ILCCO
ILLINOIS COMMUNITY COLLEGES ONLINE

ILCCO Research Report 2005:

Quality, Retention and Expansion of Online Courses and Programs in Illinois Community Colleges

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A Study Commissioned by the
Illinois Community College Board and the
Illinois Community Colleges Online

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The Growth Group, Inc (TGG) can be seen on the web at http://www.thegrowthgroupinc.com

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CONTENTS

TABLES

APPENDIXES

EXECUTIVE SUMMARY

About a thousand students, faculty and professional staff who were involved in online courses at 17 Illinois public community colleges during the spring of 2005, completed surveys on the quality, the capacity for growth, and the retention of students in online courses and programs. The survey respondents were from community colleges in two groups – Group I (Black Hawk College, Carl Sandburg College, College of DuPage, Elgin Community College, Harold Washington College, Joliet Junior College, Richland Community College and Shawnee Community College) and Group II (Lake County, Heartland Community College, John Wood Community College, Lake Land College, Lewis and Clark Community College, Oakton Community College, Parkland College, Triton College and Harper College). Based on self-nominations, the Group II colleges were selected as models of online programs in quality, retention and capacity for growth. In addition to completing the surveys, the selected faculty, students, and professional staff of Group II colleges were interviewed.

The results of the surveys and the interviews indicated that students, faculty and professional staff agreed on the qualities that they considered the more important to online courses: the reliability of the technology and the support of technical support, help for faculty to transition to online teaching, and constructive and timely feedback from the faculty to students. Of less importance to quality (although still highly rated) were the assessment of online programs, virtual library services, and the sharing of courses across institutions. All three groups also rated their own institutions highly on these more important qualities. The top institutional strengths involve technology and technical assistance, technical assistance to faculty, student preparation and the timeliness of faculty feedback to students. Among the benchmarks found to have the least strength at the local institution were ones also considered to be less important: online library services, the evaluation of online programs, institutional standards for online courses, and the sharing of online courses between institutions. The fact that the assessments of the importance of the quality benchmarks coincide with the assessment of their strength at the local institution and the fact that there are no significant differences among the three groups in their assessments suggests that the Illinois online programs are considered strong in quality by its three main user groups.

In terms of the capacity for growth, the overwhelming majority of students on the survey (93%) expressed satisfaction with online courses at their campuses and said that they would enroll in another online course. Less than half (45.3%) would take an entire degree or certificate online. The most important factors for encouraging students to enroll in online courses were the availability of technology and technical services, and the greatest barrier to their enrollment was their own lack of self-motivation and of self-direction.

The restraint in the expansion of online courses appeared not to be the willingness of students to enroll, but the readiness of faculty to teach online. Faculty identified

the most important factors in encouraging them to teach online to be a reliable technology, the training for online teaching, and the assistance in developing online courses. Like the students, they are motivated by the convenience and flexibility afforded by online teaching to their schedules, but they are also attracted by the intellectual challenge of a new technology, by the greater opportunities to reach out to new groups of students, by the new relationship with their students that online fosters and by the growth in their own pedagogical understanding and the development of new teaching techniques.

The respondents considered the most important factors for retention to be an up-front explanation of the course expectations, faculty responsiveness to students, and a dependable technology. As with the matters of quality and capacity, the respondents rated their own institutions high on each of these important factors. There were significant differences, however, between the faculty and students on nearly half of the items important to retention. The faculty rated student preparation (orientation, hands-on technology training) and social interaction (student-to-student interaction and group work) significantly higher in importance than did students. Significant differences also occurred between their assessments of the retention factors at their institutions. These significant differences as well as those on clusters of retention items (student preparation, student services and instruction) indicate a major disconnect between faculty and students that needs to be addressed by the colleges.

Significant differences were also found between the responses of those from Group I colleges and those from Group II (Model) colleges. Students from the Group II colleges felt that their institutions encouraged enrollment through greater support for technology, providing up-front knowledge of course expectations and by offering degrees and certificates online. Faculty from Group II schools rated their institutions higher in such inducements for teaching online as the faculty in-service training and assistance in course design. Significant differences occurred between the responses of Group I and Group II on the importance of the retention factors, and Group II respondents assessed their colleges as stronger on nearly every retention factor.

Throughout the report, the best practices of the model colleges are presented on the issues of quality, capacity, and retention and, based upon those practices, there are suggestions for improvement in each of these areas.

I. THE PURPOSE AND DESIGN OF THE STUDY

Sponsored by Illinois Community Colleges Online and by the Illinois Community College Board, this study began with a request to the chief academic officer of each community college to identify the issues related to online courses that were most important to them. From the responses of twenty-two colleges, the following issues emerged as being most important (listed in descending order of importance):

(1) the quality of online courses;

(2) the capacity of Illinois community colleges to attract and enroll students in online courses, to increase the number and types of online offerings, and to recruit more faculty to design and teach online courses; and

(3) the retention of students in online courses.

The study was designed to be two-tiered. Participating institutions were assigned to two groups:

Group I – Twelve colleges were selected to be representative of Illinois community colleges: Black Hawk College, Carl Sandburg College, College of DuPage, Elgin Community College, Harold Washington College (enrolling online students from the City Colleges of Chicago), Joliet Junior College, Lewis and Clark Community College, Lake Land College, Richland Community College, Shawnee Community College, Triton College, and Harper College. The selection of these colleges was semi-random, but reflects their distribution in size, geographic location, and enrollment in online courses.

Group II – Based upon the self-nominations they submitted, nine community colleges were selected as having special programs for the development and offering of online courses: College of Lake County, Harper College, Heartland Community College, John Wood Community College, Lake Land College, Lewis and Clark Community College, Oakton Community College, Parkland College, and Triton College.

At each of the twelve colleges in Group I, a sample of students who were currently taking online courses (Spring 2005), faculty who were teaching online courses, and professional staff who were directly supporting online courses were all asked to complete one of three surveys that were available online. Each of the colleges selected the individuals who were asked to respond to the surveys. One college agreed to have its online faculty and professional staff participate in the study, but not its students.

In addition to demographic information about the responders, each of the surveys solicited their opinions on what makes for quality in online courses, how capacity can be expanded, and how retention could be improved. The benchmarks for quality in online courses were taken from a number of sources, but primarily from a compilation of studies by The Institute for Higher Education Policy: "Quality on the Line: Benchmarks for Success in Internet Education, April 2000. This report can be found at the Institute's web site: www.ihep.com. The three surveys are provided in Appendix A in the same form that was provided online to the respondents.

Before the surveys were put online, they had been reviewed by staff at The Growth Group and by those at the ICCB and ILCCO, and then pilot-tested with online students, faculty, and professional staff at Illinois Central College. In their finished form, the three surveys were put online through Lake Land College and made accessible to the students, faculty, and professional staff who were participating in the study.

The size of the student sample requested from each of the community college was based upon the number enrolled in online classes during the fall semesters, 2003 and 2004.

Less than 500 students	= No colleges with this population were in the study
500-1000 online students	= 30% of the college's online students
1000-1500 online students	= 20% of the college's online students
Over 1500 online students	= 10% of the college's online students

After incomplete and duplicate entries were eliminated, 989 respondents provided valid responses to the surveys. They were distributed among the three categories of respondents as follows:

Professionals	- 42
Faculty	- 177
Students	- 770

Four colleges in the Group II model colleges were also included in Group I – Harper, Lake Land, Lewis and Clark, and Triton. The five other colleges in Group II – Lake County, Heartland, Oakton, Parkland, and John Wood – were not in Group I. In comparing the results of Group I and of Group II, the colleges that were in both groups are considered only in Group II in order to isolate the differences between the two groups.

Two types of interviews were conducted, individual and group. Each of the colleges in Group II were asked to provide the names, e-mail addresses, and telephone numbers of at least three faculty members who were currently teaching online courses (Spring 2005) and at least one professional staff member who provides

direct support for the online courses. An investigator interviewed over the telephone each of the selected faculty and professional staff. The telephone interviews ranged from 45 minutes to an hour each. Each college of Group II was also asked to set up on its campuses a focus group of students currently taking an online course. An investigator met with each of the student focus groups, each meeting lasting about an hour-and-a-half. The questions for the individual interviews and for the student focus group interviews differed from group to group and from college to college (Cf. Appendix B) to capitalize on the unique aspects of each institution's program. The questions focused on quality for Heartland, Lake Land, and Harper; on capacity for John Wood, Lewis and Clark, and Parkland; and on retention for Lake County, Oakton, and Triton. As can be seen in the results, however, the responses from the model colleges cut across all three of the areas studied.

All of those who were interviewed, either by telephone or face-to-face, were also asked to complete the online survey. There were others not in the interviews or focus groups that received the online surveys.

This report on the study's findings is organized around its three principal areas of inquiry: quality, capacity, and retention. Section II deals with the demographics of those in the sample. Section III covers the quality of online courses, Section IV covers the findings about the capacity of the colleges to expand their online offerings and Section V reviews the findings on the retention of students in online courses. In the sections for quality and retention, the findings on the surveys are first presented and then those of the qualitative study on the model colleges. Although covering the findings from both the surveys and the interviews, the section on expanding capacity is subdivided into the two issues of expanding student enrollments and recruiting faculty to teach online. In each of the three sections, the data from the surveys are first presented in the aggregate and then differences among the subgroups (students, faculty, and professional staff). In Section VI are the general conclusions derived from the findings.

In addition to the research project described above, Claudia Fischer of The Growth Group also surveyed three state systems that offer online courses – the Colorado Community Colleges Online, the SUNY (New York) Learning Network, and the Virtual College of Texas (Cf. Appendix F).

Tables in the narrative below use the following terms: "Valid Responses" were useable responses returned from the respondents and "Missing Responses" indicates the number of invalid responses. The next four columns provide the frequency of each type of response, the percentage of the total responses, the percentage of the valid responses, and the cumulative percentages of the valid responses.

II. DEMOGRAPHICS OF THE SAMPLE

At the beginning of the fall semester 2004, there were at midterm 2,440,261 credit hours generated by the colleges of the Illinois Community College System. Of these, 91,882 or 4% were in online courses.

From the 17 community colleges in our sample, 177 faculty, 42 professional staff, and 805 students completed one of the three online surveys. At the beginning of each survey, the respondent was first asked to fill in personal data. From this data emerges a profile of those who take online courses, those who teach them, and those who support online courses.

Who Enrolls in Online Courses?

In a number of ways, the online students in the sample looked like the traditional college student. Although they ran the full range of ages, nearly half were 25 years old or younger.

Table 1
Ages of Student Respondents

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	17 years and under	4	0.5	0.5	0.5
	18-25 years	336	44.8	45.1	45.6
	26-40 years	267	35.6	35.8	81.5
	41-50 years	111	14.8	14.9	96.4
	Over 50 years	27	3.6	3.6	100.0
	Total	747	99.3	100.0	
Missing		5	.7		
		750	100.0		

The proportion of online students aged 25 years or younger in the sample (45.6%) was about the same as that in the general population of community colleges for 2004, which was 45.7%.[1]

About 57% of the sample were full-time students. A little over a third of them were in their first year at the college (35%), a little under a third (30.7%) were in their second year, and a third (33.4%) had completed four semesters at the college.

[1] The percentage of students aged 25 or younger was taken from *Annual Student Enrollments in the Illinois Community College System, Fiscal Year 2004*.

Table 2
Currently Full-Time or Part-Time Student

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Full-time	426	56.8	57.3	57.3
	Part-time	318	42.4	42.7	100.0
	Total	744	99.2	100.0	
Missing		6	.8		
Total		750	100.0		

Table 3
Number of Semesters at Current Institution – Students

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	First semester	88	11.7	11.9	11.9
	1 prior semester	75	10.0	10.1	22.0
	2 semesters	101	13.5	13.6	35.6
	3-4 semesters	230	30.7	31.0	66.6
	More than 4 semesters	248	33.1	33.4	100.0
	Total	742	98.9	100.0	
Missing		8	1.1		
Total		750	100.0		

Over 75% of the students were employed, and of those who were employed, 60% were employed full-time.

Table 4
Current Employment of Students

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	562	74.9	75.5	75.5
	No	182	24.3	24.5	100.0
	Total	744	99.2	100.0	
Missing		6	.8		
Total		750	100.0		

Table 5
Students' Full-Time or Part-Time Employment

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Full	338	60.1	60.5	60.5
	Part	221	39.3	39.5	100.0
	Total	559	99.5	100.0	
Missing		3	.5		
Total		562	100.0		

For 39.7% of the respondents, this was their first online course. 53.6% were taking only one online course during the spring semester of the study, and almost one in five students (18.2%) were taking more than two online courses.

Table 6
Number of Online Courses Completed by Students Prior to Current Semester

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	290	38.7	39.7	39.7
	1-2 courses	231	30.8	31.6	71.3
	3-4 Courses	111	14.8	15.2	86.5
	5 or more courses	99	13.2	13.5	100.0
	Total	731	97.5	100.00	
Missing		19	2.5		
Total		750	100.0		

Table 7
Number of Online Courses Currently Taken by Students

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 course	402	53.6	54.8	54.8
	2 courses	198	26.4	27.0	81.9
	3-4 courses	123	16.4	16.8	98.6
	More than 4 courses	10	1.3	1.4	100.0
	Total	733	97.7	100.0	
Missing		17	2.3		
Total		750	100.0		

For the online course(s), over 83% were using their computer at home, and more were using their computer at their workplace than were using a computer at the college. Most (90%) were confident of their computer skills, estimating that to be either in the intermediate rank (32%) or advanced rank (59%).

Table 8
Location of Student Computer

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Home	628	83.7	84.8	84.8
	Work	53	7.1	7.2	91.9
	School	38	5.1	5.1	97.0
	Other	22	2.9	3.0	100.0
	Total	741	98.8	100.0	
Missing		9	1.2		
Total		750	100.0		

Table 9
Level of Students' Expertise in Technology

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Novice	75	10.0	10.2	10.2
	Intermediate	234	31.2	31.8	42.0
	Advanced	427	56.9	58.0	100.0
	Total	736	98.1	100.0	
Missing		14	1.9		
Total		750	100.0		

To sum up, then, the profile of those in online courses is a sophomore-level student who may be working full-time as well as going to school full-time, who is taking one online course a semester, who is working on the course from his/her home, and who feels technologically competent. A little less than half of the online students are 25 years of age or younger and a little more than half are above 25 years old.

Who Teaches Online Courses?

Based on the sample, the faculty who teach online were not the stereotypical younger, more recently hired individual. They tended to be veteran teachers, 68% having taught ten or more years. Nearly 54% of the online instructors have taught those ten years at a community college, and 45% of them have taught ten or more years at their current institution.

Table 10
Total Years of Teaching, Including K-12, Community College and University

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 year or less	3	1.8	1.9	1.9
	2-5 years	20	11.9	12.3	14.2
	6-10 years	25	14.9	15.4	29.6
	More than 10 years	114	67.9	70.4	100.0
	Total	162	96.4	100.0	
Missing		6	3.6		
Total		168	100.0		

Table 11
Years of Teaching at a Community College

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 year or less	4	2.4	2.4	2.4
	2-5 years	34	20.2	20.5	22.9
	6-10 years	38	22.6	22.9	45.8
	More than 10 years	90	53.6	54.2	100.0
	Total	166	98.8	100.0	
Missing		2	1.2		
Total		168	100.0		

Table 12
Years of Teaching at Current Institution

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 year or less	9	5.4	5.4	5.4
	2-5 years	47	28.0	28.3	33.7
	6-10 years	35	20.8	21.1	54.8
	More than 10 years	75	44.6	45.2	100.0
	Total	166	98.8	100.0	
Missing		2	1.2		
Total		168	100.0		

The majority of those in the sample (57%) were full-time faculty, although there were also a significant proportion of part-time (41.7%). Similar distributions follow for having taught online at a community college and at their current institution.

Table 13
Full-Time or Part-Time Teaching at Current Institution

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Full	96	57.1	57.8	57.8
	Part	70	41.7	42.2	100.0
	Total	166	98.8	100.0	
Missing		2	1.2		
Total		168	100.0	1	

The assigned teaching load of most instructors consists of mainly face-to-face classes, and a substantial number are teaching an overload, probably more than 17.9%, since the online courses are not considered in this number of courses.

Table 14
Credit Hours Taught Face-To-Face during Fall 2004 and Spring 2005 Combined

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-11 credit hours	40	23.8	24.8	24.8
	12-24 credit hours	59	35.1	36.6	61.5
	25-30 credit hours	32	19.0	19.9	81.4
	More than 30 credit hours	30	17.9	18.6	100.0
	Total	161	95.8	100.0	
Missing		7	4.2		
Total		168	100.0		

Many faculty indicated a depth of experience with online courses. Nearly a fourth of the faculty members (26.2%) have taught online courses for six or more years and 57% have taught online between two and five years. Fifty-nine percent have taught one to five sections of online courses and 41% had taught six or more online sections. Fifty-eight percent have been teaching online two to five years, nearly the same amount of time as they have been teaching online at their current institution.

Table 15
Online Teaching Experience

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 year or less	26	15.5	15.8	15.8
	2-5 years	95	56.5	57.6	73.3
	6-10 years	41	24.4	24.8	98.2
	More than 10 years	3	1.8	1.8	100.0
	Total	165	98.2	100.0	
Missing		3	1.8		
Total		168	100.0		

Table 16
Different Class Sections Taught Online

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 section	34	20.2	20.5	20.5
	2-5 sections	64	38.1	38.6	59.0
	6-10 sections	24	14.3	14.5	73.5
	More than 10 sections	44	26.2	26.5	100.0
	Total	166	98.8	100.0	
Missing		2	1.2		
Total		168	100.0		

Table 17
Years Taught Online for a Community College

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 year or less	26	15.5	15.7	15.7
	2-5 years	98	58.3	59.0	74.7
	6-10 years	38	22.6	22.9	97.6
	More than 10 years	4	2.4	2.4	100.0
	Total	166	98.8	100.0	
Missing		2	1.2		
Total		168	100.0		

Table 18
Years Taught Online for Current Institution

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 year or less	26	15.5	16.1	16.1
	2-5 years	97	57.7	60.2	76.4
	6-10 years	35	20.8	21.7	98.1
	More than 10 years	3	1.8	1.9	100.0
	Total	161	95.8	100.0	
Missing		7	4.2		
Total		168	100.0		

Sixty-one percent of the faculty members who teach online have experienced the medium as students.

Table 19
Faculty Who Have Taken an Online Course as Students

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	63	37.5	38.0	38.0
	Yes	103	61.3	62.0	100.0
	Total	166	98.8	100.0	
Missing		2	1.2		
Total		168	100.0		

Even more than the students, faculty members rate their technological expertise at the advanced (80%) or intermediate (19%) levels.

Table 20
Levels of Faculty Expertise in Technology

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Intermediate	32	19.0	19.3	19.3
	Advanced	134	79.8	80.7	100.0
	Total	166	98.8	100.0	
Missing		2	1.2		
Total		168	100.0		

The profile, then, for those who teach online are those more seasoned full-time faculty with years of experience at their current institution, who teach most of their loads in face-to-face classes, who have taken an online course themselves and who are confident of their technological skills.

Who Supports Online Courses?

For the sample of professional staff in the study, the investigators asked the colleges to select those who directly supported the online courses. Three-fourths of professionals in the sample had been in their current position for five years or less. On average, they had been at their current institution less time than had the faculty. On the other hand, the number of years they had worked in community colleges was substantial – 42% had spent more than ten years in a community college and 65% six years or more.

Table 21
Number of Years Professional Staff Have Been in Their Current Positions

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 year or less	7	17.5	17.5	17.5
	2-5 years	23	57.5	57.5	75.0
	6-10 years	5	12.5	12.5	87.5
	More than 10 years	5	12.5	12.5	100.0
Total		40	100.0	100.0	

Table 22
Number of Years Professional Staff Have Employed at Current Institution

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 year or less	5	12.5	12.5	12.5
	2-5 years	12	30.0	30.0	42.5
	6-10 years	8	20.0	20.0	62.5
	More than 10 years	15	37.5	37.5	100.0
Total		40	100.0	100.0	

Table 23
Number of Years Professional Staff Have Been Employed at a Community College

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 year or less	2	5.5	5.0	5.0
	2-5 years	12	30.0	30.0	35.0
	6-10 years	9	22.5	22.5	57.5
	More than 10 years	17	42.5	42.5	100.0
Total		40	100.0	100.0	

For 40% of the professionals, their online duties comprised less than half their work load. For a third it comprised more than 80% of their work load.

Table 24
Percentage of Professional Staff Workload Related to Online Learning

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20% or less	13	32.5	32.5	32.5
	21% - 40%	3	7.5	7.5	40.0
	41-% - 60%	5	12.5	12.5	52.5
	61% - 80%	6	15.0	15.0	67.5
	Over 80%	13	32.5	32.0	100.0
Total		40	100.0	100.0	

The job classifications of the professionals who were interviewed were in the academic part of the college, followed by those in the computer/technical area (15%), student services (10%), other administration (9%), support staff (7.5%), and the president's office (5%).

Most professionals (73%) had had no experience teaching online, but a bit over half had been students online.

Table 25
Number of Online Classes Taught by Professional Staff

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	29	72.5	72.5	72.5
	1 online class	4	10.0	10.0	82.5
	2-3 online classes	4	10.0	10.0	92.5
	4 or more online classes	3	7.5	7.5	100.0
Total		40	100.0	100.0	

Table 26
Professional Staff Experience as Online Students

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Have not taken an online course	19	47.5	47.5	47.5
	Have taken an online course	21	52.5	52.5	100.0
Total		40	100.0	100.0	

Much as the faculty, the professionals ranked their technology skills as advanced (75%) or intermediate (25%).

Table 27
Levels of Professional Staff Expertise in Technology

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Advanced skills	30	75.0	75.0	75.0
	Intermediate skills	10	25.0	25.0	100.0
Total		40	100.0	100.0	

The typical member of the staff that supports online courses is a long-time employee of the college, but one who is fairly new to his/her current position. He/she is housed in the academic area of the college, has not taught online, but has taken online courses and is confident of his/her expertise in technology.

Demographics of Those Interviewed

While a much smaller sample and more narrowly selected, those faculty and professionals who were interviewed corresponded in characteristics to those who took the survey. For the colleges in Group II, 28 faculty and 13 professional staff were interviewed. Twenty-two of the faculty members were full-time (79%).

The faculty tended to be those more experienced in teaching online classes – a third having taught more than 25 sections of online classes and 18.5% having taught 16-25 sections. One faculty member had taught over 100 sections online, and only one faculty member was teaching for the first time. The courses taught online covered the gamut of the curriculum from such general education courses (composition, history, humanities, mathematics, speech, psychology, and the sciences) to business areas (word processing, automated office technology, management, and accounting) to other vocational areas (police sciences, nursing, legal secretary, and computer technology).

All thirteen of the professional staff members who were interviewed were full-time employees who provided a variety of services to support online courses. The instructional designers among them aided the faculty in creating the courses and provided much of the technical training for the faculty. Many of the professional staff set up courses on the college platform (Blackboard, WebCT or e-College) and helped organize the course and instructor information on the colleges' web sites. Many also provided technical services for faculty and students through Help Desks and computer labs, most of which were segregated in those for faculty (Centers of Teaching Excellence) and those for students. Many of the professionals had prominent roles on college committees dealing with online issues, and a number represented their institution with external groups, such as Illinois Online Network and Illinois Community Colleges Online. All but one of the professional staff interviewed reported to the academic side of the institution.

Forty-four students participated in the focus groups, which except in the case of Heartland, were held on their campuses. (The Heartland student interview was conducted over the telephone.) As with the scope of the courses taught online, the students had taken a full range of courses from nearly every significant part of the curriculum. The students who participated in the focus groups tended to be a bit older than those who took the online survey -- about half appeared to be over thirty years of age. Like those who took the survey, the interviewed students tended to work full-time, a fact that necessitated evening meetings for most of the focus groups.

III. QUALITY

In all three surveys, respondents were asked to rate the importance of benchmark qualities of online courses and to indicate how strong these qualities were at their institutions. On a four-point scale with "4" indicating "Strongly Agree" and "1" indicating "Strongly Disagree, most of the qualities were considered to have some importance, the mean scores ranging from 3.75 for the highest to 3.08 for the lowest, a narrow range of scores. To distinguish the two ratings in the following narrative, the importance statements are designated with the letter "a" attached to the number of the item and the strength statements are designated with the latter "b" attached to the number of the item. This enables the reader to compare ratings of importance and strength on the same items.

Importance of the Qualities

The following benchmarks were selected by students, faculty, and professionals as the highest importance to online instruction:

Table 28
Quality Benchmarks of Most Importance – All Respondents

Q #	Question	Mean
34a[2]	Technical assistance in course development is available to faculty	3.75
14a	A college-wide system, such as Blackboard or WebCT, supports and facilitates the online courses	3.70
35a	Faculty are encouraged to use technical assistance in course development	3.68
21a	Faculty give constructive feedback on student assignments and to their questions	3.66
36a	Faculty are assisted in the transition from classroom teaching to online instruction	3.65
12a	The institution has a documented technology plan	3.63
22a	Faculty give feedback to students in a timely manner	3.62
25a	Before starting, students are advised about the course to determine if they have access to the technology required by the course design	3.61

[2] The letter designation after the item number indicates whether it deals with the question of the importance of the quality (a) or the strength of the quality at the local institution (b). The same system is used for the items on capacity and retention.

26a	Before starting, students are aware of course objectives, concepts, ideas and learning outcomes	3.60
13a	The technology is reliable and failsafe	3.60

As indicated above, six of the top ten qualities (34a, 14a, 35a, 12a, and 25a) had to do with reliable technology and technical assistance, two (25a and 26a) were related to student preparation, two (21a and 22a) had to do with instructor feedback, and one (36a) with faculty preparation.

Although still ranked as important, the qualities of the least importance were as follows:

Table 29
Quality Benchmarks of Least Importance -- All Respondents

Q #	Question	Mean
37a	Instructor training and assistance, including peer mentoring, continues throughout the online course	3.47
40a	The educational effectiveness of the online courses between institutions is assessed through an institutional evaluation	3.47
18a	Students are actively engaged in analysis, synthesis, and evaluation as part of their online course and program requirements	3.47
41a	The educational effectiveness of the teaching/learning process is assessed through an institutional evaluation	3.46
44a	The online courses address student learning styles	3.44
27a	Students have access to a virtual library	3.39
30a	Students are provided with online information and hands-on training on library resources	3.32
42a	Data on enrollment, costs, and successful innovative uses of technology are used to evaluate program effectiveness	3.30
39a	Faculty are encouraged and aided in sharing online courses between institutions	3.08

Of less importance were the assessment of online programs (40a, 41a, and 42a), virtual library services (27a and 30a), addressing student learning styles (44a), student analysis, synthesis, and evaluation in the online course (18a), and the sharing of courses across institutions (39a).

Strength of the Qualities at the Colleges

The mean scores that measure the importance of the qualities (the ideal) were higher than the ratings of the strength of each quality at the institutions (the actual). On the other hand, the scores on the presence of the qualities at their own institutions were still relatively high, ranging from a mean of 3.66 to 2.28, indicating at least moderate strength. The range of scores for institutional strengths was broader than that for the importance of the benchmarks.

The qualities rated strongest by all respondents are listed below:

Table 30
Strongest Qualities at the Local Institution – All Respondents

Q #	Question	Mean
14b	A college-wide system, such as Blackboard or WebCT, supports and facilitates the online courses	3.66
34b	Technical assistance in course development is available to faculty	3.61
35b	Faculty are encouraged to use technical assistance in course development	3.49
21b	Faculty give constructive feedback on student assignments and to their questions	3.42
26b	Before starting, students are aware of course objectives, concepts, ideas, and learning outcomes	3.39
22b	Faculty give feedback to students in a timely manner	3.36
25b	Before starting, students are advised about the course to determine if they have the technology required by the course design.	3.36

Three of the top seven institutional strengths (14b, 34b, 35b, and 25b) involved technology and technical assistance, two of the top strengths (34b and 35b) involved assistance to faculty, two (21b and 22b) had to do with faculty feedback to students and two related to student preparation.

Those benchmarks found to be the weakest (although not weak) in the local institution involved the online library services (27b and 30b), the evaluation of online programs (40b, 41b, 42b), addressing student learning styles (44b), resources on plagiarism provided to faculty (38b), institutional standards for online courses (15b), instructor training throughout the course (37b), and the sharing of online courses between institutions (39b).

Table 31
Qualities at Local Institutions with the Least Strength – All Respondents

Q#	Question	Mean
27b	Students have access to a virtual library	3.14
40b	The educational effectiveness of the online course is assessed through an institutional evaluation	3.13
41b	The educational effectiveness of the teaching/learning process is assessed through institutional evaluation	3.11
44b	The online courses address student learning styles	3.06
38b	Faculty are provided with resources regarding student use of electronically accessed data, including issues of plagiarism, copyright, and the evaluation of sources	3.04
15b	Institutional guidelines regarding minimum standards are used for course development, design, and delivery	2.98
30b	Students are provided with online information and hands-on training on library resources	2.96
37b	Instructor training and assistance, including peer mentoring, continues throughout the course	2.80
42b	Data on enrollment, costs, and successful innovative uses of technology are used to evaluate program effectiveness	2.72
39b	Faculty are encouraged and aided in sharing online courses between institutions	2.28

In the opinion of the investigators, a very telling point was the close alignment between the importance ascribed to benchmarks selected and the assessment of their strength at the colleges. Six of the seven greatest strengths of the colleges also appeared within the top ten of benchmarks of greatest importance. Similarly, eight of the ten weakest qualities in the local institution coincided with the nine benchmarks of least importance.

There were only four items in which the difference between the mean for the importance of the quality and the mean for the strength at the local institution was more than half a point:

Table 32
Differences in Means Between Importance of Quality and Its Strength at Local Institution

Q#	Quality	Importance	Strength	Difference
39	Faculty are encouraged and aided in sharing online courses between institutions	3.08	2.28	0.80
37	Instructor training and assistance, including peer mentoring, continues throughout the online course	3.47	2.80	0.67
15	Institutional guidelines regarding minimum standards used for course development, design, and delivery	3.57	2.98	0.59
42	Data on enrollment, costs, and successful innovative uses of technology	3.30	2.72	0.58

Three of these qualities (39a, 37a, and 42a) were consider less important in the surveys and all of them were ranked among those with the least strength at the institutions. Thus, the difference in scores between importance and strength at the institution may have been less a discrepancy between the two categories than a difference due to the relatively high scores of even those qualities considered less important.

The alignment of the importance of the benchmarks with their strength at the local institutions suggests that the practices at the colleges reflect the values held by three important user groups – faculty, students, and professional staff.

Differences Among Student, Faculty, and Professional Groups

Statistical tests were applied to the responses of students, faculty, and professionals to the quality questions, and none of the mean scores given by those groups were found to be different at a statistical significant level of .05.This result suggests that all three groups generally agree as to the qualities that are most important to online programs and in their assessments of programs at their own institutions.

This finding does not mean that there were no differences among the students, faculty, and professionals. In terms of the importance of the benchmark qualities, there were no discernible patterns in the differences of means (Cf. Appendix C). On

the other hand, in terms of the strength of the qualities at local institutions, the means of the faculty responses on the presence of the quality benchmarks at the local institution were consistently lower than those of the students and those of the professional staff. This pattern suggests that faculty tended to be more critical of the online programs than either the students or the faculty. Likewise, the fact that the means of the professional staff were also lower than that of the students suggests that while not as critical as the faculty, the professional staff were more critical in their appraisals than that of the students.

Table 33
Means of Strengths of Benchmark Qualities at Local Institution – by Group (Student, Faculty, and Professional Staff)

Q#	Question #	Students Means	Profess-ional	Faculty Means
13b	Reliable & failsafe technology	3.33	3.30	3.15
14b	College-wide computer system	3.66	3.70	3.68
16b	Instructional materials reviewed	3.32	2.84	2.89
17b	Courses reviewed periodically	3.35	2.82	2.90
18b	Students engaged in analysis	3.26	3.11	3.14
19b	Students interact with faculty and other students	3.36	3.43	3.28
20b	Students interaction is facilitated through variety of ways	3.32	3.39	3.48
21b	Faculty give constructive feedback on student assignments	3.41	3.35	3.46
22b	Faculty give feedback to students in a timely manner	3.34	3.30	3.45
23b	Students instructed in proper methods of research	3.30	2.74	3.02
24b	Before starting, students advised about the course to see if they are committed	3.40	3.18	3.01
25b	Before starting, students advised about technology required by course	3.42	3.35	3.13
26b	Before starting, students aware of course objectives, concepts, learning outcomes	3.41	3.35	3.31
27b	Students have access to virtual library	3.12	3.25	3.19
28b	Faculty & students agree on expectations for assignment completion & response	3.36	3.09	3.12
29b	Online information about programs, ad- mission requirements, etc.	3.33	3.22	3.36
30b	Students provided with information on library resources	2.99	2.75	2.87
31b	Students have access to technical assistance	3.29	3.62	3.48
32b	Student services answer students' questions in a timely manner	3.20	3.36	3.26
33b	Student services answer students' questions accurately	3.23	3.28	3.26
40b	Educational effectiveness of course is assessed through institutional evaluation	3.28	2.69	2.46
41b	Teaching/learning is assessed	3.24	2.56	2.76
43b	System for feedback about online courses	3.19	3.40	3.23
44b	Online courses address learning styles	3.10	2.91	2.90

If inconsequential differences among means are discounted, the following exceptions to the pattern of higher means can be discerned. First, the faculty means were discernibly higher than those of students on four different items: student interaction with faculty and students (20b), the timeliness of faculty feedback (22b), the agreement on expectations for assignments (28b), and students' access to technical assistance (31b).Secondly, the faculty means were notably higher than those of professionals on five items: the constructive quality of faculty feedback (21b), the timeliness of faculty feedback (22b), instruction in proper methods of research (23b), online information and training given on library resources (30b) and the assessment of teaching/learning (41b). Finally, the means of the professional staff responses were higher than students on four items: students' access to a virtual library (27b), students' access to technical assistance (31b), timely responses from student services (32b), and the system of feedback about online courses (43b). Many of these exceptions suggest that the group providing the service, whether faculty or professional staff, tend to rate the service higher.

Among the most important qualities of online courses for students were a reliable technology (13a, 14a, and 25a), timely and constructive faculty feedback (21a and 22a), and preparation for the course (24a, 25a, and 26a).

Table 34
Most Important Qualities Rated by Students

Q#	Question	Mean
14a	A college-wide system, such as Blackboard or WebCT, supports and facilitates the online courses	3.71
21a	Faculty give constructive feedback on student assignments and to their questions	3.64
25a	Before starting, students are advised about the course to determine if they have to the technology required by the course design	3.59
26a	Before starting, students are aware of course objectives, concepts, ideas, and learning outcomes	3.59
13a	The technology is reliable and failsafe	3.58
22a	Faculty give feedback to students in a timely manner	3.58
24a	Before starting, students are advised about the course to determine if they possess the self motivation and commitment to learn online	3.49

As indicated above, three of the top qualities (14a, 25a, and 13a) had to do with a reliable technology, three (25a, 26a, and 24a) were related to student preparation, and two (21a and 22a) had to do with instructor feedback.

Also important for faculty were timely and constructive feedback (21a and 22a) and student preparation (25a). Technical assistance for themselves (34a) and for students (31a) was also important to faculty as well as student services (32a and 33a).

Table 35
Most Important Qualities Rated by Faculty

Q#	Question	Mean
22a	Faculty give feedback to students in a timely manner	3.80
34a	Technical assistance in course development is available	3.75
21a	Faculty give constructive feedback on student assignments and to their questions	3.74
31a	Students have access to technical assistance throughout the course	3.73
33a	Student service personnel answer students' questions accurately	3.72
25a	Before starting, students are advised about the course to determine if they have access to the technology required by the course	3.71
32a	Student service personnel answer students' questions in a timely Manner	3.69

As with the faculty, the professional staff valued technical assistance for students (34a and 31a), student preparation for the course (25a) and student service personnel responding to student questions (32a). Like the students, the professional staff held as important timely and constructive feedback (22a and 21a) and student preparation for the course (25a). Among the qualities most important to professional staff, but not found in those of the faculty and students were student inaction with faculty and other students (19a), the encouragement of faculty to use technical assistance in course development (35a), assistance to faculty in the transition from classroom and (36a) the regular review of learning outcomes (43a). The importance of reliable technology (13a), high on the list of the professional staff, was also held to be important by faculty (mean = 3.68) and students (mean = 3.58).

Table 36
Most Important Qualities Rated by Professional Staff

Q #	Question	Mean
19a	Students interact with faculty and with other students in the online course	3.77
34a	Technical assistance in course development is available to faculty	3.77
35a	Faculty are encouraged to use technical assistance in course development	3.74
13a	The technology is reliable and failsafe	3.72
36a	Faculty are assisted in the transition from classroom teaching to online instruction	3.72
43a	Intended learning outcomes are reviewed regularly to ensure clarity, utility, and appropriateness	3.71
31a	Students have access to technical assistance throughout	3.69
33a	Student service personnel answer students' questions	3.69

While still considered important, the qualities of the least importance to students were as follows:

Table 37
Quality Benchmarks of Least Importance Rated by Students

Q #	Question	Mean
32a	Student service personnel answer students' questions in a timely manner	3.46
41a	The educational effectiveness of the teaching/learning process is assessed through institutional evaluation	3.46
18a	Students are actively engaged in analysis, synthesis, and evaluation as part of their online course and program requirements	3.45
20a	Student interaction with faculty and other students is facilitated through a variety of ways including voice mail and/or email	3.45
44a	The online courses address student learning styles	3.43
27a	Students have access to a virtual library	3.37
30a	Students are provided with online information and hands-on training on library resources	3.30

Three least important benchmarks were found in both the student and faculty groups: the institutional evaluation of online courses (41a) and training on library resources and a virtual library (30a and 27a). Unlike the other two groups, students found least important concern about learning styles (44a), engagement in analysis, synthesis and evaluation (18a) and interaction with faculty and other students (20a). Interestingly, interaction with faculty and other students (19a), and the review of learning outcomes (43a) were valued as very important by the professional staff. In contrast to students, faculty valued highly that student services provide timely answers (32a)

Table 38
Quality Benchmarks of Least Importance Rated by Faculty

Q #	Question	Mean
41a	The educational effectiveness of the teaching/learning	3.46
30a	Students are provided with online information and hands-on training on library resources	3.44
27a	Students have access to a virtual library	3.42
28a	Faculty and students agree upon expectations regarding times for student assignments and faculty responses	3.42
42a	Data on enrollment, costs, and successful innovative uses of technology are used to evaluate program effectiveness	3.32
40a	The educational effectiveness of the online courses is assessed through an institutional evaluation	3.26
39a	Faculty are encouraged and aided in sharing online courses between institutions.	3.11

As with both faculty and students, the professional staff rated training on library resources (30a) as among the least important. Like faculty, professional staff considered the evaluation of online programs (42a), the sharing of online courses with other institutions (39a), and an agreement between faculty and students on course expectations to be of secondary importance.

Table 39
Quality Benchmarks of Least Importance Rated by Professional Staff

Q#	Question	Mean
44a	The online courses address student learning styles	3.38
23a	Before starting, students are instructed in the proper methods of effective research, including assessment of the validity of resources	3.34
28a	Faculty and students agree upon expectations regarding times for student assignment completion and faculty response	3.29
42a	Data on enrollment, costs, and successful innovative uses of technology are used to evaluate program effectiveness	3.22
30a	Students are provided with online information and hands-on training on library resources	3.21
43a	The institution has a system by which students can provide feedback about online courses	2.95
39a	Faculty are encouraged and aided in sharing online courses between institutions	2.92

As pointed out earlier in this section, the differences among students, professionals, and faculty were not statistically significant, and some of the subtle differences among them reflected their different roles in the institution.

The rating of qualities at the local institution by each of the groups coincided with their assessment of the importance of the qualities: students (14, 25, 21, 26, and 24), professional staff (34, 14, 35, 31, and 19), and faculty (31 and 21). Note of the three groups, faculty have the least coincidence between their assessment of the local institution and what they consider as the importance of the qualities.

Table 40
Strongest Qualities at the Local Institution

Q#	RATED BY STUDENTS	Mean
14b	A college-wide system, such as Blackboard or WebCT, supports and facilitates the online courses	3.66
25b	Before starting, students are advised about the course to determine if they have access to the technology required by the course design	3.42
21b	Faculty give constructive feedback on student assignments and to their questions	3.41
26b	Before starting, students are aware of course objectives, concepts, ideas, and learning outcomes	3.41
24b	Before starting, students are advised about the course to determine if they possess the self motivation and commitment to learn online	3.40
19b	Students interact with faculty and other students in the online course	3.36
	RATED BY FACULTY	**Mean**
14b	A college-wide system, such as Blackboard or WebCT, supports and facilitates the online courses	3.68
34b	Technical assistance in course development is available to faculty	3.58
20b	Student interaction with faculty and other students is facilitated through a variety of ways including voice mail and/or email	3.48
31b	Students have access to technical assistance throughout the online course	3.48
37b	Instructor training and assistance, including peer mentoring, continues throughout the online course	3.47
21b	Faculty given constructive feedback to students in a timely manner	3.46

	RATED BY PROFESSIONAL STAFF	
34B	Technical assistance in course development is available	3.78
14b	A college-wide system, such as blackboard or WebCT, supports and facilitates the online courses	3.70
35b	Faculty are encouraged to use technical assistance in course development	2.69
31b	Students have access to technical assistance throughout the online course	3.62
36b	Faculty are assisted in the transition from classroom teaching from classroom teaching to online instruction	3.50
19b	Student interact with faculty and other students in the online course	3.43

All three groups ranked their colleges high on their computer platform (14b) and on student interaction (19b and 20b). Students and faculty found that students received constructive feedback on student assignments (21b) at their local institutions, and faculty and professionals agreed that technical assistance was available for both students and faculty (31b, 34b, and 37b). The remaining items that were ranked strongly at the local institution tended to reflect the role of each group: students on their preparation for online courses (25b, 26b, and 24b), faculty that constructive feedback is given to students in a timely manner (21b), and professionals that faculty are encouraged to use technical assistance (35b).

For each of the groups, the benchmark found to be the weakest (although not weak) in the local institution coincided with the benchmarks of least importance: for students, four out of the five least important in the institution (32b, 27b, 44b, and 30b); for faculty five out the least important six (30b, 41b, 42b, 40b, 39b)' and for professional staff, five out of the least important six (30b, 23b, 42b, 39, 43a)

Table 41
Qualities at Local Institutions with the Least Strength

Q#	RATED BY STUDENTS	Mean
33b	Student service personnel answer students' questions accurately	3.23
32b	Student service personnel answer students' questions in a timely manner	3.20
43b	The institution has a system by which students can provide feedback about online classes	3.19
27b	Students have access to a virtual library	3.12
44b	The online courses address student learning styles	3.10
30b	Students are provided with online information and hands-on training on library resources	2.99
	RATED BY FACULTY	
16b	Instructional materials are reviewed periodically to ensure they meet institutional course standards	2.89
30b	Students are provided with online information and hands-on training on library resources	2.87
41b	The educational effectiveness of the teaching/learning process is assessed through an institutional evaluation	2.76
42b	Data on enrollment, costs, and successful innovative uses of technology are used to evaluate program effectiveness	2.76
40b	The educational effectiveness of the online courses is assessed through an institutional evaluation	2.46
39b	Faculty are encouraged and aided in sharing online courses between institutions	2.29

	RATED BY PROFESSIONAL STAFF	Mean
30b	Students are provided with online information and hands-on training on library resources	2.75
23b	Before starting, students are instructed in the proper methods of effective research, including assessment of the validity of resources	2.74
40b	The educational effectiveness of the online course is assessed through an institutional evaluation	2.69
42b	Data on enrollment, costs, and successful innovative uses of technology are used to evaluate program effectiveness	2.61
41b	The educational effectiveness of the teaching/learning process is assessed through an institutional evaluation	2.56
39b	Faculty are encouraged and aided in sharing online courses between institutions	2.26

From the above list, it appears that there was close agreement among the three groups as what constituted the least strong aspects of the local online program. All three groups listed some aspect of library services online (30b, 27b, and 23b) and of program evaluation (43b, 16b, 41b, 42b, 40b, 39b, and 43a). Faculty and professional staff listed the sharing of online courses between institutions (39b). Students cited student services answering their questions accurately and in a timely manner (33b and 32b).

Differences Among Other Groups

Other groups were also analyzed as to differences in their assessment of the benchmark qualities and of the strength of their local programs. The professional staff were subdivided between those who had taught online and those who had not, and the differences in their mean scores analyzed. The faculty were subdivided into various groups: (a) those who had taken classes online and those who had not taken classes online; (b) those who had taught fewer than six sections online and those who had taught six or more sections online; and (c) those who were computer novices, those who had intermediate computer skills and those who had advanced skills. For the purposes of statistical analysis, students were separated into (a) those who were 25 years or younger and those who were 26 years or older; (b) those who were employed full-time and those who were either employed part-time or not employed; (c) those who had taken two or fewer online courses, those who had taken three-four online courses, and those who had taken five or more online courses; (d) those who were computer novices, those who had intermediate skills and those who had advanced skills. The responses were also divided into those that came from respondents in Group I colleges and those from respondents in Group II (Model) colleges.

For each of these groups, multivariate tests were performed on the means of their responses with the quality variables put together. As a result of these operations, no statistically significant differences were found between the means of any of the groups (Cf. Appendix C). Again, this result reinforces the consistency in the various

groups involved in online courses in what they considered important and how they evaluated the programs at their local institutions.

Practices in Quality at the Model Institutions

From the interviews and focus groups at the model colleges, there appear to be four components necessary to quality online programs: (1) a strong leadership that collaborates with its faculty, (2) a system for continuous improvement, (3) a reliable technology and responsive technical services, and (4) sound programs of faculty preparation and student orientation. The following narrative identifies practices in the model colleges in each of these four categories.

Collaborative Leadership

At all of the model community colleges, full-time faculty members volunteer to teach online courses rather than being assigned to these courses. The voluntary nature of this assignment does not preclude the recruitment of faculty for online courses. At each of the model colleges, a key person, usually an administrator, has done the recruiting. At Lewis and Clark, for example, the Dean of Applied Technology and Business – herself one of the first as a part-time faculty member to develop an online course at the college – regularly approaches faculty members and suggests that they develop online courses to meet particular needs in the curriculum. As one faculty respondent put it, “The dean personally encourages faculty to participate, gives her support and reviews what is being done to see if it is good.” The Center for Technology and Professional Development at Lake Land, the Center of Excellence in Teaching and Learning at Parkland, and the Division Chair for Alternative Learning and Developmental Education at Heartland have each led the development of their online programs at their institutions.

The leadership of someone with influence in the central administration is key to securing the resources needed for the development and maintenance of online courses. Although not unimportant incentives to the faculty, less critical are the stipends or release time often provided for the development of online courses. More critical are the technology intra-structure, the ongoing technical services, and the training for faculty and students. All of these cost money, and at each of the model institutions someone must secure the necessary resources. Lake Land reported that as a consequence of this leadership, everyone from the president on down makes online learning a high priority. At John Wood, the president sends a consistent message that he supports online learning.

Although a leader usually initiates the development of online courses, for that development to take place, there must be the concurrence of the faculty. At most of the model colleges (Harper, Lake Land, Lewis and Clark, Oakton, Parkland, Triton), groups of faculty who are teaching online regularly meet to share techniques and

information about the newest technologies, to discuss common problems, and to showcase their own online courses. Parkland has a committee of faculty and professionals that sets standards for online courses and establishes best practices. Through these user groups, the topic of online is kept current among the faculty and peers are recruited into teaching online. Most important, as a faculty member from Lewis and Clark put it, faculty members are not only given a voice over the direction of online development, but they also gain a sense of ownership over the program.

At the model colleges, joint administrative-faculty committees have come up with templates for the organization of online courses. At Harper, a steering committee of faculty, administrators, and professional staff developed the Successful Teaching Online Mentoring Program (STOMP). While a part of this program is training for faculty who wish to develop and teach an online course, STOMP also defines the components that should be in every online course:

- instructor and course information and a syllabus;
- a statement of course etiquette;
- course materials;
- assignments and a timetable for their completion;
- a discussion board;
- a virtual classroom for synchronous discussion, test review or tutoring sessions;
- links between the various parts of the course.

Under the leadership of the Chair of Alternative Learning and Development with input from faculty, a similar shell for online courses has been established at Heartland Community College:

- a syllabus and course calendar;
- course materials;
- a quiz section and a section on assignments;
- a grade book;
- a bulletin board;
- an area for e-mail and instructor communications; and
- links between the parts, to the Help Desk, to the instructor's web page and to the college's home page.

At Oakton, a template has been developed within faculty-administration negotiations, which has also developed agreements on intellectual property and on compensation for the development of online courses.

Obviously, these templates are derived from the tools in the platforms used by the colleges, principally either Blackboard or WebCT. Still, in terms of academic freedom and the willingness of the faculty to participate, it is crucial that these forms be reviewed by the faculty and receive their acquiescence, if not approval. The student focus groups reported that the templates are helpful in familiarizing students to what

to expect and how to navigate through an online course. In the interviews the faculty have said that the templates have helped them to organize the course and have expanded their own repertoire of pedagogical methods in face-to-face classes as well as in online sections. For this reason, some colleges, such as Heartland, are reviewing their online courses that predate the established template and plan on providing the faculty with the support needed to revise these courses.

In the formal process for course approval at the model colleges, new online versions of existent courses are not required to go before a college-wide curriculum committee. Instead, approval for new online courses is usually determined by the department chair and the appropriate dean or associate dean. At most colleges, notification, but not a request for approval, is made to the office that will provide the technical training and support for a course. An exception is Heartland Community College, which requires that proposals for online courses receive the prior approval of the Chair of Alternative Education as well as that of the chair of the academic department. The basis for requiring this approval is the fact that new online courses at Heartland entail a long “certification” process of training and technical support (Cf. below). On the other hand, Heartland also requires a review of proposals by the faculty of the affected department or by a faculty committee from that department.

Collaborative leadership at the model colleges can also be seen in the receptiveness of the administrators to the concerns of the online faculty and their willingness to make accommodations. This partnership between faculty and administration for online courses was evident in the account of a faculty respondent from Lewis and Clark, who had served as a union representative on the contract negotiations committee four years ago. As an early developer of online courses, the faculty member spoke to the value of these courses with her colleagues on the committee and thereby allayed fears that online courses would somehow replace full-time faculty and other anxieties. The faculty member was also able to convey to the administration the frustration of the online faculty about the requirement to hold face-to-face office hours five days a week. The administration listened and allowed the substitution of virtual office hours. In similar fashion, what had appeared six or seven years ago as a major issue about the development of online courses, the question of ownership and intellectual property, appears to have been resolved by side agreements between the colleges and their faculty. The issue of class size also appears to have been resolved at the model colleges by setting a lower limit in the online version of most courses.

In summary, although strong leadership has been and continues to be an essential ingredient in the success of online courses at the model colleges, that leadership has collaborated with its full-time faculty, not only to elicit the faculty’s participation but also to ensure quality in the online courses and coherence between those courses and the rest of the curriculum. The Dean of Library and Media Services at Oakton pointed out that communication is a key factor in effective leadership. In Oakton’s online program, he said, no one dictates. To find the best way and then to

make it happen, communication has to occur among students, instructors, and administrators, and it has to be on-going, open and fair.

Systems of Oversight

Another component of quality in the model programs is the presence of mechanisms for identifying problems, making corrections and thereby improving the overall system of delivery.

In the interviews, faculty, students and professional staff agree that problems in individual online courses are handled much in the same way as with face-to-face classes: complaints are brought first to the faculty member and if no resolution is achieved, to the appropriate department chair or associate dean and so on up the academic ladder. Occasionally, especially if the problem involved something unique to online classes, such as the tardiness of an instructor to update course information on the web site, the appeal for help might be made to the professional staff member with responsibility for supporting online classes; however, most problems are addressed in the traditional way.

At some model schools problems are identified after the fact in student evaluations of the online courses. Some colleges, such as Lewis and Clark, use the same evaluation forms and procedures as those used for traditional classes. Others, such as Heartland and John Wood, have developed forms specific for online classes, or, like the Triton and the Lake County, they are in the process of developing such forms. As distinguished from student evaluations, Triton also surveys students about online courses through a form that is accessible online. At Lake Land, the Center for Excellence sends out an evaluation for online classes and technological issues.

For technical problems, students fill out a form and e-mail it to a Help Desk. Most of the model colleges record and compile these problems into a monthly report which identifies trends that need addressing by the technical staff. Problems encountered by professional staff in the computer labs or elsewhere are integrated into these reports.

As mentioned above, many of the model colleges have user groups that also serve as clearinghouses for problems with online courses – the User Group at Lewis and Clark, TUG (Technology User Group) at Harper, and the Teaching and Learning Round Table at Triton. A faculty group at Oakton focuses on the retention of students in online courses, but also deals with quality issues. Additionally at Triton, the TSTM (Technical Planning) committee regularly meets to discuss needs and future directions, and the E-Learning Task Committee extensively reviewed the whole online program in preparation for a special visit from the North Central Association. As a result of that North Central visit, Triton has recently hired a Director of Research and Assessment, one of whose duties is to gather statistical information about online courses for quality control. Serving as a clearinghouse of online issues at Lake County, the Distance Learning Committee has developed a

Handbook for Faculty and has recently finished a draft of the evaluation of online faculty, which is now going to the faculty for approval and adoption.

Reliable Technology and Technical Services

At each of the model colleges, the online courses are housed on a commercially available platform, in most cases either Blackboard or WebCT. Elgin uses Desire2Learn (D2L) and as the result of a tri-state partnership with Iowa and Missouri, John Wood uses *e*College. Parkland College presently uses both WebCT and Blackboard, but is in the process of moving to one platform.

Some of the advantages of using a consistent format to both faculty and students have been discussed under the "Leadership" section of this report (Cf. 35). The advantage, one critical to quality, is the reliability of a system that is used and tested by many different colleges and is supported by the technical services of a national company. Students, faculty and professional staff at the model colleges are satisfied with the platform and report few problems or interruptions. Moreover, the companies providing the platforms also offer training for technical personnel and faculty in its use. Rather than maintain their own Help Desks for students, some colleges have purchased these services from Blackboard or WebCT.

Among all the groups interviewed there was nearly universal praise for the technical support provided for online classes. Repeatedly the technical staffs were cited for their helpfulness, their friendliness, and the speed with which they responded, usually contacting the student or faculty member within a day. The size of the technical staffs directly involved in supporting online classes is substantial, ranging from a staff of five at Heartland, to six at Lewis and Clark to twelve at Triton. As has been pointed out, most of the technicians supporting online classes are under the instructional wing of the college. Most of the colleges supplement this staff with help from IT, which usually maintains the servers and the platform, backup the programs, and move student registrations from the college's system, such as PeopleSoft, to the instructional platform, Blackboard or WebCT. The only weakness in the technical support cited several times in the interviews was the need to integrate better the system and the instructional platforms so that, for instance, students would need only one log-on to register and to have access to online classes. Lake Land is presently working on this integration with Datatel.

At many of the model schools an instructional designer works with the faculty to develop the online classes. Technical staff also put course and instructor information on the college's web site. At a number of schools the technical staff help the faculty set up their own web sites. Faculty are also helped in the use of video, digital cameras and such specialized software as Flash and Camtasia.

Most of the colleges maintain separate facilities for faculty to work on their courses. Whether termed a Center for Excellence in Teaching and Learning at Parkland and at Lake County, a Virtual Lab at Lewis and Clark, a Developmental Center at

Heartland, a Center for Technology and Professional Development at Lake Land, or an electronic classroom (Triton), this facility usually has a computer lab with from 8 to 25 stations and the latest software, a conference room or two for workshops, and a professional staff or two or three to provide training and help.

Students receive many technical services. At most of the model colleges (Lake County, Harper, Lake Land, Parkland, Triton, John Wood), students can register online, at least after their first semester or with the permission of their advisor (Lewis and Clark). At the web site of several colleges, students can find important information about each online course, including a description of the course, the name and e-mail address of the instructor, a photograph and biographical sketch of the instructor, and any special features or requirements of the course. Lake County provides an online readiness test in its class schedule, and several other schools, such as Oakton, link students to the readiness test that is available at the OASIS web site that is maintained under the auspices of ILCCO. Lake County, Harper, Parkland, and Triton have each dedicated a counselor to work specifically with online students, helping them to register and providing guidance during the semester. Oakton has had online advisement for several years. At Harper and Oakton, students can use a web site to test out their home computer and software as to whether they are sufficient for the course. Lake County provides each of its students with his/her own e-mail account, apart from any commercial service to which the student may subscribe. These e-mail accounts may be retained even after the student is no longer enrolled at CLC.

At most of the model colleges, faculty contact by letter or e-mail registered students a week or so before the semester started and give them the necessary information to start working in the course. All the model community colleges, except Oakton, have Help Desks, which students can contact by telephone, by a link from their course, or by e-mail if they have any technical problems. At Oakton, students can get help in the IT lab or from faculty. Most technical problems are caused by limitations in the students' home computers, which the technicians can often detect from the college site and resolve. Other common technical problems seem to arise from firewalls and pop-up blockers on the newer versions of software that interfere with material in the online course. To help with these problems, Triton mails a Resource Guide to each online student.

In addition to technical help, students can order textbooks from a bookstore online at most of the model schools. They can also access online the holdings in the library, although to check out a book they have to appear in person. Oakton has online access to 85% of its library, and a librarian is available online every hour that they are open. At Lewis and Clark, students may borrow software from the library. Students can apply for financial aid online and access their advisement ledger. All the colleges keep online students informed of the various events on campus at their web sites, and at some schools, student activities and academic administration send students special e-mails about these events.

All the colleges have computer labs on campus for the use of students, many open seven days a week and in the evenings as well as the days. For example, Lewis and Clark has a Virtual Learning Lab of 25 computer stations, and Triton has three large bays of over 100 computers as well as a lab in its library and a computer café in the student activities area. These labs have personnel to help students and make available for loan the software used in the online courses. A number of departments, such as that of Business and Informational Services, also house their own computer labs.

Faculty and Student Training

All of the model colleges provide training programs for their faculty who wish to teach online. Often this training is integrated into the designing of the online course, and the faculty member is either paid a stipend, especially in the case of the adjunct faculty, or given release time (in the case of full-time faculty) for taking the training and designing the online course. Until recently, a number of schools have provided both release time and stipend, funded by external grants, but many of the stipends have been discontinued as the grants have ended. At some institutions (Triton, Heartland, Lewis and Clark, Parkland) faculty earn credits toward promotion by taking the training courses. Only John Wood provides a small stipend for each additional student who is allowed into an online class. None of the other model school provides extra pay for actually teaching the online courses, but many of them lower the maximum class sizes for online sections. This is especially true during the first time the online course is taught. For example, online classes at Heartland are limited to fifteen students during their first semester and at Lewis and Clark, the pilot classes are limited to ten students.

Heartland has the most systematic “certification” program for faculty who wish to teach online or have significant parts of their course online. Level I or the Supplementary Level consists of three days of training with a two-hour session on each day. At Level I, faculty members learn the basic features of WebCT and how to put quizzes and some course material online as a supplement to face-to-face classes. The Level II or the Hybrid Level, consisting of nine hours of training, deals with the use of email, bulletin boards, and pedagogical issues related to the technology. After completing Level II, the instructor is able to teach a hybrid course that meets half its normal credit hours in a classroom and half online. At Level III, consisting of 75 hours of training, the instructor actually designs a full-fledged online course. Although online courses that were developed prior to Heartland’s certification process continue to be offered, the assumption is that all future online courses will be developed over this sequence of three stages with the instructor’s option of keeping the course at any one of the stages. At each stage of development there is opportunity for quality controls. Thus, the training program at Heartland integrates faculty preparation with course design and allows a great deal of actual experimentation until the final product is attained.

Harper also combines faculty training with course design, but its approach is collegial. Under its Successful Teaching Online Mentoring Program (STOMP), the instructor works with the instructional designer and an experienced faculty member experienced to create a new online course. Consisting of eight meetings of two hours apiece, STOMP delivers pedagogical information (such as preparing a syllabus and testing and grading online) as well as technical information. Like the Heartland program, it also provides a framework of the components that should be used in online courses. Lasting a full year, the faculty member learns the new tools and prepares the course during the first semester; he/she actually teaches the course during the second semester and works out the bugs under the guidance of a mentor. Once each semester, all the new online teachers and their mentors meet as a group to showcase the new courses. Through the "Do-It" professional development program, Harper also offers faculty over forty different workshops. "Bits and Bytes" is a series of brown bag sessions in which small groups of faculty share ideas about their online courses

Lewis and Clark offers Introduction to Online Teaching (one credit hour) and the Exemplary Course (two credit hours), the latter used to develop the new online course. Parkland, Lake Land, Triton, and Lake County provide faculty with short-term workshops and courses, such as Introduction to Blackboard, Dreamweaver, and Flash. John Wood strongly encourages its faculty to take workshops that are offered by *e*College, especially its training in instructional design. Lake County, Harper, and Heartland have also developed faculty handbooks on distance learning, some of which are available online. In addition to these internal training programs, faculty at the model colleges have participated in workshops provided by Illinois Online Network, by Illinois Community Colleges Online, and the Faculty Summer Institute at the University of Illinois (sponsored by ION). A number of faculty have participated in the MVCR program offered by ION, and a staff member from Harper is receiving her certificate from that program. Lake Land held an online summit for faculty and staff to share ideas on how to improve online learning.

Once they have registered for an online course, each of the model colleges offers students an orientation to the new technology. None of the colleges requires the orientation as an official prerequisite for taking an online course, but Oakton so strongly encourages it that the students in the focus group thought it was a requirement. In most instances, the orientation is a face-to-face session scheduled before the semester begins and then again during the first few weeks or the semester or in some cases, as late registration classes begin. The WebCT 101 Training at Lewis and Clark is about ninety minutes long and covers topics such as navigating through WebCT, using email and posting on the discussion board. In the orientation offered by Triton, students learn about time management, course expectations, logging in and other procedures. Week Zero at Lake County specifically prepares students for online courses, and at Harper, a Student Success workshop is jointly taught by the professional staff member and a counselor whose time is dedicated to students in online courses. In addition to these live orientations, many of the model colleges, such as Harper, Heartland, Oakton, Lake Land, and

John Wood, have tutorials that are accessible online. An online course at Lake Land introduces students to library sources.

Development of Online Courses

At most of the model colleges, the decision to design an online course is made by the faculty member. In most instances the course has already existed in a traditional format, and the content and basic methods have been already long established. As pointed out by a Parkland faculty member, “You need to have taught the course first. You need to know the layout of the material. You have to get on and play with it.”

In some instances, the faculty member may be motivated by the desire to have a more specialized course “make” by offering it to a broader audience through the online format. At some colleges, such as John Wood, Parkland and Lewis and Clark, an administrator may spot the need for an online course in the curriculum and “prime the pump” by speaking with the appropriate faculty member.

As indicated above, many of the model schools integrate the designing of new online courses into their faculty training. Through this process the faculty member is not only supported with the necessary technical experience, but also through the release time that often accompanies the training experience, he/she is freed up to devote the necessary time and attention. Also helpful are the templates that have been established by many of the colleges (Oakton, Harper, and Heartland) to define and organize the online courses. At Parkland, a faculty member is developing a class on teaching for new online instructors.

In the interviews, respondents pointed out the need to make the course more than “shovel design,” a mere replication of lecture notes online with accompanying quizzes and tests. Without the back-and-forth communication of oral communication with the student and adjustments that are made due to student reaction, the instructor has to take many more pains to ensure that the text of his/her online messages will be clearly understood. Through the written word, he/she must engage students in activities that are relevant to them and that add value to their learning. The respondents advised that the instructor avoid the temptation to design a flashy display of bells and whistles, but instead to analyze the needs of the student audience and use the technology effectively for learning. They also stressed the need for a sufficient variety of learning experiences that address different learning styles and a range of assessment methods, not just an exam at the end of the course. Harper identifies learning outcomes for each online course, places them on file in the office of the academic vice-president, and regularly measures the course results against them.

The results of the student survey demonstrate that while tests (22.6%) and homework assignments (20.5%) constitute almost half of the assessment techniques in online classes, a variety of other methods are used:

Table 42
Assessment in Online Courses – by Student Respondents

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Participation in chat room	313	9.8	9.8	9.8
	Homework assignments	655	20.5	20.5	30.3
	Bulletin-board postings	547	17.1	17.1	47.3
	Student portfolio	79	2.5	2.5	49.8
	Projects/papers	494	15.4	15.4	65.3
	Team projects	149	4.7	4.7	69.9
	Reflective journal	92	2.9	2.9	72.8
	Online tests and/or quizzes	606	18.9	18.9	91.7
	Proctored tests and/or quizzes	234	7.3	7.3	99.0
	Other	31	1.0	1.0	100.0
	Total	3200	100.0	100.0	

In addition to the methods cited above, the 750 students who responded to this question on the survey also mentioned lab work, studio art work, the frequency of email responses and use of the digital drop box, and website reviews. Additionally, Lake County reports that simulations are used in an online cross-cultural course and that demonstrations are used for Word classes.

Issue of Cheating

Whether faculty, students, or professional staff, most of those interviewed were not worried about cheating in online courses. To the question of how honesty is ensured in online courses, the typical response was, “How can it be ensured that they [students] are doing their own work in the classroom?”

Provision at all of the model schools has been made for proctored, face-to-face examinations. At Heartland, fifteen out of forty instructors require tests to be taken on campus. A number of students in the focus groups and a few faculty reported that the requirement to come to campus for testing was a problem for students who live far away from campus, and while special accommodations are made for out-of-state students, seeking this dispensation can be time-consuming. Some students also see a contradiction in requiring on-campus attendance for a course designed to be taken over the Internet. One student put it, “Sort of defeats the purpose, doesn’t it?”

For papers, a number of schools have installed software that helps teachers detect plagiarism. Online quizzes and tests are often timed to make it more difficult for cheating (Lake County, Harper, Lake Land, Lewis and Clark). Students who do not finish within the allotted time have to seek the instructor’s permission to complete the test. Another technique used by instructors is to break down the course into modules and limit the days within which students can take a test on the module. When the days run out, the test disappears from the web site. The newer version of Blackboard enables Harper faculty to display one exam question at a time, places a time limit on answering each question and after the exam is completed, displays only

the student's score, not the question. In the focus groups, students pointed out that even if the test time is not limited, a log enables instructors to know how long students were online and how often. A student explained, "They can tell if you're cheating."

Academic Rigor of Online Courses

There was nearly universal agreement among the students in the focus groups as well as the faculty and professional staff who were interviewed that online courses were no easier than those taken in the classroom. As one student put it, "It's a lot of work. [I] thought it might be easier than the class, but it's a lot more work." The few students who had thought that online class might be easier were quickly disabused of that misconception, often during the orientation. At all of the schools, a major part of the orientation was devoted to emphasizing what was called "the expectations" of the online course. As will be examined later in this report, this part of the orientation appears to have taken well and was attributed by many respondents to have improved retention rates.

A minority of the students in the focus groups said that the online course took less time than a traditional version, mainly because of the time saved from class meetings and travel to campus. Some pointed out that they did not have to wait for others in the class to catch up, and one said that she personally learns faster on her own through reading. On the other hand, the majority said online classes take as much as or more time than traditional. For these students, any savings in travel and class time was more than expended in the additional reading and communication in the online course. As one put it, "You have to noodle things out on your own."

Most of the faculty interviewed said that the outcomes of the classroom and the versions were basically the same – the same content, same tests and same standards applied – but that the activities and mode of learning were different. Most reported that students participated more in an online class and that more students participated. "Every student has a voice." Whereas the shy or more reflective student may be penalized in a classroom where the premium is on the quickness of the raised hand, he/she is more apt to open up in the protected anonymity of the online class. The significance of this protective anonymity was aptly expressed in an exchange between two students in a focus group at Lake County. One student was saying that he felt that he could write things about himself in his online composition class that he would never have dared to express in the classroom when another student in the focus group reminded him that his papers were posted online to be shared with all the other students in the course. The composition student responded, "As a classmate in an online course I know you as Ramona, but I don't know what you look like. So if I see you in the supermarket I can't say, like now, 'That's Ramona. She's read my paper.' That's what I like about online: you remain mysterious."

Faculty pointed out that because student responses are put into writing in an online course, they are usually better thought out and more carefully expressed. “In itself, this elevates the whole level of the discussion,” and helps to develop critical thinking. As one of the professional staff put it, the instructor is the recipient of all the learning from the class because he/she sees all the assignments. However, if the online course is conscientiously organized, the students get to know each other better and share the learning that is going on. A number of faculty reported that on their part, they tended to be better organized, more thoughtful and clearer in their communications and more aware of the need to integrate a variety of approaches in the course material. Students too say that they have to be more organized and self-disciplined to get through an online course.

On the other hand, some students were uncomfortable with the lack of face-to-face contact with the instructor. “You can’t read body language. All you can see are the words. You think you know where they’re coming from, but you really don’t.” When an online student has questions, questions that he/she might not be able to clearly express in writing, the student may miss that immediate, back and forth exchange with an instructor that comes not only through language, but also through facial expressions and gestures. Some students also expressed frustration of trying to figure out what is important in an online course or in the textbook without benefit of those often non-verbal clues given in person by the instructor. Others pointed out that these problems are offset by supplementary PowerPoint presentations. Still, as differentiated from those reflective students who come into their own in an online course, there may be other students who need that in-person exchange with the instructor.

Only one of the students reported that he learned less in an online course than he normally does in a traditional class. All the others said they learned as much as or more than in a classroom course. Faculty pointed out that the final grades for those in the traditional class and online version of the same course were very similar, and a Harper instructor reported that a higher percentage of students passed his online course. Heartland Community College tracked the grades of both in-class and online students and has found that the rates of success, as measured by A, B, and C grades, are basically the same: 67% passing in online classes and 70% in traditional classes.

A number of students also distinguished the kind of learning that occurs in an online class from that of a traditional class. Two Harper students said that they had to prepare more in the online class and had to see things “from different perspectives” because less guidance was provided from the instructor on what was important. Another student reported that without the distractions of the classroom, her learning in the online class was “very focused” and that she retained more of the material. Several of the instructors claimed that students took more responsibility for their learning in online courses, became more critical, disciplined, and organized learners and consequently learned how to learn.

Suggestions for Improving the Quality of Online Courses

The following list is a compilation of what was said in the interviews and written as comments on the surveys as being the essential components for a quality online program.

Components of a Quality Online Program

(1) Each institution should use a common computer platform for all online courses, one that is reliable, user-friendly, and capable of easy editing. Such a system will promote a level of continuity among the online courses, ensuring that they are taught similarly and have the basic format and appearance. Through familiarity, it will also help students navigate through the course and reinforce their expectations about the course.

(2) The faculty should be well prepared and should be supported to design and teach online courses. Online faculty need to be well organized, willing to update their course information each semester, ready to give timely and continuing feedback, and able to provide and maintain clear expectations from the onset of the course.

(3) Students should be assessed as to their readiness for online courses, informed about course expectations, and provided with the technical training and help necessary for their successful completion of the course.

(4) The courses should be well organized and contain a variety of course components, activities and media to provide access for students and to engage and encourage them.

(5) The college should provide training and on-going technical support for both the faculty and students who are involved in online learning.

(6) The college and faculty should have a continuous process whereby online courses, both new ones and existing ones, are assessed in light of their learning outcomes and student satisfaction.

Most of the suggestions were made by either all three groups of students, faculty and professional staff, or two of those groups. On suggestion #3, however, a number of faculty and professional staff thought that student orientation should be made mandatory, but while appreciating its benefits, most of the students did not believe it should be required as a prerequisite to taking online courses. There also appeared to be something of a contradiction in suggestion #6, which was repeatedly made in the interviews, particularly by professional staff, and its listing in the survey results as among “the less important” by faculty and students.

In the “suggestions” section of the student survey, 84 students said that they had no suggestions for improving online classes, the majority of these indicating that they were happy with the courses as they are now. These results are taken by the investigators to indicate a general satisfaction with online courses. Of those students who did make suggestions, the greatest number (64) wanted more online classes. 47 students suggested that faculty should respond more quickly. 25 students suggested that there be more interaction among students and between faculty and student, and 11 suggested that there be more activity in the chat room or on the discussion board. 15 students said that course requirements should be more clearly spelled out before the courses start. 14 suggested that course materials and calendars be updated each semester.

In addition to the above, students, faculty, and professional staff in both the surveys and interviews suggested the following improvements in the quality of online courses:

Suggestions for Improving Quality

1) The college should adopt clearly articulated standards and a list of components for all online courses.

2) Faculty should convey a sense of their own personality in their online courses.

3) The department should review all online courses that have been taught from the beginning of online instruction and that were developed prior to adoption of a college-wide platform and course template. If these courses need to be re-designed, support should be provided for this purpose.

4) Publisher CD’s that accompany a textbook can supplement an online course, but they should not be used as the principal content of the course.

5) Every online course should have clear and definite due dates for assignments.

6) All online courses should be available for instructor evaluation and student comment.

7) There should be some mechanism for students to interact with the text material, so that they can add their own questions and comments in the margins.

8) Mentoring programs should be provided for faculty who are designing online courses or teaching them for the first time.

9) Technical support should provide primer workshops in technology for those faculty and students who need them.

10) Faculty should have a bulletin board on which they can post questions and responses dealing with issues of online courses.

11) As part of their readiness for online courses, students should be assessed as to their level of writing and reading skills since these are essential for success in the courses.

12) Technology support should be available for students on weekends and in the evenings, times when most online students are studying.

13) Online tutoring and course review sessions should be provided.

14) Additional fees should not be imposed upon the cost of online courses. (Student suggestions)

IV. EXPANDING CAPACITY

The second main purpose of this study was to examine the capacity of the Illinois community colleges to expand their online programs. "Capacity" includes (1) the colleges' ability to increase the enrollment of students in online courses and (2) the colleges' ability to recruit faculty to teach online courses. Each of these capacities is examined separately in this section of the report.

Enrollments in Online Courses

Not counting the enrollments of seven of the forty-eight community colleges in the Illinois system[3], there were 33,405 registrations in online courses in the Fall of 2004.[4] These registrations generated 91,882 credit hours, which constituted 3.7% of the credit hours in community colleges during that semester. The proportion of online enrollments ranged from less than 1% at Wabash Valley College to 13% at Morton College and 9% at Parkland College. For Fall 2004, the model colleges averaged 5% of their enrollments in online courses.

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[3]From "Distance Education Enrollments: Illinois Colleges and Universities, Fall 2004," published by Illinois Virtual Campus.

[4]The "registrations" are the duplicated head count as published by the Illinois Community College Board. The duplicated head enrollments for the Fall semester of 2004 were not available for Joliet Junior College and for the seven community colleges of the City of Chicago (Kennedy-King, Harold Washington, Malcolm X, Harry S. Truman, Olive-Harvey, Richard J. Daley, and Wilbur Wright). The percentage of online courses for the whole system may therefore be inflated slightly.

Table 43
Percentages of Enrollments in Online Courses at Model Colleges, Fall 2004[5]

Parkland College	9%
Lake Land College	8%
Lewis and Clark Community College	7%
Lake County	5%
John Wood Community College	4%
Heartland Community College	4%
Triton College	3%
Harper College	3%
Oakton Community College	2%

As an example of the extensiveness of online courses, Lewis and Clark enrolled in the spring semester 1,300 students in 80 different online courses (90 sections) and an additional 5,300 students in hybrid or web-blended courses. According to professional staff who were interviewed, 80% of all the courses that are available at Lewis and Clark are currently online.

From both the survey results and the student focus groups, the overwhelming majority of students who have taken online courses appeared to be satisfied with them. Out of 717 students responding to the question in the survey, 93% said that they would take another online course. Among the students who participated in the focus groups, only one said that he would not take another online class because he misses the social contact of class.

As to why they enroll in online classes, students listed the following under a question that asked why they would or would not take another online course:

Table 44
Reasons for Enrolling in Online Classes

Convenience	303 responses
Because of work schedule	96
Be home with children/family commitments	68
Time Constraints, online saves times	55
Flexibility	34
Could fit online in my schedule	50
Prefer studying at own pace, independent learning	42
Avoid parking problems, travel to campus	40
No traditional class available/no space available	40
Wanted the experience of online/enjoy online	23
Thought online course would be easier	7

As with the student survey, many of the students in the focus groups were attracted to online courses because of their “convenience,” “flexibility,” or because of the competing time commitments of a job or family. Of course, the terms “convenience”

[5] These percentages are based upon the credit hours in online courses proportional to the total credit hours of each college in the Fall 2004 at midterm.

and “flexibility” are general and were further clarified by the comments of the students. In some of those comments, “flexibility” meant the ability to choose the days to concentrate on the online course: “If I can’t work one night, [I] can make it up the next day. If I have a class, I have to adjust my work schedule, my home life. I have a twenty-year older [*sic*] and grandchildren and a life.” For others, the flexibility was in the time in which to study: “I could go online and work all night. I was taking some quizzes and tests at 2:30 in the morning. I wouldn’t be able to do that with a regular class.” And for some, the convenience was the informality in which they could study: “Can do class in your underwear.”

Many of the students in the focus groups and on the survey indicated that the online course could fit into their busy lives, pulled as they are by competing commitments of full-time employment and family needs. New mothers found that they could study and take care of babies at the same time. For some students, the online class was an “extra” course that they could squeeze into their schedule in order to complete the degree earlier.

“Convenience” for others meant the comfort of staying at home, avoiding traffic and parking problems, and saving the time spent in the classroom. Some students were uncomfortable sitting in a classroom and others were bothered by faculty lectures or by classmate remarks that they found less than pertinent. “Don’t have to put up with the class clown.” As a reason for preferring online classes to traditional ones, an older, returning student pointed out on the survey, “I am more embarrassed to be in the classroom with all the new high school graduates.”

Many students preferred the independence of learning on their own. For some, this meant learning at their own pace: “I can go back and look at things and see when it [*sic*] clicks later on.” Online classes for some “give you ample time to meander through the chapter and learn it as deeply as you want or you can self-pace and blitz.”

It appeared that some students had been forced into online sections. The “live” section of a course they needed for graduation was not available or was not available when they were or did not have any spaces left in it. This was particularly true for students who attended mostly in the evenings because of work schedules or other reasons. By their very nature, there may not be sufficient enrollments in the evening to accommodate both “live” and online sections of the same course. Sophomore-level and special interest courses may also be limited in the enrollments they attract. The administration and faculty at Lewis and Clark and at Parkland are aware of such problems and endeavor to ensure that the scheduling accommodates both students who like online and those who prefer face-to-face classes, even if that means not scheduling an online section that might otherwise divert enrollments from the live section.

Choosing courses online as an easier alternative was seldom a reason for taking an online class. As a matter of fact, among the few who would not take another online

class, a frequent reason given was that the online class requires too much work or too much reading. The other reason some students wish to avoid online classes in the future was their awareness of their own tendencies toward procrastination and consequent need for the structure of the class meetings.

Factors That Encourage Enrollments

On the survey students ranked the importance (1 through 4) of factors at their own institution that encourage them to take online courses. The following table gives all the factors that were listed on the survey in order of importance from the most important to the least important:

Table 45
Factors That Encourage Enrollment At Own Institution --
Rated by Students from Most Important to Least Important

Q#	Factor That Encouraged Enrollment at Own Institution	Mean
67	Technology is available for students at the college	3.40
68	Technology support is available for students at the college	3.34
70	Students are given advance knowledge of course expectations	3.26
69	College services, such as advising, book store, registration, are available online	3.11
65	There are more online courses offered to students	2.84
66	Complete degrees or certificates are offered online	2.63

By this measure, technology and technical services (67 and 68) are the most important factors in encouraging enrollments. This could also mean that they rank those services relatively high at their own institutions. Conversely, the availability of online courses and programs at their own institution is ranked as lower.

Students were also asked to rank the importance of barriers to enrollment at their own institution. As can be seen below, students considered all these factors as being of relatively moderate weight. This result could suggest that they are not likely to be discouraged from enrollment by any of them. Or it could mean that the students hold the services at their own institution fairly high. The only factor rated higher than “average” is the first one, having to do with the students’ own attitude rather than any extrinsic influence from the institution. Note that anxiety about online learning is at the bottom of the list.

Table 46
Barriers to Enrollment At Own Institution – Rated by Students

Q#	Barrier to Enrollment	Mean
85	The need for self-direction and self-motivation	3.00
83	The need to have access to computers	2.75
82	Insufficient computer skills	2.60
84	The need to be on campus at times	2.55
86	Unclear expectations	2.50
81	Fear of online	2.41

Significant Differences Among Groups

The students who responded to the questions about encouragement or discouragement to enrollment (. 65-86) were subdivided into different groups and their responses analyzed as to whether there were any statistically significant differences among the means of the different groups. As the result of applying multivariate tests, there were no significant differences in means between groups of students based neither on age nor among student groups based on the number of online courses they had completed. On the other hand, through multivariate tests and Tukey Multiple Comparisons, significant differences in means were found among the three groups of students: (a) students who are computer novices, those who have intermediate-level computer skills, and those who have advanced computer skills; (b) students who are employed full-time and those who are not employed or employed part-time; and (c) students from Group I and students from Group II (Model) colleges (Cf. Appendixes D-3, D-4 & D-5).

The significant difference in means between those students who were employed full-time and those who are employed part-time or not employed was limited to one barrier (Cf. Appendix D4).

Table 47
Significant Differences on Barriers – Employed and Unemployed Students

Q#		Employment Status	Mean	Stdandard Deviation	N
83	The need to have access to computers	Unemployed or employed part-time	2.68	1.055	358
		Employed full-time	2.85	1.023	290
		Total		1.044	648

It makes sense that access to computers for an online course is significantly more important to those who are employed, since on a whole they will have less opportunity to come to campus to use the computers there.

For the groups of students with different levels of computer skills, there was a mean significant difference in the means on a number of the barrier items (Cf. Appendix D3).

Table 48
Significant Difference on Barriers – Students with Different Computer Skills

Q#		Skill Level	Mean	Standard Deviation	N
81	Fear of online	Novice	2.92	1.057	66
		Intermediate	2.49	1.049	201
		Advanced	2.27	1.070	379
		Total	2.40	1.079	646
82	Insufficient technical	Novice	2.83	.970	66
	Computer skills	Intermediate	2.66	.963	201
		Advanced	2.51	1.047	379
		Total	2.59	1.018	646
84	Need to be on-campus at	Novice	2.92	.982	66
	Times	Intermediate	2.52	.995	201
		Advanced	2.50	1.030	379
		Total	2.55	1.021	646
85	Need for self-direction and	Novice	3.26	.950	66
	Self-motivation	Intermediate	3.06	.960	201
		Advanced	2.93	1.056	379
		Total	3.01	1.020	646

The mean difference on each of these items is significant at the .05 level or less. The pattern here appears to be that there is less anxiety about potential barriers to enrollment at the local institution with an increased level of computer skills.

Significant differences in the means also occurred between the responses of students from Group I colleges and those from Group II (Model) colleges (Cf. Appendix D5). Significant differences were found on four of the factors that encourage enrollment.

Table 49
Significant Differences on Factors That Encourage Enrollments – Group I and Group II

Q#		Groups	Mean	Standard Deviation	N
66	Complete degrees or certificates are	Group I	2.53	.950	329
	offered online	Group II	2.74	.902	230
		Total	2.62	.935	559
67	Technology is available for students	Group I	3.33	.699	329
	at the college	Group II	3.51	.625	230
		Total	3.40	.675	559
68	Technology support is available for	Group I	3.22	.800	329
	students at the college	Group II	3.48	.639	230
		Total	3.32	.748	559
70	Students are given advance knowledge	Group I	3.20	.823	329
	of course expectations	Group II	3.36	.739	230
		Total	3.26	.793	559

On each of these items the means of the responses of the students from Group II (Model) colleges were significantly higher than those of the students from Group I colleges. To the investigators, these results suggest that students from model colleges felt that their institutions encouraged enrollment in online courses through the greater support for technology (67 and 68), providing up-front knowledge of course expectations (70), and by offering degrees and certificates online (66).

Between the students in Groups I and II colleges there were significant differences in means on two issues related to the issue of barriers to enrollment.

Table 50
Significant Differences on Barriers to Enrollment -- Group I and Group II

Q#		Groups	Mean	Standard Deviation	N
81	Fear of online	Group I	2.31	1.055	359
		Group II	2.52	1.092	256
		Total	2.39	1.074	615
85	The need for self-direction and self-motivation	Group I	2.93	1.003	359
		Group II	3.13	1.030	256
		Total	3.01	1.018	615

The higher means of the students from Group II (Model) schools suggest that they have a higher degree of anxiety about the online and a greater appreciation of the need for self-direction and self-motivation.

Student Comment on Enrollment

The interviews and focus groups at the model colleges reinforce the popularity of online courses that was evident in the surveys. It appears that there is little problem in recruiting students for online courses. As a respondent at Parkland put it, “They have to turn them away.” Differing somewhat from the survey results above (. 65), the focus groups put more emphasis on the need to have more courses available online. As one student put it, noting that available classes fill quickly, the problem is not student enrollment, but the reluctance of faculty to teach online: “Are they ready for more online students?” Although the root of this problem may be the reluctance of some faculty to teach online, a few of the model colleges appeared to restrict the number of online sections they offer to avoid competition with their face-to-face offerings or with their sister community college districts. In one instance, a community college did not want to adversely affect the enrollments at a satellite site that had just opened. On the other hand, cooperative offerings of online courses were seen as a way to expand capacity and increase enrollments, especially for those courses that would not otherwise “make” on campus.

Less important as a barrier, but still mentioned in the interviews were limitations of skills among the students that resulted in frustration in the course. The computer skills of some students were inadequate for online courses, and some respondents suggested that this problem be remedied by offering in addition to the orientation a basic computer workshop for those students before they attempt the course. The other set of skills cited as crucial to success in an online course were communication skills. In a course that depends upon text, a student must be able to read and write well. A number of respondents suggested that students be required to demonstrate competency in reading and writing as a pre-requisite for taking online courses. According to the respondents, a student’s attitude can be a barrier to success: if students sign up for an online class under the misconception that it will be easier or take less time, they are more apt to find the course frustrating and the results disappointing.

The failure of some faculty to communicate with online students was cited as another source of frustration in the course as was a faulty course design that amounted to little more than a summary of the textbook online. While these barriers were mentioned in the surveys, interviews and focus groups, none of them were considered significant enough to reduce the popularity of online courses.

In the interviews technical difficulties with the system for delivering online classes were hardly ever cited as a problem, although a couple of respondents mentioned problems with getting student passwords to work with the new version of Blackboard (6.1). More of the technical problems resulted from limitations of the students’ home computer, their software or their commercial Internet service provider, although all of these home computer problems were also infrequent. Faculty from several institutions said that the technical reliability and technical support had improved considerably over the last several years.

While their support for online classes was high, the students were more ambiguous about taking a whole degree online. Out of 706 students responding to the question on the survey, 54.7% said that they would not take an entire program for a degree or certificate online. This finding may be important since a next step announced by many of the colleges in the study is to put whole programs online.

Reinforcing this conclusion, a substantial number of those in focus groups said that they did not want to take their whole degree online. Some found that some live interaction with other students as important and part of the college experience. As one student from Lake County put it, “It [the campus] is an atmosphere where you want to learn. Where sometimes you’re at home, you go into relax mode and you get yourself behind in your work.” Other students pointed out that many career classes require learning of certain physical skills and techniques that cannot be conveyed over the Internet. Some felt that some subjects, such as mathematics and the sciences, were too difficult to learn without the close, person-to-person guidance of an instructor.

To meet these needs, Parkland College and Heartland Community College have put more of an emphasis on the development of hybrid or web-blended courses, intending to combine the convenience and independent study of the online with the structure and guidance of the regular class meeting. As explained in the previous section, Heartland has a three-stage progressive development of online classes from supplementary (class meets regularly with material and exercises online) to hybrid (class meets half the time and delivers the rest of course online) to fully online. At any one of these stages of development, the faculty member can stop and keep the course as a web-supplementary or hybrid.

The student focus groups were somewhat divided about hybrid classes. Some preferred hybrid, especially for courses like Statistics in which they have the regular opportunity to ask the instructor questions or seek extra help. On the other hand, others, particularly the older students with heavy family and job responsibilities, preferred the fully online: “Only if I can’t get it online [would I take a hybrid]. Online is my first choice.”

While half of the students in the survey eschewed the online delivery of a degree, the other half of their peers had many suggestions for programs to put online.

Table 51
Student Suggestions for Online Instructional Programs

Accounting
Addiction
Administrative Assistant, Office Technology
Actuarial Science
Associate in Arts, Associate in Science (Transfer Degrees)
Business, Business Administration, Management, Marketing

Child Development, Early Childhood Development
Communications
Computer Science, Web Technology, CISCO options
Criminal Justice
Dental Assistant, Dental Hygiene
Education
English
Fire Science
Graphic Design, Multimedia Design
History
Interior Design
Legal Secretary
Mathematics
Medical Office Assistant
Medical Transcription
Nursing, Licensed Practical Nursing, Health Care
Psychology
Pre-Pharmacy
Radiological Technology
Real Estate
Sciences
Social Work
Teacher Certification
Ultrasound Technology
Women Studies

Suggestions for Improving Enrollments

The student focus groups reported that most of them learned about online courses word-of-mouth from other students, faculty, or college staff. The class schedule was a second source of knowledge about the courses, followed by information on the college's web site and lastly, radio ads.

In marketing online courses, several focus groups suggested targeting working adults and people in the field who are coming back to further their education. Along these lines, the students recommended that career courses and those related to securing a better job be added to the online offerings.

Students suggested that presentations be made to high school students, listing the advantages of online learning, and that even demonstration workshops could be offered online to high school groups. A separate web page, linked to the college's home page, could list online offerings, student testimonials, and information about instructors. It was even suggested that online programs be given their own logo and that t-shirts with that advertising be distributed.

Among the ways of improving enrollments, both students and faculty stressed the paramount importance for online faculty to be well organized and to be responsive in a timely fashion. Faculty also pointed out the importance of well-designed courses that go far beyond "the old correspondence course of read-test-read-test." Students suggested that in order to design more interesting courses, faculty need a better

knowledge of the technology. They also believe that the college needs to set guidelines or standards to be followed in the design of all online courses. In designing courses and teaching them for the first time, faculty would also appreciate the mentoring of a colleague.

Faculty, students, and professional staff identified a number of things that the administration could do to encourage enrollments in online courses. Crucial was a single platform for all online courses. Both faculty and students also expected technical training and technical support, especially when they are taking or teaching an online course for the first time. Additional primer workshops could help prepare students who are less technically sufficient. One faculty member from Lewis and Clark pointed out that just as important as technical help is an atmosphere of trust, so that both faculty and students can feel free to admit problems and seek help.

Students at some of the colleges would like their institutions to eliminate the extra fees for online classes. Students also wanted from the administration more online offerings from which they can choose. As a faculty member pointed out, online offerings could be expanded by using the collaborations among the colleges such as the ILCCO course exchange. Both students and professional staff pointed out the need for the college to review and publish the outcomes of online classes, their success rates, completion rates, the competencies of students who complete the classes, and their licensing rates.

Recruitment of Faculty to Teach Online

According to the survey of the faculty, the most important factors in encouraging them to teach online at their own institutions are the reliable technology, the training to teach online, and the assistance in developing the courses.

Table 52
Most Important Factors in Encouraging Online Teaching – By Faculty

Q#	Most Important Factors of Encouragement	Mean
67	Technology is available for faculty at the college	3.45
68	Proctored testing labs are available	3.38
73	Faculty are assisted in course design	3.16
71	Faculty receive in-service training	3.13
69	College services, such as advising, book store, registration, are available online	3.02

It is interesting to note that although some students resented having to come to campus to take exams, faculty held proctored tests as among the most important inducements to teach online, no doubt reassuring them that online learning has academic integrity.

Of less importance in influencing their decision to teach online were extrinsic rewards or condition-of-employment issues. As indicated earlier from the faculty

interviews, the issue of ownership seems to be less important than it had been in the early days of online courses.

Table 53
Least Important Factors in Encouraging Online Teaching – By Faculty

Q#	Less Important Factors of Encouragement	Mean
79	The college has a clear policy on the ownership of materials	2.61
77	The class sizes of online courses are smaller	2.27
76	Faculty receive financial incentives for teaching online	2.22
75	Faculty receive institutional awards and recognition for teaching online	1.79
78	Teaching loads are reduced for teaching online courses	1.75

While it appears that extrinsic reward factors have less influence on determining whether faculty teach online, it might be a mistake to dismiss their importance as negligible. Stipends for teaching the online classes or for developing them or for participating in the training were more prominent when there was external money to fund them. In the interviews several faculty members noted the disappearance of the stipends and said that while this kind of reward was not a decisive inducement to teach online, it was appreciated as a symbol of the value placed on online learning by the administration. Even more than stipends, class size also should not be taken lightly. For faculty in the interviews, smaller classes for online courses were less a workload issue than a pedagogical necessity in order to do a decent job teaching.

Reinforcing the conclusion that the class size is important is the fact that it is the sixth most important barrier to teaching online (89).

Table 54
Top Barriers to Teaching Online – By Faculty

Q#	Barrier	Mean
81	The time that it takes to develop courses	3.16
82	Time that it takes to deliver courses	2.95
88	Faculty technology skills	2.63
90	The class load	2.62
94	The attitude of colleagues toward online learning	2.49
89	The class size	2.44

The inclusion of concern about their technology skills (88) among the barriers mirrors the faculty's listing of the availability of technology as the top source of encouragement. Note that a negative attitude of colleagues can discourage online teaching. This indicates the importance of the support of the faculty as a whole, whether they are teaching online courses or not.

The principal barrier to online teaching seems to be the workload it imposes (81, 82, 90). Even the concern about class size (90) may be related to the issue of workload. The time that it takes to develop courses and then to teach was also commented on in the faculty interviews and in the comment section of the faculty surveys. Each semester the course material and computer links have to be updated. It takes more

time to respond to individual student emails and to monitor the interactions among the students via the discussion board. Over and over again in the interviews, faculty recounted the unreasonable expectations some students have that their emails will be answered within the hour they are sent, day or night.

From the list of less important barriers, it appears that the faculty were relatively satisfied with the training they receive (85 and 86). Also considered as less important as a barrier at their institutions are the on-campus office hour requirement (84), the student testing options (92), and available student services (91). As the potential controversy has been resolved at Lewis and Clark, perhaps other colleges have also replaced the requirement for campus office hours with virtual online office hours.

Table 55
Less Important Barriers to Teaching Online – By Faculty

Q#	Less Important Barrier	Mean
83	Insufficient offerings of online courses/programs	2.21
90	The class load	2.20
84	The on-campus office hour requirement	2.16
92	The student testing options	2.12
85	The lack of training available	1.99
86	The training requirements	1.99

In their comments about why they teach online (. 80), faculty cite most frequently the same reasons as given by students for taking online courses – convenience and flexibility. Like students, they enjoy the freedom of working from their homes. Another reason frequently cited is the desire to experiment, to try something different or to play with the technology. Another major motivation appears to be the desire to meet the needs of students who otherwise could not otherwise take the course.

Similar reasons for teaching online were given by the interviewed faculty. They too enjoyed the convenience of being able to access students anytime from anywhere. “If the person is a morning person or a night person, she can adopt her schedule to fit her personality.” They too liked the intellectual challenge of working in a new medium and enjoyed the learning that comes with online pedagogy. A number reported that online teaching has made them reconsider everything they do in the regular classroom, and applying what they have learned to the classroom has improved their overall teaching. Veteran teachers have said that the innovation of teaching online has “given them a second wind.”

In teaching online, some faculty said they develop a new relationship with their students, a more one-on-one relationship, and have begun to see all students in a new light. In the online course, they have better conversations with students and find that students respond more, both to the instructor and with each other. They see students operating more independently, thinking more critically, but also sharing their thoughts more and supporting each other. One faculty member expressed the

delight of seeing the students coming together as a class. “Can almost stand back and see them go at the material.”

In their survey the professional staff were also asked to assess the importance of the encouragement and barriers to faculty teaching online. A number of the encouragements expressed by professional staff as important were also found in the faculty listing (67, 68, and 71). The other two top items for the professional staff (73 and 72) reflect their role at the institutions.

Table 56
Most Important Factors in Encouraging Online Teaching -- By Professional Staff

Q#	Most Important Encouragements	Mean
73	Faculty are assisted in course design	3.68
67	Technology is available for faculty at the college	3.62
68	Proctored testing labs are available	3.54
71	Faculty receive in-service training	3.42
72	Faculty development programs focus on online learning	3.39

A similar overlap occurs with the faculty’s list of least important encouragements (77, 75, and 78).

Table 57
Least Important Factors in Encouraging Online Teaching – By Professional Staff

Q#	Least Important Encouragements	Mean
65	There are more online courses ready to be taught	3.15
77	The class sizes of online courses are smaller	2.76
66	Complete degrees or certificates are offered online	2.64
75	Faculty receive institutional awards and recognition	2.21
(78	Teaching loads are reduced for teaching online	2.15

Similarly, there is an overlap of two items for the top barriers for both professional staff and faculty (81 and 88). The concerns about technology and technological skills (88 and 87) also mirror the job responsibilities of professional staff.

Table 58
Most Important Barriers to Teaching Online – By Professional Staff

Q#	Most Important Barrier	Mean
81	The time it takes to develop the course	3.15
88	Faculty technology skills	2.76
82	The time that it takes to deliver courses	2.64
87	Technology mishaps	2.21
96	The student attrition in online courses	2.15

Three of the five least important barriers considered by the professional staff are also on the faculty list (84, 91, and 85).

Table 59
Least Important Barriers to Teaching Online – By Professional Staff

Q#	Least Important Barriers	Mean
84	The on-campus office hour requirement	1.86
86	The training requirements	1.82
92	The student testing options	1.82
91	The availability of student services	1.79
85	The availability of training	1.59

As could be guessed from the similarities above, there were no statistically significant differences between the responses of faculty and the professional staff. The students were asked different questions – dealing with their own enrollments -- from those of the faculty and professional staff. Unlike the results with the student respondents, there were no significant differences among those faculty with different levels of computer skills.

Significant Differences Among Groups

As with other questions on the survey, the faculty were subdivided into groups and statistical operations were done on the responses of those groups to detect any differences among their means. Two significant differences of means were found on two items (69 and 74) between the responses of those faculty who have taught fewer than six sections online and those faculty who have taught six or more sections online (Cf. Appendix D2).

Table 60
Significant Differences Based on Experience Teaching Online
More Important Factors in Encouraging Online Teaching

Q#	Question	Groups	Mean	Standard Deviation	N
69	College services, such as advising, book store, registration, available online	Taught fewer than 6 sections online	3.12	.839	65
		Taught 6 or more	2.75	.758	48
		Total	2.96	.823	113
74	Faculty are mentored by their Peers	Taught fewer than 6 sections online	2.98	.857	65
		Taught 6 or more	2.48	.899	48
		Total	2.77	.906	113

Based on these results, it appears that the faculty who are newer to online teaching consider college services and peer mentoring to be more important encouragements to teaching online than do the faculty who have been teaching online for a longer

period. We can speculate upon the reason for this difference. From the interviews we know that mentoring was not available when the more experienced faculty first started online programs – there was no one with the experience to mentor them. Moreover, there were few college services for the online student at the beginning of the program. Many of the services that did exist were provided by the faculty who were pioneering in the medium. All of these experiences may have affected the responses of the more seasoned faculty to these questions.

Significant differences of means were found between the professional staff and faculty of Group I and those of Group II (the model colleges). Between the two groups there were numerous differences on most of the items regarding the encouragement of faculty to teach online (. 66, 70, 71, 72 73, 75, 76, 77, 78 and 79). (For a complete list of the means on this question, see Appendix D5).

Table 61
Significant Differences on Encouragement Factors -- Group I and Group II

	Question	Groups	Mean	Standard Deviation	N
66	Complete degrees are offered online	Group I	2.43	1.032	72
		Grp II	2.95	.799	65
		Total	2.68	.962	137
70	Students are given advance knowledge of online course expectations	Group I	2.32	.947	72
		Grp II	2.94	.864	65
		Total	2.61	.957	137
71	Faculty receive in-service training	Group I	2.92	.884	72
		Grp II	3.37	.720	65
		Total	3.13	.839	137
	72- Faculty development programs focus on online learning issues	Group I	2.71	.941	72
		Grp II	3.23	.656	65
		Total	2.96	.856	137
	73- Faculty are assisted in course design	Group I	2.93	.983	72
		Grp II	3.52	.615	65
		Total	3.21	.878	137
	75- Faculty receive institutional awards and recognition for teaching online	Group I	1.54	.749	72
		Grp II	2.18	.950	65
		Total	1.85	.905	137
	76-Faculty receive financial incentives for teaching online courses	Group I	2.14	1.039	72
		Grp II	2.69	1.045	65
		Total	2.40	1.074	137
	77- The class sizes of online courses are Smaller	Group I	2.07	1.066	72
		Grp II	2.48	.850	65
		Total	2.26	.987	137
	78-Teaching loads are reduced for teaching online courses	Group I	1.60	.816	72
		Grp II	2.05	.779	65
		Total	1.81	.827	137

	79- The college has a clear policy on the ownership of materials	Grp I	2.43	1.046	72
		Grp II	2.98	1.008	65
		Total	2.69	1.061	137

The consistently higher means of Group II on these items of encouragement suggest the greater strength of these factors inducing faculty participation online at the model schools. On seven of the items, the differences in means were above half a point:

Q. 75 – Institutional awards for faculty (Differences of means = 0.64),
Q. 70 – Students given advance knowledge of course expectations (0.62),
Q. 73 – Faculty are assisted in course design (0.59),
Q. 79 – Clear policy on ownership of materials (0.56),
Q. 76 – Faculty receive financial incentives for teaching online courses (0.55),
Q. 66 – Complete degrees are offered online (0.52),
Q. 72 – Faculty development programs focus on online learning issues (0.52).

Although there were fewer significant differences in means between Group I and Group II respondents on the issue of barriers to faculty participation, there were still a number of these differences.

Table 62
Significant Differences on Barriers to Online Teaching – Group I and II

Q#		Groups	Mean	Std. Devia.	N
83	Insufficient offerings of online courses	Group I	2.27	.730	85
		Group II	1.97	.619	74
		Total	2.13	.695	159
85	The lack of training available	Group I	1.99	.809	85
		Group II	1.73	.708	74
		Total	1.87	.772	159
89	The class size	Group I	2.45	.880	85
		Group II	2.01	.749	74
		Total	2.25	.847	159
90	The class load	Group I	2.71	.936	85
		Group II	2.19	.871	74
		Total	2.47	.940	159
94	The attitude of colleagues towards online learning	Group I	2.61	.952	85
		Group II	2.22	.848	74
		Total	2.43	.924	159

On these items we see that the means of Group II are consistently lower than those of Group I, suggesting that the barriers are fewer and/or more inconsequential at the model colleges, which no doubt is the reason they are models.

Suggestions for Recruiting Faculty in Online Teaching

In both the survey comments (Q. 98) and the interviews, faculty and professional staff suggested ways to encourage more faculty to teach online. First, though, despite the pressure to offer more online classes, they advise that only those competent to teach online be chosen. According to some respondents, not all good teachers are good online teachers. The good online teachers are technically competent, well organized, responsive to students, and enjoy constant change and variety.

(1) The department chair, dean, or other administrator who staffs online courses could personally recruit the most appropriate faculty to teach online, matching the competencies of the faculty member with the subject needs of the online curriculum. The account of the dean at Lewis and Clark, recounted earlier in the section on Quality, illustrates the effectiveness of this one-on-one approach. At a number of the model colleges the hiring committees have begun asking prospective faculty members questions regarding online teaching.

(2) To encourage by example, activities such as committee meetings, professional development sessions, and HR training that involves faculty could be done online.

(3) All faculty who are teaching an online course for the first time should undergo training that instills not only technical skills for operating a course on the college's computer platform, but also covers pedagogical techniques for teaching online. The design of a new online course should be integrated into this training.

(4) It is very important that part-time/adjunct faculty participate in the training programs for online before they teach any of the courses.

(5) Through task groups made up mainly of faculty, the college should establish standards for online courses and a list of components for possible use in online courses. Some faculty have suggested that for flexibility there be two sets of components: a basic set of minimums (template) to be used in every course and a "laundry list" of various options that could be used. To encourage faculty creativity, there needs to be a balance between consistency of design and the freedom to choose from possibilities.

(6) Release time of some sort is probably necessary for the development of a new online class. If the design process is integrated into training, the release time could be for both. Part-time faculty could be paid for developing a new online course and/or participating in the training.

(7) A technical staff that is competent, responsive, and large enough should provide ongoing support for faculty who are teaching online courses. This

technical staff should include a web designer who is familiar with the kinds of pedagogical issues faced by faculty.

(8) The college needs to ensure that it provides online faculty with necessary information in a timely fashion. For example, faculty should receive an accurate list of the names, addresses, telephone numbers, and email addresses of students before the beginning of the semester. At some colleges, retired faculty are teaching online courses at a considerable distance from the campus. In these cases, accommodations need to be made for such processes as approvals, the exchange of class rosters, grade sheets.

(9) A learning community of those teaching online courses should be created. This community could hold regular meetings of user groups or maintain a college-wide computer bulletin board whereby online faculty may discuss issues of mutual concern. Meetings once a semester could showcase innovative techniques used in online courses or new technologies available to online courses. The learning community may also sponsor a mentorship program whereby more experienced faculty provide guidance to those teaching online for the first time.

(10) Faculty who teach online should have heavy representation on the relevant committees and oversight panels that determine the direction of online learning in the college. This participation will give faculty a sense of ownership over the program, and more importantly, it will ensure that online learning has a central place in the curriculum.

(11) Considering the claim of most of the faculty in this study that teaching online takes more time than teaching a traditional class, the maximum size of the online class should be kept manageable.

(12) Faculty do not consider extrinsic incentives, such as stipends, credit toward promotion, award or public recognition, as important in themselves; however, they do see such incentives as indicators of institutional value placed upon online learning. Some faculty respondents have pointed out to teach online courses, they must maintain an office in their homes, use a separate computer from that used for personal material, and pay for a modem service. If the college cannot supplement the costs of these teaching tools, it might want to provide advice on how they could be taken as deductions on tax returns.

V. RETENTION OF STUDENTS IN ONLINE COURSES

Importance of Retention Factors

In the surveys, students, faculty and professional staff rated the importance of certain factors in affecting the retention of students in online courses on a scale of 1 to 4.Among the five most important factors were these:

Table 63
Most Important Retention Factors -- By All Respondents

Q#	Factor	Mean
58a	Course expectations and requirements are clearly stated at the beginning of the course	3.75
63a	Faculty respond to student questions in a timely manner	3.67
49a	Online registration is available	3.64
57a	Campus technology is dependable	3.64
54a	Students have easy access to campus computers	3.63

These results are consistent with the most important quality benchmarks and the factors that influence student enrollments. Three of these factors – an up-front explanation of course expectations (58a), faculty responsiveness (63a) and a dependable technology (57a) – were also among the top ten quality indicators. Advance knowledge of course expectations (70 with 58a) and the availability of technology (67 and 68 with 57a), were also among the students' top six reasons for enrolling in online classes. The availability online of college services, such as advising and registration (69 with 49a) were considered by the students to be of middling importance in influencing enrollment.

There are perplexing results in what were ranked as the least important retention factors.

Table 64
Least Important Retention Factors – By All Respondents

Q#	Factor	Mean
50a	Online tutoring is available	3.29
47a	Students are provided with hands-on technology training	3.25
60a	Student-to-student interaction is a significant part of course work	2.99
59a	Students are required to participate in group projects	2.82
55a	Students are required to use campus email accounts	2.80

Given the research of Vincent Tinto,[6] which has clearly established the crucial influence of group affiliation ("learning communities") to persistence in college, it is strange that student-to-student interaction (60a) and participation in group projects

[6] For example, see Vincent Tinto's *Leaving College: Rethinking the Causes and Cures of Student Attrition*, Second Edition (Chicago: University of Chicago Press, 1993).

(59a) would be considered among the least important retention factors. Also confusing is the relative devaluation of the student orientation (47).

In contradiction, these are exactly the factors that were held in high importance by the faculty and professional staff in the interviews. Professional staff were very proud of the student orientations they had devised. Faculty went to great lengths to ensure that social interaction took place in their online courses, as will be described later in this part of the report on the retention practices of the model colleges.

Some students in the focus groups, on the other hand, saw the exercises in student interaction as irrelevant to their learning and a waste of their valuable time. The students in the focus groups were not speaking with one voice on this matter, and a sizeable number did value interacting with peers. In the interviews the students who had participated in group projects tended to be negative about them, feeling as though they had "carried" other students who ended earning the same grade on the project. Likewise, students in the focus groups were ambiguous about the orientations, about half of them never having participated in an orientation session.

The apparent discrepancy in the above results, then, may be explained as reflecting the difference between the value placed upon these factors by faculty and professional staff, on the one hand, and by students on the other. This conclusion is supported by the statistically significant differences between the two groups on just these questions of orientation and interaction, as will be described below.

Strength of Retention Factors at the Colleges

As in their responses to the quality indicators, the respondents rated their own institutions relatively high on the factors that improve retention. All the retention factors ranked strong at the local institution were the same ones as those that were considered the most important. This coincidence of the factors strong at the local institution with factors that are considered with most important suggests that the respondents believed that their colleges are doing the right things in retention.

Table 65
Retention Factors With Greatest Strength at Local Institution -- By All Respondents

Q#	Factor	Mean
49b	Online registration is available	3.60
58b	Course expectations and requirements are clearly stated at the beginning of the course	3.60
54b	Students have easy access to campus computers	3.58
63b	Faculty respond to student questions in a timely manner	3.40
57b	Campus technology is dependable	3.35

Similarly, four of the five retention factors with the least strength at the local institution were also on the list of those that are less important. Thus, the

respondents felt that while their colleges are doing the more important things well, the things that the colleges are doing less well in retention are also less important.

Table 66
Retention Factors With Least Strength at Local Institution – By All Respondents

Q#	Factor	Mean
48b	Online academic advisement is available	2.92
47b	Students are provided with hands-on technology training	2.83
59b	Students are required to participate in group projects	2.79
55b	Students are required to use campus email accounts	2.67
50b	Online tutoring is available	2.63

A comparison was made between the means on the importance of the retention factors and the means on the strength of those factors at the local institution. In this comparison, the responses of each group of faculty, students, and professional staff were considered separately. While most sets align, there were some differences of half a point or more, particularly in the faculty and professional groups.

Table 67
Differences in Means Between the Importance of Factor and Its Strength at the Local Institution – By Each Group (Faculty, Student, Professional Staff)

Q#	Retention Factor	Importance Mean (a)	Strength Mean (b)	Differ-ence
	FACULTY RESPONSES			
45	Student readiness is assessed	3.60	2.58	1.02
50	Online tutoring is available	3.34	2.34	1.00
47	Students are provided with hands-on technology training	3.45	2.59	0.86
46	Students are required to complete an orientation to online learning	3.54	2.68	0.86
48	Online advisement is available	3.38	2.52	0.86
55	Students are required to use campus email accounts	3.01	2.47	0.54
Q#	**STUDENT RESPONSES**	**Importance**	**Institution**	**Diff.**
50	Online tutoring is available	3.28	2.69	0.59
	PROFESSIONAL STAFF			
45	Student readiness is assessed	3.44	2.60	0.84
50	Online tutoring is available	3.27	2.46	0.81
47	Students are provided with hands-on technology training	3.38	2.62	0.76
46	Students are required to complete an orientation to online learning	3.41	2.67	0.74
48	Online academic advisement is available	3.31	2.60	0.71
57	Campus technology is dependable	3.85	3.35	0.50

Some of the differences between the importance of the factor and its strength at the local institution can be attributed to the discrepancy between the ideal and that of the real: the real will always be less. On the other hand, differences of half a point or more in a scale of 1-4 may indicate areas that need improvement or at least areas that need further scrutiny.

Significant Differences Among Groups

Through statistical analyses (Tests of Between Subject Effects and Tukey Multiple Comparisons), many significant differences were found in the means of various sub-groups among the respondents. As mentioned above, the mean scores of students differed from that of faculty and the professional group on a number of items dealing with the importance of the retention factors (Cf. Appendix E3).

Table 68
Importance of Retention Factors – Significant Differences Among Students, Faculty and Professional Staff

Q#	Retention Factor	Group	Mean	Std. Dev.	N
46a	Students are required to complete an	Professional	3.39	.667	31
	orientation to online learning	Faculty	3.59	.744	130
		Student	3.25	.897	489
		Total	3.32	.869	650
47a	Students are provided with hands-on	Professional	3.35	.755	31
	Technology training	Faculty	3.47	.759	130
		Student	3.24	.877	489
		Total	3.29	.853	650
49a	Online registration is available	Professional	3.16	.898	31
		Faculty	3.59	.667	130
		Student	3.68	.583	489
		Total	3.64	.628	650
57a	Campus technology is dependable	Professional	3.81	.402	31
		Faculty	3.81	.484	130
		Student	3.60	.653	489
		Total	3.65	.619	650
58a	Course expectations and requirements	Professional	3.81	.402	31
	Are clearly stated at the beginning of	Faculty	3.88	.425	130
	The course	Student	3.72	.549	489
		Total	3.76	.524	650
60a	Student-to-student interaction is a	Professional	3.23	.669	31
	significant part of course work	Faculty	3.24	.888	130
		Student	2.98	.975	489
		Total	3.04	.951	650
61a	Faculty include activities that	Professional	3.39	.558	31
	Discourage procrastination	Faculty	3.59	.593	130
		Student	3.38	.738	489
		Total	3.42	.707	650
62a	Faculty grade and return materials	Professional	3.76	.435	31

	in a timely manner	Faculty	3.70	.546	130
		Student	3.60	.609	489
		Total			650
63a	Faculty respond to student questions	Professional	3.81	.402	31
	in a timely manner	Faculty	3.80	.438	130
		Student	3.64	.608	489
		Total	3.68	.573	650

As can be seen from the above table, there were significant differences on nearly half of the items regarding the importance of retention factors. These differences were mainly between faculty and students, although there was a significant difference between the means of faculty and professional staff on the importance of online registration (49a) -- faculty rated it significantly higher than did the professional staff. Unlike the results we have seen with the quality indicators and enrollment stimulators, there appears to be a major disconnect between what students and faculty believe is important to retention, a disconnect that needs to be addressed by the colleges.

In all but one of the items, the faculty rated their importance higher than do the students. The one exception was on online registration (49a), which students found to be more important than either faculty or professional staff and which faculty found to be more important than do the professional staff. As mentioned earlier, faculty considered the student orientation (46a and 47a) and student interaction (60a) to be significantly more important than do students. Faculty also considered as more important than students a dependable campus technology (57a), up-front statement of course expectations (58a), activities to discourage student procrastination (61a), and timeliness in responding to student questions (63a) and in grading and returning student work (62a). The professional staff ranked faculty timeliness higher than did faculty, but not significantly so.

There were also a number of significant differences of means among the three groups in their assessments of the retention factors at their own institutions. A number of these (46b, 47b, and 58b) were also found among the significant differences on the importance factors.

Table 69
Strength of Retention Factors at Own Institution
Significant Differences Among Students, Faculty and Professional Staff

Q#	Retention Factor	Group	Mean	Std. Dev.	N
45b	Student readiness is assessed	Professional	2.50	.812	26
		Faculty	2.52	.883	92
		Student	3.29	.782	385
		Total	3.11	.865	503
46b	Students are required to complete an	Professional	2.58	.945	26
	orientation to online learning	Faculty	2.48	1.094	92
		Student	3.13	.952	385

		Total	2.98	1.014	503
47b	Students are provided with hands-on	Professional	2.73	1.041	26
	Technology training	Faculty	2.33	.891	92
		Student	2.98	.950	385
		Total	2.84	.976	503
48b	Online academic advisement is	Professional	2.81	.939	26
	Available	Faculty	2.46	.895	92
		Student	3.00	.984	385
		Total	2.89	.987	503
50b	Online tutoring is available	Professional	2.85	1.008	26
		Faculty	2.33	.891	92
		Student	2.73	1.059	385
		Total	2.66	1.038	503
55b	Students are required to use campus	Professional	2.27	1.041	26
	email accounts	Faculty	2.32	1.037	92
		Student	2.78	1.080	385
		Total	2.67	1.087	503
58b	Course expectations and requirements	Professional	3.23	.587	26
	are clearly stated at the beginning of	Faculty	3.67	.537	92
	the course	Student	3.56	.705	385
		Total	3.56	.677	503
59b	Students are required in group projects	Professional	2.31	.788	26
		Faculty	2.55	.894	92
		Student	2.92	.961	385
		Total	2.82	.957	503

The significant differences on the strength factors at the local institution were mainly between the professional staff and students and between the faculty and students. Students believed that student orientation (46b and 47b), online academic advising (48b), online tutoring (50b), and the required use of campus email accounts (55b) had greater strength at their local institution than did faculty. On the other hand, in terms of their strength at the local college, faculty ranked up-front statements of course expectations (58b) and group projects (59b) higher than did students.

Many of these items had to do with services to students, contributing to the significant differences in the means of the responses from students and the professional staff. Students ranked the assessment of student readiness (45b), the student orientation (46b), hands-on technology training (47b), the required use of campus accounts (55b), up-front statements of course expectations (58b), and group projects (59b) as significantly higher at the local institution than did the professional staff. The difference between the means on most of these factors was above half a point: a difference of .79 on question 45b, of .65 on 46b, of .65 on 47b, of .51 on 55b, and of .61 on 59b.

Faculty and professional staff significantly differed only on the up-front statements of course expectations with the means of the faculty responses higher than that of the professional staff.

Significant differences of means were found between the responses of Group I colleges and those of Group II (Model) colleges on both the importance of the retention factors and their strength at the local institution (Cf. Appendix E4).

Table 71
Importance of the Retention Factors -- Significant Differences Between Group I and Group II (Model) Colleges

Q#	Retention Factor	Group	Mean	Std. Dev.	N
45a	Student readiness is assessed	Group I	3.44	.729	353
		Group II	3.56	.665	268
		Total	3.49	.704	621
47a	Students are provided with hands-on	Group I	3.24	.886	353
	Technology training	Group II	3.39	.778	268
		Total	3.30	.843	621
50a	Online tutoring is available	Group I	3.27	.902	353
		Group II	3.42	.787	268
		Total	3.34	.857	621
51a	An online help desk is available	Group I	3.45	.749	353
		Group II	3.61	.670	268
		Total	3.52	.720	621
52a	Library resources are available online	Group I	3.48	.754	353
		Group II	3.62	.634	268
		Total	3.54	.707	621
55a	Students are required to use campus	Group I	2.93	1.055	353
	email accounts	Group II	2.75	1.096	268
		Total	2.85	1.076	621
57a	Campus technology is dependable	Group I	3.61	.630	353
		Group II	3.74	.518	268
		Total	3.67	.588	621
62a	Faculty grade and return materials in	Group I	3.61	.598	353
	A timely manner	Group II	3.71	.525	268
		Total			621

The Group II respondents rated all but one of these retention factors as higher in importance than did the Group I respondents. The one exception was the requirement to use campus email accounts (55a), which the Group I respondents rated more highly.

Five of the retention factors that appeared on the “importance” list with significant differences of means also were significantly different in terms of their strength at the local institution: students provided with hands-on technology (47b), online tutoring available (50b), an online help desk is available (51b), online library resources are available (52b) and campus technology is dependable (57b). By appearing on both sets of significant differences between Group I and Group II, each of these factors can be more strongly taken as distinguishing factors in retention between the two groups of colleges.

Table 71

Strength of the Retention Factors at Local Institution
Significant Differences Between Group I and Group II (Model) Colleges

Q#	Retention Factor	Group	Mean	Std. Dev.	N
47b	Students are provided with hands-on	Group I	2.66	.993	279
	Technology training	Group II	3.07	.889	202
		Total	2.83	.971	481
50b	Online tutoring is available	Group I	2.56	1.043	279
		Group II	2.79	1.022	202
		Total	2.66	1.039	481
51b	An online help desk is available	Group I	2.88	.993	279
		Group II	3.19	.950	202
		Total	3.01	.986	481
52b	Library resources are available online	Group I	3.00	1.005	279
		Group II	3.42	.795	202
		Total	3.18	.944	481
53b	An online bookstore is available	Group I	3.11	.966	279
		Group II	2.87	1.048	202
		Total	3.01	1.007	481
54b	Students have easy access to campus	Group I	3.50	.688	279
	Computers	Group II	3.65	.599	202
		Total	3.56	.656	481
57b	Campus technology is dependable	Group I	3.20	.834	279
		Group II	3.43	.689	202
		Total	3.30	.783	481

On every factor but one the means of Group II responses are higher than those of Group I, indicating that the Group II respondents assessed their colleges as having greater strength in these retention factors. The single exception was the one dealing with the availability of an online bookstore (53b). It is notable that all of these retention factors that had significant differences in means had to do with college services to online students rather than matters of direct instruction, the preparation of faculty or support for faculty. At the danger of over-generalizing, it is tempting to conclude that college services may be the distinguishing factor in retention between Group I and Group II (Model) colleges.

To explore other possible significant differences in means, the retention factors from the survey were clustered around three areas – student preparation, student services, and instruction:

Student Preparation (3 Items):
45 – Student readiness is assessed.
46 – Students are required to complete an orientation to online learning.
47 – Students are provided with hands-on technology training.

Student Services (10 Items):
48 – Online academic advisement is available
49 – Online registration is available
50 – Online tutoring is available
51 – An online help desk is available.
52 – Library resources are available online.
53 – An online bookstore is available.
54 – Students have easy access to campus computers.
55 – Students are required to use campus email accounts.
56 – Students have access to faculty voice mail systems.
57 – Campus technology is dependable.

Instruction 6 Items):
58 – Course expectations and requirements are clearly stated at the beginning of the course.
59 – Students are required to participate in group projects.
60 – Student-to-student interaction is a significant part of course work.
61 – Faculty include activities that discourage procrastination.
62 – Faculty grade and return materials in a timely manner.
63 – Faculty respond to student questions in a timely manner.

Next statistical analyses were applied to the means of the clusters to determine whether there significant differences among them (Cf. Appendix E5).

Table 72
Importance of Retention Factors -- Significant Differences Among Clusters

Importance	Cluster	Mean	N	Std. Dev.	Std. Error Mean	Sig. (2-Tailed)
Pair 1	Student Preparation	3.3653	698	.69231	.02620	.001
	Student Services	3.4328	698	.54378	.02058	
Pair 2	Instruction	3.3886	760	.51170	.01856	.115
	Student Preparation	3.3548	760	.68975	.02502	
Pair 3	Instruction	3.4056	662	.51284	.01993	.091
	Student Services	3.4347	662	.54279	.02110	

For the set on the importance of the factors, there are significant differences in means between student preparation and student services. The scores are significantly higher for student services than for student preparation. There were no significant differences between instruction and student preparation or between instruction and student services.

On the issue of the strength of the retention factors at the local institution, all three pairs showed significant differences in means.

Table 73
Strength of Retention Factor at Local Institution – Significant Differences Among Clusters

Strength	Cluster	Mean	N	Std. Dev.	Std. Error Mean	Sig. (2-tailed)
Pair 4	Student Preparation	2.9845	539	.79286	.03415	.000
	Student Services	3.1150	539	.57994	.02498	
Pair 5	Instruction	3.2185	630	.57286	.02282	.000
	Student Preparation	2.9942	630	.77302	.03080	
Pair 6	Instruction	3.2078	514	.58191	.02567	.000
	Student Services	3.1161	514	.57687	.02544	

Student services were considered to be stronger retention factors at the local institution than are student preparation, and instruction was considered stronger than either student services or student preparation.

Next were measured the responses of the faculty, students, and professional staff on each of the clusters.

Table 74
Importance of Retention Clusters – Significant Differences Among Students, Faculty and Professional Staff

Tukey HSD Multiple Comparisons

Dependent Variable	(1) Group	(J) Group	Mean Difference	Std. Error	Sig.
Instruction -	Faculty	Student	.1586(*)	.05034	.005
Importance	Professional	Faculty	-.1060	.10196	.552
	Professional	Student	.0525	.09448	.843
Student Preparation -	Faculty	Student	.2446(*)	.06722	.001
Importance	Professional	Faculty	-1852	.13616	.363
	Student	Professional	-.0594	.12617	.885
Student Services -	Faculty	Student	.0825	.05347	.271
Importance	Professional	Faculty	-.2077	.10830	.134
	Student	Professional	.1252	.10035	.426

*The mean difference is significant at the .05 level

On the importance of the retention factors, faculty considered instruction and student preparation significantly more important than did the students. There were no significant differences among the groups on the importance of student services.

In terms of the strength of the retention factors at the local institutions, there are no significant differences among the groups on student services; however, there are significant differences on student preparation and on instruction.

Table 75
Strength of Retention at Local Institution Clusters – Significant Differences Among Students, Faculty and Professional Staff

Tukey HSD Multiple Comparisons

Dependent Variable	(1) Group	(J) Group	Mean Difference	Std. Error	Sig.
Instruction -	Faculty	Student	-.0725	.06725	.529
At Local Institution	Professional	Faculty	-.2079	.12871	.240
	Student	Professional	.2804(*)	.11742	.046
Student Preparation -	Faculty	Student	-.6896(*)	.08643	.000
At Local Institution	Professional	Faculty	.1605	.16542	.596
	Student	Professional	.5290(*)	.15092	.001
Student Services -	Faculty	Student	-.1443	.06683	.079
At Local Institution	Professional	Faculty	.1351	.12791	.542
	Student	Professional	.0092	.11670	.997

*The mean difference is significant at .05 level.

Students rate the instruction cluster at the local institution significantly higher than does the professional staff, and students rate the student preparation cluster at the local institution higher than do the faculty.

As they had been for capacity and quality, several other groups were tested for their differences in means: (a) the faculty who had been teaching online for some time and those who were new to it; (b) the students who have taken two or fewer online courses, those who have taken three-four online courses, and those who have taken five or more online; (c) the students who are computer novices, those who have intermediate skills and those who have advanced skills; (d) the faculty who have intermediate computer skills and those who have advanced skills; (e) the students who are 25 years or younger and those who are 26 year or older; and (f) the faculty who have taken an online course and those who have not taken an online course. None of these groups displayed significant differences in the means.

Retention Practices at the Model Colleges

Most of the faculty and professional staff who were interviewed estimated that the retention rates in the online classes were either close to the same or even better than the traditional versions. They acknowledged that there had been greater attrition in the online classes during the early days, but said that retention had greatly improved as students have become more familiar with the technology, a familiarity that has been enhanced through the use of a single computer platform. Faculty, students and professional staff attributed the more realistic expectations about online courses to the student orientations that have been developed over the years. A Triton faculty member said that his online class had improved retention in

his regular face-to-face class by enabling students to switch back and forth between the two versions when they become ill or have changes in work schedule. Another instructor reported that a larger proportion of his online students who took "incompletes" at the end of the semester actually finished the course than did the "incompletes" in his traditional class.

Beyond the usual reasons for dropping a class (work changes, personal and family reasons, failing the class), respondents from the model colleges gave four major reasons why students drop out of online courses. First, if they had registered for the online course because they thought it was going to be easier or take less time, they quickly became disillusioned and disheartened. Another reason for dropping was that students might become frustrated by the problems of technology, resulting from the limitations of either their computer or their skills. Thirdly, if the student felt isolated with little or no interaction with the instructor or with other students, he or she was less likely to continue in the course. As the fourth reason for dropping, a student was more likely to procrastinate the work in the less structured online class and fall behind. In this regard, faculty, professional staff and students identified the importance of an early start in the course, and said that this was more likely to happen if the instructor made contact with the student at the beginning of the semester.

Students identified the biggest challenge for them completing online courses to be procrastination. Completing assignments in a timely manner took a degree of self-discipline as well as skills in time management. A second source of frustration for them was the lack of timely feedback from some instructors.

Other important challenges for students were reading and writing skills, so essential to a course that is conveyed mainly through text. As a student from Lake County put it, "…people sending you emails and you can't tell what they are trying to tell you. When you get done reading, you say, 'What are you trying to say?'" Basic computer skills were also important for the course, although some faculty recognized that students today are more technology savvy than those of a few years ago.

The faculty and professional staff who were interviewed identified self-motivation and organizational skills as essential for students' success in online courses. Most believed that students on the whole have these necessary qualities, and a number commented on how the students' understanding of the course requirements and expectations have improved over the years, a change they ascribed to word-of-mouth and self-selection as well as to the orientation sessions. A Triton instructor wondered whether the greater number of more organized students that he finds in his online classes is the result of self-selection or a better way of teaching. He concluded that the online format helps students who start out as not motivated or well organized, but who are willing to change, to become more motivated and organized. In short, he speculated that the online format may improve the learning skills of students.

Some faculty encouraged those students who are unable to keep up with the work in the online class to transfer to a face-to-face class in which the regular meetings may serve as reminders of the work that needs to be done. In the focus groups, many of the older, returning students said that they are able to provide their own organization and drive.

The faculty from the model colleges used a number of strategies to help online students structure their work. They sent many email reminders of due dates for assignments and personalized warnings to those students who were falling behind. Some followed up these written warning with phone calls in order to discuss the problem in detail. Not restricting her communications to warnings and strictures, one instructor regularly emailed congratulations to students who have posted on the bulletin board in order to reinforce their participation.

Another technique that was used to structure the course was to break it up into limited modules, each with its own carefully delineated expectations, exercises, and tests. Taking one module at a time, the course piece-by-piece, the student could more readily chart the progress to completion. Most online faculty members provided a calendar of assignments with definite deadlines. Some faculty supplemented their course content with additional PowerPoint presentations, exercises and quizzes so that students could review in preparation for a major test.

In the focus groups, students said that the grade book and the calendar of assignments, both of which are features of the platform, served as reminders of where they were in the course. Students also reported that the discussion board gave them an idea where their peers were in the course as well as provided them with suggestions for keeping up with the assignments. A number of faculty used a private discussion board for live one-on-one discussions with a student who was seeking help. Others posted their office hours online, invited students to use them, and offered some live sessions online.

According to all three groups of students, faculty and professional staff, probably the most important factor in retaining students in online courses was the effective and continuous communication between the instructor and students. Most of the faculty at the model schools maintained constant contact with their online students throughout the course. The contact started a week or two before the beginning of the semester when the instructor sent a welcoming letter and/or email to each student, explaining what he/she needed to do to get started in the course. As mentioned above, many of the respondents identified an early start as the key to persistence in the course. At the beginning of the course, some instructors held a face-to-face orientation of all the online students, a session that some students in the focus groups did not find useful.

The number of individual email contacts with students varied for faculty from that of once a day to twice a week to once a week. The amount of student email tended to be greater at the beginning of the course. Faculty reported their response time to

email to be from 24-hours to two days. Faculty also said that in the beginning some students had unrealistic expectations for response time, expecting an answer to a question within the hour, whether that question is posed during the day or in the middle of the night. These expectations were made more realistic by the faculty member setting clear parameters for response time and then sticking to those parameters. Faculty also endeavored to give written feedback on assignments and tests within a week from the time they were due.

As mentioned earlier in this section of the report, faculty and some students differed in their assessment of the importance of student-to-student interaction. Faculty tended to see such interactions as key to student retention, especially in a course that does not meet regularly in face-to-face contact. To build a sense of group, some faculty members (Lake County, Harper, Heartland, Lake Land, and Oakton) had their students introduce themselves to each other at the beginning of the course via the bulletin board. On the bulletin board each student posted a brief autobiographical sketch, a list of personal likes and dislikes, reasons why he/she is taking the course, and perhaps a photo. Many faculty members (Lake County, Harper, Triton, and Oakton) required students to post something on the bulletin board at least once a week, often as responses to each other's postings. One Triton faculty member maintained two discussion boards – one for students to respond to the instructor's questions and to the answers of each other, and the other where students could post any comment about history or political life without comment from the instructor. This faculty member reported that there are approximately 1200 postings each semester on these bulletin boards. To foster a sense of group some faculty have required their online students to meet together a couple of times a semester. To further stimulate this interaction, many faculty also used group projects.

Some students in the focus groups, on the other hand, disliked the group projects, which they saw as unfair devices for lazy students to be "carried" by others and still earn the same grade. Some saw the requirement to participate in the discussion board to be busy work, not relevant to the content of the course. "We'd talk about the dog, the weather, whatever. It had nothing to do with statistics [the class]."To the more focused student, particularly the older, returning student, such interaction seemed a distraction in a very busy life filled with competing responsibilities. "It [connecting with others in the class] may be important to the younger student. I have so much going on in life that belonging is immaterial to me, personally."

Other students disagreed with this assessment. Participation "really enriches a class, just getting somebody else's thoughts about the subject." One student described how a group of mothers in an online section connected with each other and began to meet once a week for lunch. "They were excited – I mean, you could tell – to be able to connect with somebody else. They found someone in the class that they could relate with."

As emphasized in the earlier section, this difference between the faculty and students on social interaction in online courses needs to be resolved. If, as the

research literature about “learning communities” promulgates, social interaction among students and the consequent sense of affiliation are important to persistence, then students need to be informed and convinced of that importance. Of course, even if they are so convinced, the exercises for social interaction also must be relevant to the course content, not a meaningless requirement to post anything on the bulletin board once a week. There is also the possibility that through self-selection some students are so focused and goal-oriented that interaction and a social network are not necessary for their persistence in the course. In any case, this is an issue that could benefit from further study in order to effect a resolution.

Some faculty argued that the content still remains the center of the course and that student retention results from “engagement” in that content. That material not only needs to be attractive, incorporating a variety of learning devices, but also it needs to be meaningful to the student. Students pointed out that in lieu of the visual signals and body language given in a face-to-face class that material also needs to be extremely clear and devoid of ambiguity. Professional staff urged that faculty convey through the course material and their communications with students a sense of their own personalities.

Improving Student Retention

In the interviews respondents identified the following components essential for an online program to retain students:

Essential Components for the Retention of Students

(1) As part of an orientation program, students need to have reasonable expectations about an online course.

(2) The college needs to ensure that the technological infrastructure for online courses is intact and that everything works.

(3) Before they teach an online course for the first time, faculty members should undergo an effective training program. This program should include not only the necessary technical skills for navigating the platform, making changes in the course, and electronically communicating with students, but also should cover the pedagogical differences between the classroom and online learning.

(4) The college should ensure that faculty receive accurate student registration information as soon as possible, and faculty should initiate contact with students as soon as possible and get them started on the course. In addition to providing the necessary information about the course, its assignments and deadlines, this initial contact should make students feel

welcome and give them the names and emails of people to contact if they run into problems.

(5) Faculty should initiate and maintain continual communications with each student in the online class, and they should use various strategies to stimulate communication among the students.

(6) The design of the online course should be well organized and simple. The number of folders through which students must navigate should be limited and manageable.

(7) The courses should be on a single, college-wide platform that ensures the courses have many of the same parts and a similar appearance. A template for course design with required and optional items will fulfill student expectations, reassure them with its familiarity, and make it more likely that they are not distracted by the irrelevancies of the format.

(8) The course should use a variety of strategies that engage the student. It should not be mere “shovel-ware” or an electronic textbook. The course should make meaningful use of the bulletin board and have built-in prompts for student responses to both the instructor and to each other.

(9) The course material and web information about the course should be kept up-to-date, probably requiring revision prior to each semester. Information about the course, accessible on a college-wide web site, should include not only the usual information about the course, but also frequently asked questions, contact information, special requirements, software versions needed, and browser links to related sites.

(10) The college should have a system for collecting and analyzing data on student retention each semester and periodically on drop-outs of online courses. The results should be regularly shared with a panel, consisting of online faculty, online students, and administrators involved with online offerings, who could recommend changes for the improvement of retention.

Besides identifying the essential components, the respondents suggested ways to improve retention in online courses.

Suggestions for the Improvement of Retention in Online Courses

(1) The student orientation should be mandated as a pre-requisite for registering for online classes. The orientation could be done online, but certain quizzes or prompts for student responses should be built into it in order to ensure that the requirement of an orientation has been fulfilled.

(2) The student orientation should include material that explains how group projects and student-to-student interaction promote persistence in online courses and why they are important.

(3) The orientation should also include an exercise for students to assess their present computer capabilities in light of the technological requirements of the course and to develop a back-up plan if their home computer fails. The orientation should also include guidelines for computer etiquette.

(4) As part of the orientation students should take a readiness test to ascertain that they have the appropriate self-discipline, organizational abilities, time management skills and reading and writing skills to succeed in an online course. (These are the pre-requisite skills indicated by the respondents; however probably more research is needed to ascertain whether they are actually prerequisite to success and to determine how to test for them – investigator note.)

(5) Some faculty and professional staff members have suggested that within the web page containing course information, pop-ups be created to direct students to the appropriate sites that may be of help. At the model colleges links to these related web sites already exist – to the instructor, the department, registration, help desk, etc.; however, the links are sometimes confusing and require student action whereas a pop-up may stimulate that action.

(6) Students have recommended that technical support at the colleges be available in the evenings and on weekends. This is especially important for those online students who are working full-time during the day.

(7) Some faculty members have suggested that each instructor meet with his/her students face-to-face once a semester in order to promote a sense of the group. Some of the students who have attended such class orientation meetings have found them to be meaningless, mainly oral explanations of the course from the instructor and nothing that could not be conveyed in writing over the Internet. If such meetings are held, they need to be substantive and involve activities that convey the importance of group affiliation and actually promote its creation.

(8) Some faculty have suggested that the technical staff help them to automate some of the email messages they regularly send to all students in an online course so that they would be able to concentrate on the personalized ones.

(9) For the “technologically challenged” students and faculty it is suggested that the college provide additional basic computer workshops that can be taken in person or online.

(10) A number of professional staff, students and faculty have recommended that faculty "personalize" their courses so that something of their own personality comes through to the students. This might be done in friendlier, less formal emails, short video or audio clips, or in greater informality in the course materials.

(11) Some students, professional staff and faculty have pointed out the difficulty of ensuring student understanding through the written word without the benefit of non-verbal clues of facial expression and body language. They recommend that faculty regularly survey their students to identify any material that is unclear and then rewrite that material. For those students who may need it, faculty should also allow for telephone or face-to-face contact during campus office hours.

(12) Some students have suggested that supervisory personnel monitor the online communications of those instructors about whom they have received student complaints in order to ensure that they are responsive to student emails.

VI. CONCLUSIONS AND IMPLICATIONS

In our prior lives as chief academic officers at a community college in Illinois, the investigators had the opportunity to experience first-hand the initial development of online courses. From the perspective of those beginnings, seven to ten years ago, it seems to these investigators that online programs have reached a new level of maturity. In the early days the concern was with the technology, still wobbly with various systems used to house the online courses, and the format of the courses themselves idiosyncratic in design and appearance, ranging from glitzy experiments in the use of all the technology marvels to little more than lecture notes online. The burning issues of those days were the academic credibility of online learning, what would constitute the assigned load, the compensation and class size, and, even before many of them were built, who would own the online courses.

The results of this study suggest that many of these initial issues have been resolved. The surveys demonstrate a remarkable unanimity among the principal users – students, faculty and professional support staff – about what is important for quality in online courses. Moreover, finding the benchmarks of quality reflected in the practices of their own institutions, the users have expressed satisfaction with the health and strength of the technology, the instructional design, the student preparation, and faculty training for online courses at their own colleges. The interviews and student focus groups resound with trust in the academic rigor of the online courses and in the amount and value of the learning that occurs within them.

The issues of compensation, load credit, and class size seem to have been resolved by contractual agreements over the years. From the results of this study, one can

conclude that a strong, viable system has been created for online courses, one that enjoys the confidence of its daily users.

That online learning has reached a new phase of development was reflected in the responses about college goals in the interviews with faculty and professional staff and in some cases, from college administrators. In a number of interviews faculty, professional staff and administrators expressed the view that enrollment growth in online has reached its limit and that now the college needs to turn to consolidating these gains. In outlining the goals of the college for online programs, they imply a shift of focus from increasing enrollments or increasing the number of online courses to adding new programs, improving the quality, or improving the retention rates.

At the Lake County, at Lewis and Clark, and at Harper a major goal is to get complete degree and certificate programs online. Harper was visited by a North Central Association team last September as part of the approval process, and Lake Land has recently been approved by the Association for online programs. At Parkland, the goal is “making sure that every class is high quality.” Respondents from Lewis and Clark and Triton cited quality as the goals of their colleges. Oakton aims to round out its schedule of both online and classroom courses so that students in all areas have opportunities to reach their educational goals. Heartland’s emphasis is on their teacher certification system as a quality control measure and on the development of more hybrid courses, which are viewed as combining the benefits of both online learning and classroom. John Wood is also looking at blending their open learning courses with the online format to improve student learning. For Lake Land, the Lake County, and Parkland, John Wood and Oakton, retention is an important goal.

Expansion of Online Learning

Two considerations regarding online enrollments and future directions emerge from the results of this study. First, the potential for further growth in enrollment may be greater than has been considered by those who were interviewed. After all, the online enrollments on average account for less than four percent of the credit hours generated. The student surveys and the testimony of the focus groups show an overwhelming interest in taking more online courses and their only complaint is that there is not sufficient number of offerings to fulfill this interest. The limit upon enrollments seems not to be in the demand, but in the means to accommodate that demand. As we have seen, even those faculty who are committed to teaching online do not want to teach solely online. The demographics of the online faculty suggest that more of them are older, longer-term teachers and as they retire, replacements will need to be found just to maintain the current level of offerings. On the other hand, more faculty can be recruited both through the hiring process and from the current ranks. From the results we have seen, successful recruitment of more faculty will depend upon the college’s readiness in providing them with the tools necessary to do a good job – reliable technology, technical support, sound training programs, help with the designing of new courses, and mentoring programs. To diminish the negative effect of some faculty on their colleagues, it is also important for the

colleges to elicit the support of the faculty as a whole, even those not teaching online courses, and this support can be fostered by providing the faculty as a group with a real role in determining the direction of online learning at their institutions.

We have seen that besides the importance of fitting them with the appropriate tools, faculty are motivated to teach online by its intrinsic rewards. They are attracted by intellectual curiosity, a desire to try something different. In keeping with their legacy as community college teachers, they want to reach all groups of potential students, including the home-bound, the time-bound and the distance-bound. Once they begin teaching online, they discover that some students learn better in the online environment, are more willing to speak up in an email, and spend more time and effort in thinking through their responses. In the one-on-one tutorial of online learning, they get to know their students in new ways and have wonderful conversations with them. Finally, as they develop and deliver online courses, they rethink how they teach and learn new strategies and approaches. These are the various rewards that resonate with the deepest needs of good teachers, and to recruit the best, these are the strings to play upon.

The second consideration regarding future directions is the result that less than half the students on the survey would take a whole degree online. While this finding is not to discourage colleges from the investment of time and energy in developing whole programs online – after all, the students also generated a long list of possible programs to put online – it is a matter worthy of further study.

Quality of Model Colleges

Another finding of the study was that the colleges chosen as models are truly models. This finding was substantiated by their higher than average percentage of online enrollments (capacity) and their significantly higher ratings on both the importance of the retention factors and the strength of the retention factors at the local institution. The faculty and students from Group II schools also rated their institutions higher on the factors that encourage growth in enrollments and in faculty participation. In the study we have been somewhat laborious in our description of the practices at the model colleges, but given their results, other colleges might find it helpful to emulate those practices.

In describing the characteristics of the model colleges, we have detailed their strong, collaborative leadership, their sound technology and technical support, their effective training programs for faculty, and their systems of oversight. But probably the most important characteristic of the model program, the one that makes all the others possible, is good communication among and between the students, the faculty, the professional staff, and the administration. In the online class it is communication that takes up so much of the instructor's time, sending out those reminders and answering those daily emails, and on the survey students consider this communication, its timeliness, its clarity, and constructiveness, among the most important components of quality, retention and capacity (as an inducement to

enrollment). Outside the class, communication is just as important to the health of online programs, whether that communication be between the administrator and the faculty member being recruited to teach online or between a new online instructor and mentor or with the web designer or among the faculty discussing a common problem in a user group.

One form of communication that was not ranked very high in importance on the surveys by students or faculty is the more formal one of program or course assessment. Some of the interviews, however, especially those involving administrators, stressed the need for an on-going review of online courses. The courses that probably would benefit most from a regular cycle of review are those that were developed before the benefits of faculty training or design assistance.

Retention

Another finding of the study emerged from the significant differences between the faculty and professional staff and the students on what is important for retention. Specifically, if social interaction among students and student preparation are relevant to persistence in online courses, students need to be convinced of that fact. As of now, many of them appear to devalue the orientation sessions, the hands-on technology training, the student-to-student interactions, and the group projects to such a point that may influence the effectiveness of these retention strategies. In this regard, there is the possibility that the students are correct in their assessment and that as a result of self-selection, online students are sufficiently focused and self-disciplined to have little need for these strategies. Or it may be that in their busy lives, they are unwilling to sacrifice time for exercises the dynamics and benefits of which they have yet to understand.

To resolve the issue, further study needs to be done, first on the nature of the online student, whether that student differs substantially from the student in the regular classroom, and then what effect these social interaction strategies have upon the persistence of the online student.

The respondents, both in the surveys and the interviews, have identified certain characteristics that they believe are necessary for success in online courses: organizational abilities, time management, self-discipline, skills in reading, writing, and computer technology. Further research is necessary to establish that these traits actually constitute the profile of the successful online student. Then, if they do, a truly scientific readiness test can be devised to pre-screen those wishing to take online courses. Pushing this recommendation a bit further, it might also be useful to find out whether certain traits make other students better suited to the classroom. In the focus groups, for example, some students expressed their discomfort of not being able to read the non-verbal clues that are given in the classroom for a back-and-forth exchange with the instructor. They also missed the immediacy of that exchange. These could be clues to needs of certain students who might learn better in the classroom. In any case, based upon further study, colleges might be able to

offer sound advice to students as to whether they are better suited to the classroom or online learning.

In summary, then, this study concludes that the overall system of online learning in Illinois community colleges is effective and enjoys the confidence of its principal users. By following the best practices of the model colleges and further investigating the suggestions made by its major users, it has the capacity for further growth and for improvements in both quality and retention.