

Student Performance in Online Courses at Los Medanos College

Fall 2007 to Spring 2009

Executive Summary

Prepared by

The Office of Institutional Research

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Description

The purpose of this study was to compare student achievement of some online courses with face-to-face and a hybrid course at Los Medanos College. This study was conducted from fall 2007 to spring 2009 for the courses in Business, Computer Science, English, History, and Spanish. Also, a profile of students enrolling in online courses for spring 2009 is provided. Characteristics of students taking online courses are compared to the characteristics of the total LMC population for spring 2009 to determine any differences.

Students who enrolled in the following courses in the fall 2007, spring 2008, fall 2008, and spring 2009 were selected:

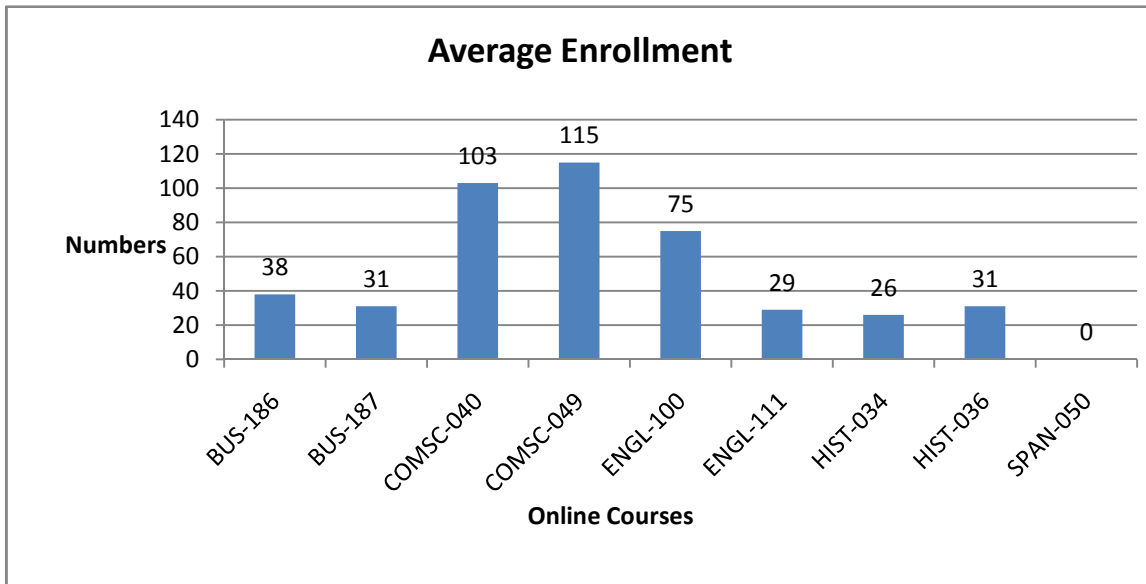
Bus 186	English 100
Bus 187	English 111
Com. Sc 40	History 34
Com. Sc 49	History 36
	Spanish 50

Main Observations in Student Enrollment

Highest enrollment in online sections with an average slightly above 100 students is found in online Computer Science courses followed by online English 100 (with an average of 75 students). English 111 and History (34 and 36) have an average enrollment of below 30 students per semester.

Graph 1

Average Enrollments by Discipline in a Four Semester Period: Fall 2007 to Spring 2009



Note: Spanish 50 is a hybrid course and was not included in this comparison.

Main Observations in Student Achievement

Retention¹: Within online courses, course retention has been mixed. Retention for Business courses seems to have decreased in the last four semesters: from 78% down to 56%. Similar results have been observed for English 111 (from 97% to 83%). Courses where retention holds constant include: Computer Science and History. Increase in retention was observed for English 100 – Table 1.

Compared to face-to-face courses, generally student retention is lower by 7 points of percent for online courses (54% vs. 61%) – Graph 2.

Success²: Within online courses, success rates seem to be similar for all courses but an increase for Computer Science 40. Decrease success trends were observed for Business, Computer Science 49, English 100, and English 111. Success for History seems to fluctuate –Table 1.

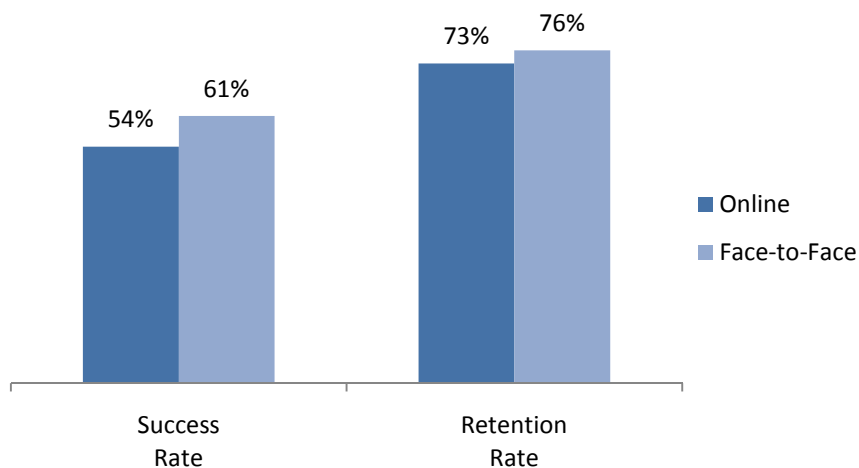
Compared to face-to-face, online course success tends to be lower by 3 points of percent (73% vs. 76%) – Graph 2.

The Hybrid course observed seems to show promising results. Retention and success rates are higher than the face-to-face comparable course observed – see Table 1 to see semester patterns.

Persistence³: The persistence rates for students who take online courses are generally lower than those of students who take face-to-face courses – Table 1.

Graph 2

Retention and Success Rate of Online and Face-to-Face Students



Retention¹ Student is retained in the course to end of term. A, B, C, D, F, CR, NC, I grade notations.

Success² Student succeeds in the course to end of term. A, B, C, CR grade notations.

Persistence³ is defined for this report as the student re-enrolling in ANY course at LMC the following semester

Table 1

Online, Face-to-Face and Hybrid Course Comparison: Course by semester

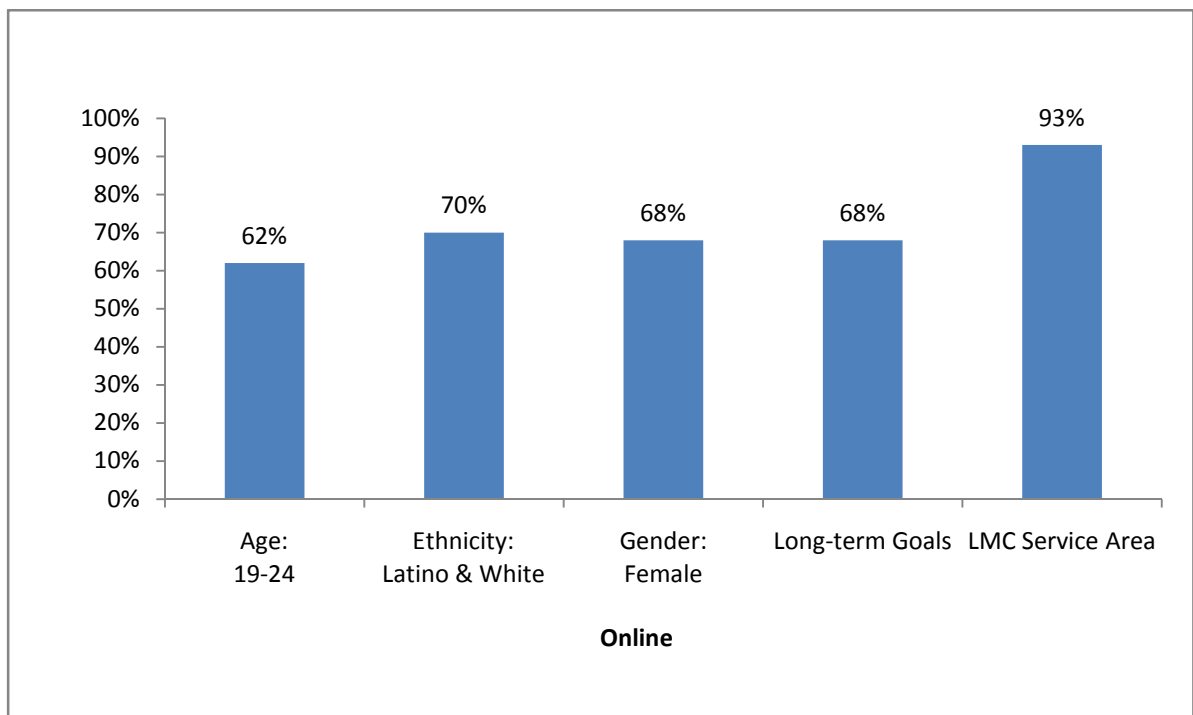
		Online				Face-to-Face				Hybrid			
		Enrollment	Retention Rate	Success Rate	Persistence Rate	Enrollment	Retention Rate	Success Rate	Persistence Rate	Enrollment	Retention Rate	Success Rate	Persistence Rate
BUS-186	Fa 07	37	78%	68%	59%	62	71%	65%	60%				
	Sp 08	40	50%	38%	50%	39	87%	77%	69%				
	Fa 08	39	54%	41%	64%	72	82%	64%	83%				
	Sp 09	36	56%	44%		72	68%	54%	-				
BUS-187	Fa 07	36	78%	75%	58%	13	100%	92%	77%				
	Sp 08	39	80%	69%	41%	24	96%	88%	50%				
	Fa 08	25	64%	36%	48%	15	93%	73%	53%				
	Sp 09	24	67%	67%		43	93%	84%	-				
COMSC-040	Fa 07	115	73%	53%	55%	213	69%	50%	62%				
	Sp 08	97	70%	56%	57%	219	79%	62%	59%				
	Fa 08	96	66%	50%	58%	294	82%	66%	70%				
	Sp 09	102	72%	61%		296	77%	66%	-				
COMSC-049	Fa 07	123	79%	55%	59%	92	93%	61%	57%				
	Sp 08	128	82%	52%	54%	42	76%	64%	67%				
	Fa 08	106	84%	44%	58%	61	75%	57%	75%				
	Sp 09	102	78%	50%		76	82%	51%	-				
ENGL-100	Fa 07	28	61%	57%	57%	552	72%	53%	76%	13	62%	62%	69%
	Sp 08	84	69%	45%	73%	556	71%	53%	74%	0			
	Fa 08	102	72%	61%	77%	552	75%	61%	85%	0			
	Sp 09	84	75%	52%		596	75%	62%	-	0			
ENGL-111	Fa 07	30	97%	73%	67%								
	Sp 08	31	84%	55%	68%								
	Fa 08	24	75%	67%	63%								
	Sp 09	29	83%	59%									
HIST-034	Fa 07	21	62%	48%	71%	30	53%	40%	53%				
	Sp 08	-	-	-	-	19	74%	58%	37%				
	Fa 08	30	77%	47%	60%	31	68%	61%	81%				
	Sp 09	-	-	-	-	36	69%	69%					
HIST-036	Fa 07	29	72%	66%	69%	113	84%	77%	72%				
	Sp 08	31	65%	61%	71%	92	72%	58%	71%				
	Fa 08	31	74%	55%	68%	121	87%	84%	80%				
	Sp 09	32	72%	63%		123	93%	86%					
SPAN-050	Fa 07					147	69%	54%	66%	32	88%	72%	56%
	Sp 08					163	74%	56%	51%	30	90%	87%	47%
	Fa 08					128	81%	60%	69%	33	88%	70%	58%
	Sp 09					141	72%	55%	-	39	85%	74%	-
TOTAL		1731	73%	54%	n/a	5033	76%	61%	n/a	147	85%	74%	n/a

Profile of Students Taking Online Courses

Who are the students who take online courses? Graph 3 provides a visual summary of who is taking online courses; most students who take online courses are 24 years old or younger (62%) – 39% are between 20 and 24 years old; mostly White and Hispanic (44% and 26%); female (68%); mostly with long term goals (68%) and mostly (93%) from the service area (Antioch 36%, Brentwood 23%, Oakley 18%, and Pittsburg 16%). Although this group of students reflects well the student population of the college there are some small differences between proportions.

Graph 3

Characteristics of Students Taking Online Courses



Some Specifics: Although the general profile of students who take online courses reflects the profile of the overall student population at LMC, there are some differences when examining the data more closely. There is a greater proportion of students under the age of 24 taking online courses (62.7% vs. 55.4%). Conversely, there is a smaller proportion of older students (>35 years old) taking online courses (16.4% vs. 24.6%) – Table 2. There is also a greater proportion of White students taking online courses than there is taking face-to-face courses (44.2% vs. 36.5%); and there is a greater proportion of women taking online courses (67.5% vs. 52.3%). See Table 2 next page.

Table 2

AGE, ETHNICITY and GENDER of Students Taking Online Courses and ALL LMC Students: Spring 2009

Age Group	ONLINE		ALL LMC	
	Spring 2009		Spring 2009	
	Frequency	Percent	Frequency	Percent
19 or younger	102	23.5%	2952	25.9%
20-24	170	39.2%	3367	29.5%
25-29	48	11.1%	1344	11.8%
30-34	43	9.9%	920	8.1%
35-39	23	5.3%	768	6.7%
40-44	20	4.6%	712	6.2%
45-49	16	3.7%	590	5.2%
50 or over	12	2.8%	746	6.5%
Unknown	0	0%	14	0.1%
Total	434	100%	11413	100.0%

Annotations: A bracket groups the percentages for age groups 40-44, 45-49, and 50 or over, with a callout box containing "16.4%". Another bracket groups the percentages for age groups 35-39, 40-44, 45-49, and 50 or over, with a callout box containing "24.6%".

Ethnicity	ONLINE		ALL LMC	
	Spring 2009		Spring 2009	
	Frequency	Percent	Frequency	Percent
Asian	14	3.2%	518	4.5%
African American Non-Hispanic	61	14.1%	1888	16.5%
Filipino	27	6.2%	637	5.6%
Hispanic	114	26.3%	3074	26.9%
American Indian/ Alaskan Native	0	0%	81	0.7%
Other Non-White	9	2.1%	342	3.0%
Pacific Islander	1	0.2%	102	0.9%
White Non-Hispanic	192	44.2%	4169	36.5%
Unknown/ Non-Respondent	16	3.7%	602	5.3%
Total	434	100%	11413	100.0%

Gender	ONLINE		ALL LMC	
	Spring 2009		Spring 2009	
	Frequency	Percent	Frequency	Percent
Female	293	67.5%	5971	52.3%
Male	134	30.9%	4987	43.7%
Unknown	7	1.6%	455	4.0%
Total	434	100%	11413	100.0%

With regards to educational goal, a greater proportion of students taking on line courses have long term goals (67% vs. 55%).

Table 3

EDUCATIONAL GOAL and ZIP CODE of Students Taking Online Courses and ALL LMC Students: Spring 2009

Ed Goal	ONLINE		ALL LMC	
	Spring 2009		Spring 2009	
	Frequency	Percent	Frequency	Percent
Transfer with associate degree	163	37.6%	3316	29.1%
Transfer without associate degree	47	10.8%	790	6.9%
Obtain associate degree without transfer	35	8.1%	769	6.7%
Obtain vocational degree without transfer	26	6.0%	629	5.5%
Earn a vocational certificate without transfer	22	5.1%	736	6.4%
discover career interests, plans, goals	8	1.8%	362	3.2%
Prepare for a new career	15	3.5%	657	5.8%
Advance in current job	3	0.7%	381	3.3%
Maintain certificate/ license	4	0.9%	194	1.7%
Educational development	5	1.2%	388	3.4%
Improve basic skills	2	0.5%	191	1.7%
To move from noncredit coursework to credit coursework	1	0.2%	3	0.0%
4 yr college student taking courses to meet 4 yr college reqmt	4	0.9%	86	0.8%
Complete high school/ GED credits	13	3.0%	424	3.7%
Undecided	77	17.7%	2285	20.0%
Unreported	9	2.1%	202	1.8%
Total	434	100.0%	11413	100.0%

Zip	ONLINE		ALL LMC	
	Spring 2009		Spring 2009	
	Frequency	Percent	Frequency	Percent
94505	9	2.1%	143	1.3%
94509	78	18.0%	2176	19.1%
94513	100	23.0%	1592	13.9%
94514	6	1.4%	86	0.8%
94517	1	0.2%	131	1.1%
94518	3	0.7%	88	0.8%
94519	0	0.0%	95	0.8%
94520	3	0.7%	119	1.0%
94521	3	0.7%	246	2.2%
94523	2	0.5%	99	0.9%
94531	50	11.5%	1458	12.8%
94553	2	0.5%	334	2.9%
94561	78	18.0%	1219	10.7%
94565	68	15.7%	2487	21.8%
Total	403	92.9%	10273	90.0%

Some Conclusions

Based on the courses selected for the study, students who take online courses are more likely to be under 24, Latino or White, female and have long term objectives. The number of students enrolled varies according to discipline (highest enrollment was found to be in Computer Science).

The academic performance for students taking online courses is not comparable to that of face-to-face students – online students tend to have lower retention, success and persistence rates. The results of students taking the hybrid course (Spanish 50) suggest that hybrid courses could be promising. Students taking that particular course have higher performance rates than face-to-face students, except on persistence.