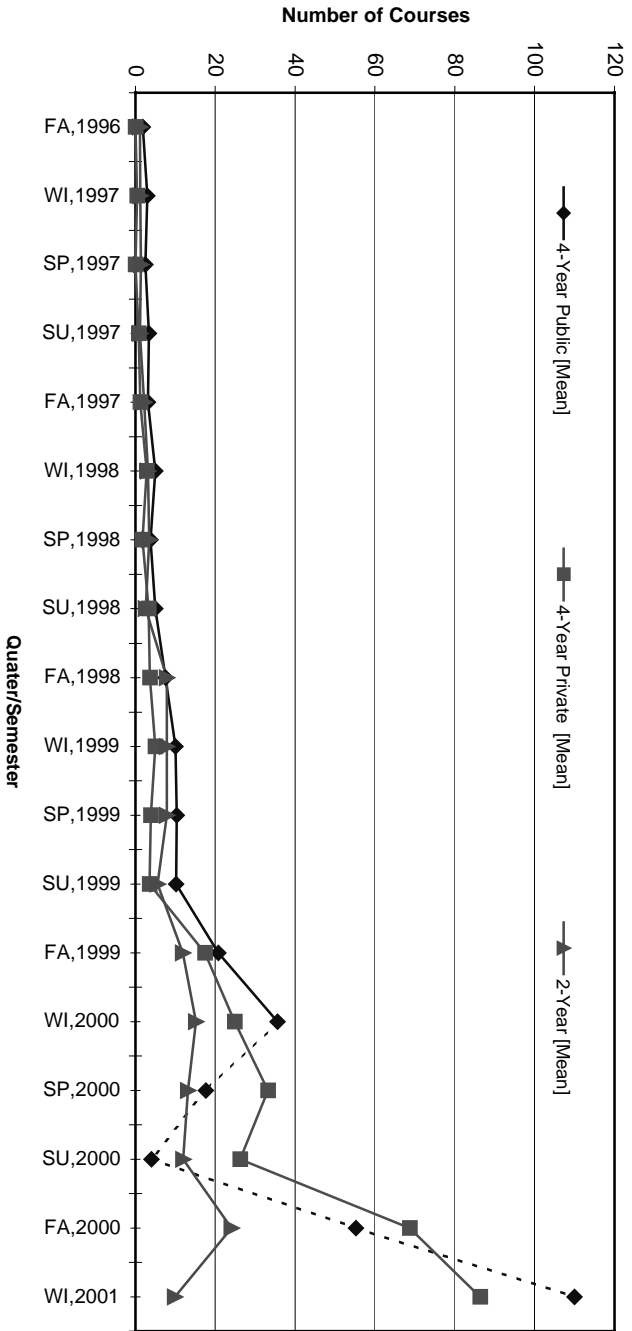
[2] Between the academic quarters/semesters Fall, 1996 and Fall, 1999.

Most Used and Dropped Software

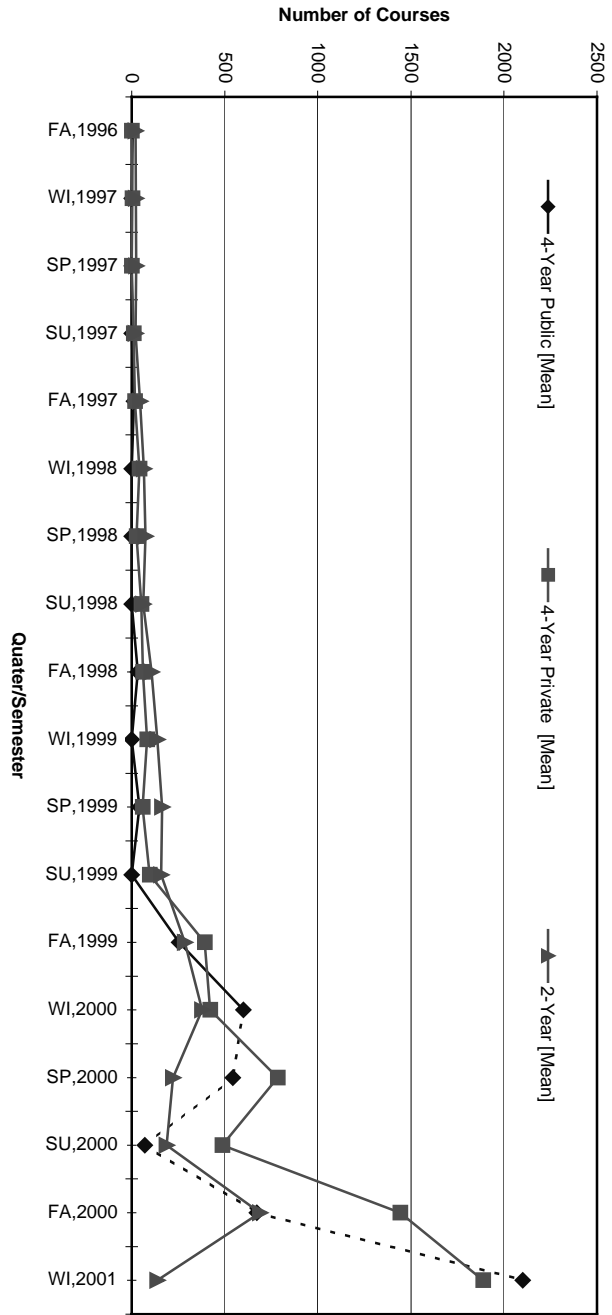
4-Year Public Colleges and Universities (n=14)			4-Year Private Colleges and Universities (n=15)			2-Year Colleges and Universities (n=17)			All Colleges and Universities (n=46)		
Software	Fre.	%	Software	Fre.	%	Software	Fre.	%	Software	Fre.	%
CyberProf	2	14.3%	TopClass, Campus, CourseInfo, WebCT	1	6.7%	ToolBook II_Instructor	4	23.5%	ToolBook II_Instructor	5	10.9%
Embanet (FirstClass Client), FirstClass, ToolBook II Instructor, TopClass, Voice, WCB: WebCourse in a Box,	1	7.1%	-	-	-	ToolBook II_Assistant	4	23.5%	ToolBook II Assistant, TopClass	4	8.7%
-	-	-	-	-	-	TopClass	2	11.8%	-	-	-
-	-	-	-	-	-	WebCT, Authorware	1	5.9%	WebCT, CyberProf	2	4.3%

Most Used Software

4-Year Public Colleges and Universities (n=14)			4-Year Private Colleges and Universities (n=15)			2-Year Colleges and Universities (n=17)			All Colleges and Universities (n=46)		
Software	Fre.	%	Software	Fre.	%	Software	Fre.	%	Software	Fre.	%
Authorware	10	71.4%	Authorware	4	26.7%	WebCT	5	29.4%	Authorware	18	39.1%
WebCT	8	57.1%	WebCT	3	20.0%	Authorware, CourseInfo	4	23.5%	WebCT	16	34.8%
ToolBook II Instructor	6	42.9%	CourseInfo	2	13.3%	-	4	23.5%	ToolBook II Instructor	10	21.7%
ToolBook II Assistant	5	35.7%	FirstClass	2	13.3%	ToolBook II Instructor	3	17.6%	CourseInfo	9	19.6%



ONLINE COURSES



ONLINE STUDENTS