

Glendale Community College
Statistical Evaluation of Information Competency Program Student Outcomes
Fall 2007 to Spring 2013

Introduction and Background

This report summarizes the statistical evaluation of GCC's information competency course, Library 191. The results of the study show the information competency course was associated with positive short-term and long-term student success. However, it is not possible to determine if information competency courses were strong causes of student success because of the nature of the study.

Glendale Community College currently offers one course which covers library information competency. The college started offering Library 191 beginning in Fall 2000. The following section presents evidence that students who pass Library 191 have more short-term and long-term success than students of similar academic ability who did not pass Library 191.

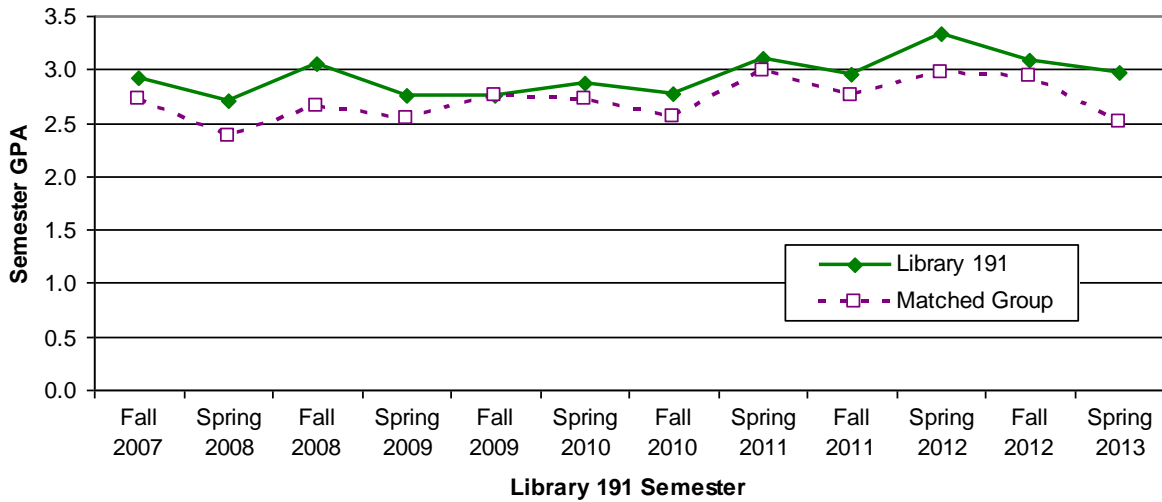
The analyses below are based on a comparison between students who passed Library 191 and a matched sample of students who did not pass Library 191. Students were matched on enrollment status (new or continuing), GPA prior to the Library 191 term, units attempted during the Library 191 term, and ethnicity. Each student who passed Library 191 was paired with a comparable student who did not enroll in Library 191. There would be a self-selection problem without this matched comparison design. Students who enroll in a library course are probably more academically prepared for college than students who do not enroll in such a course. Thus, it would be expected that the outcomes of Library 191 students would be more positive than the outcomes of the general student population. The matched comparison design alleviates this problem to some extent because each Library 191 student was matched with a student of similar academic ability.

Short-Term Student Outcomes

Short-term outcomes include semester GPA in the target semester (the semester in which the Library 191 group passed Library 191), units completed in the target semester, persistence to the next Spring or Fall semester, GPA in the next semester, and units completed in the next semester. Although results are not consistent from semester to semester, Library 191 students have more positive outcomes during the target semester than the matched comparison group.

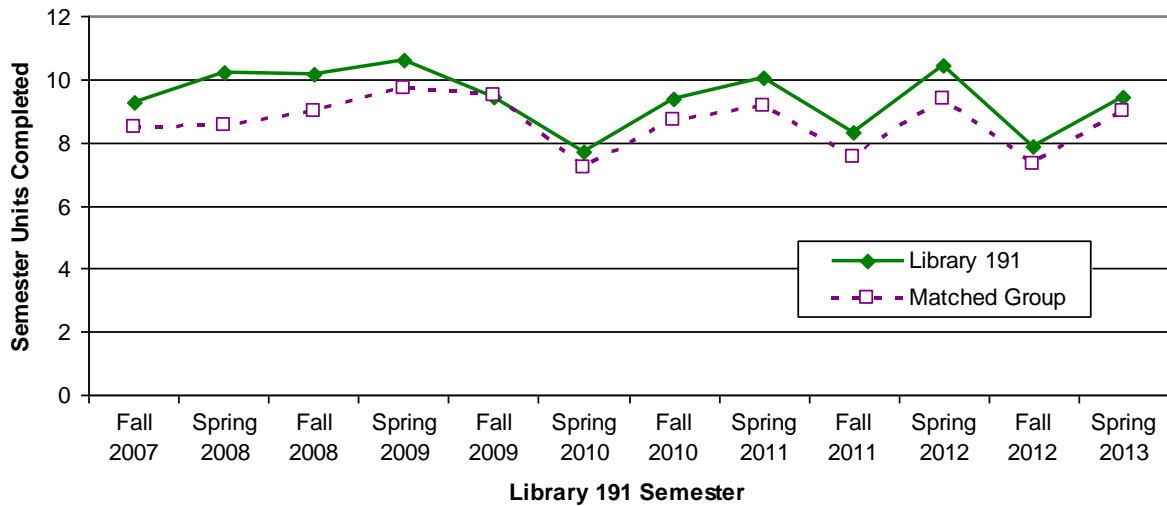
Students who passed Library 191 achieved a 2.92 grade point average compared with a 2.69 GPA for the matched comparison group across 12 semesters. The average term GPA was higher for Library 191 students by 0.23 points, a small but statistically significant difference. A statistically significant result indicates that the difference in semester GPA was probably not due to chance. Figure 1 shows GPA trend during the Library 191 semester.

Figure 1: Target semester grade point average



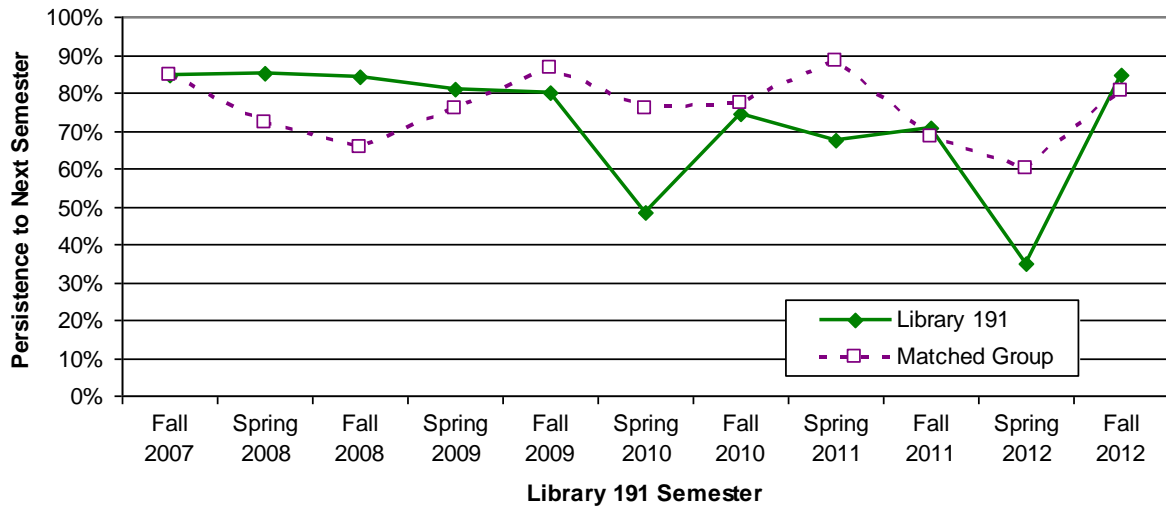
Students who passed Library 191 completed an average 9.3 units each semester, compared with an average of 8.5 units completed by students in the comparison group over 12 semesters. Students who passed Library 191 completed 0.8 more semester units on average than the matched comparison group. The overall difference was statistically significant. Figure 2 shows the trend of units completed across semesters.

Figure 2: Target semester units completed



On average, around 74% of students who passed Library 191 in a given term enrolled in the following Spring or Fall semester. This percentage is slightly lower than the 76% of students in the matched comparison group who enrolled in the next semester. The persistence pattern was highly variable, and the average difference of 2% between students who passed Library 191 and the matched comparison group is considered to be not statistically significant. A result that is not statistically significant means the difference is most likely due to chance. Figure 3 shows the percentage of students in the target semester who enroll in the following Spring or Fall semester.

Figure 3: Persistence to next semester



GPA and units completed in the following Spring or Fall semester were also analyzed. Students who passed Library 191 achieved higher results than students in the matched group for both metrics. However, the differences between the two groups were not considered to be statistically significant. Students who passed Library 191 had an average next-term GPA of 2.72, compared with 2.65 for the matched group. The difference of 0.07 points was not statistically significant. Students who passed Library 191 completed an average of 8.5 units in the following semester, compared with 8.0 for the matched group. Similarly, the difference of 0.5 units was not statistically significant. Figures 4 and 5 show trends of next-term GPA and units completed across semesters.

Figure 4: Next semester grade point average

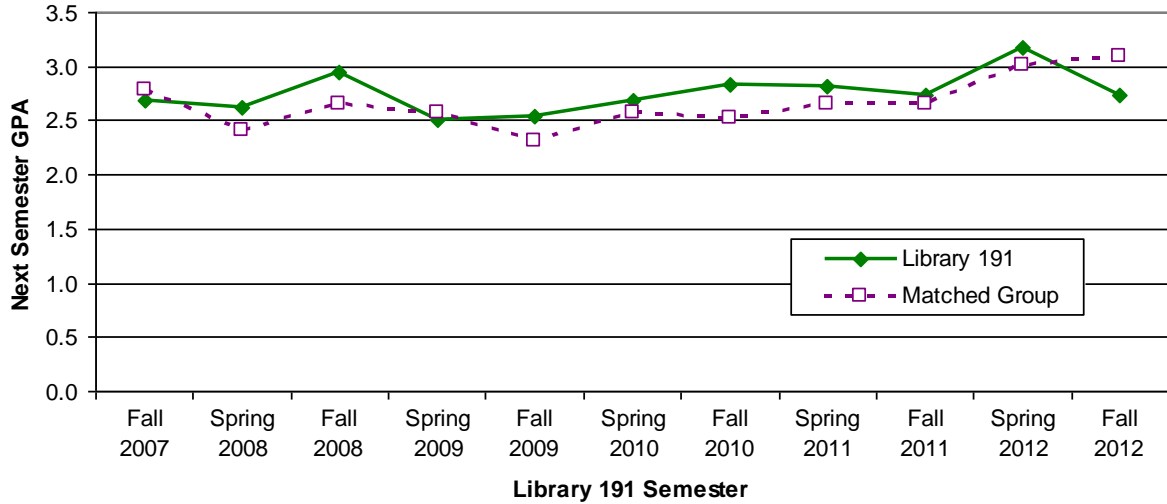
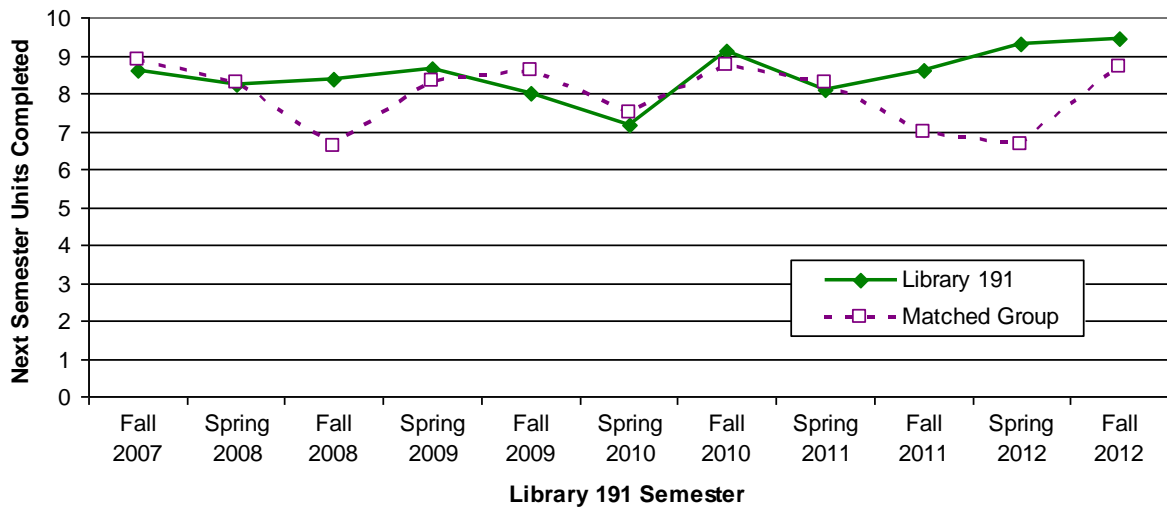


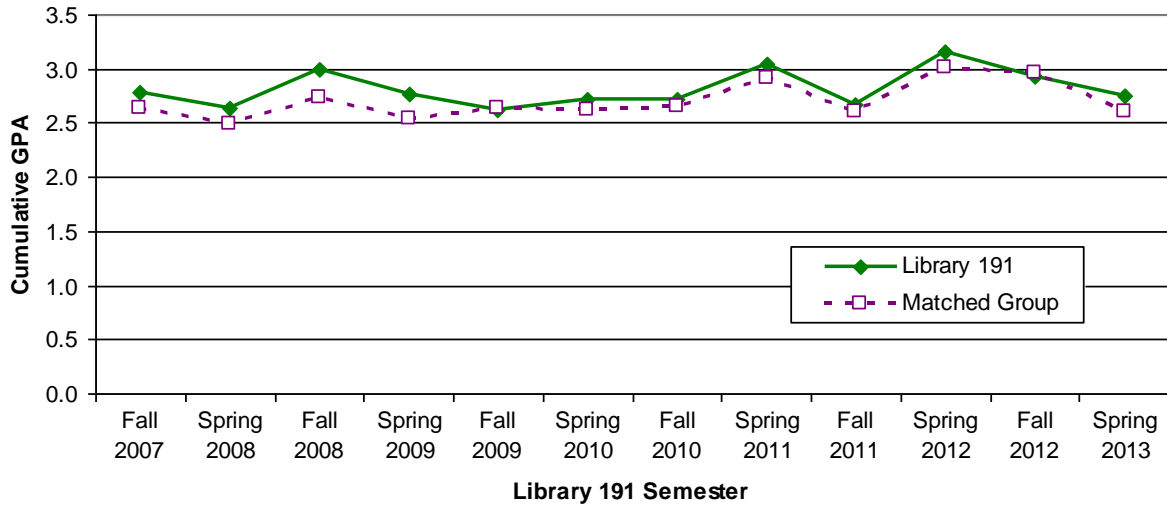
Figure 5: Next semester units completed



Long-term Students Outcomes

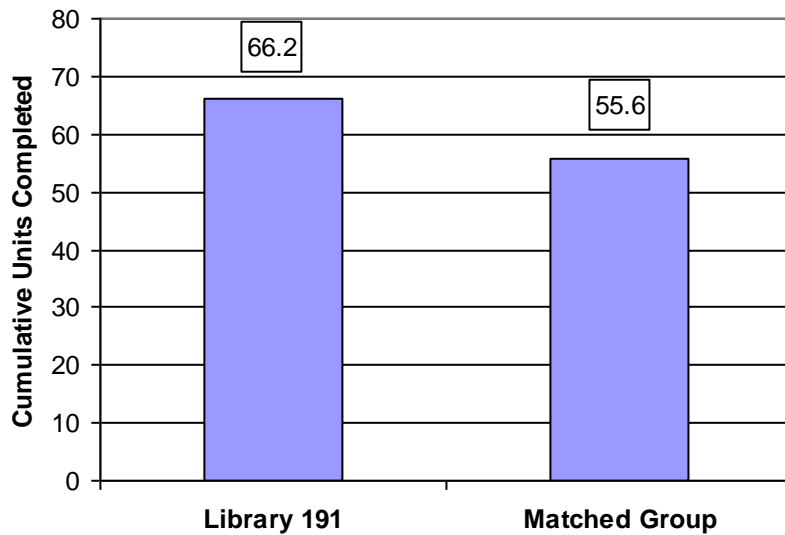
Students who passed Library 191 achieved higher grade point averages in the long term than the matched comparison group. The average cumulative GPA at the end of Spring 2013 for students who passed Library 191 was 2.80, while the average cumulative GPA for students in the matched group was 2.68. The difference of 0.12 points was statistically significant. Figure 6 shows cumulative GPA at the end of Spring 2013 by the semester students passed Library 191.

Figure 6: Cumulative grade point average



The average cumulative units completed for students who passed Library 191 were 66.2 units, compared with 55.6 units for students in the matched comparison group. The difference of 10.6 units was measured to be statistically significant. Figure 7 shows the average cumulative units between the two groups at the end of Spring 2013.

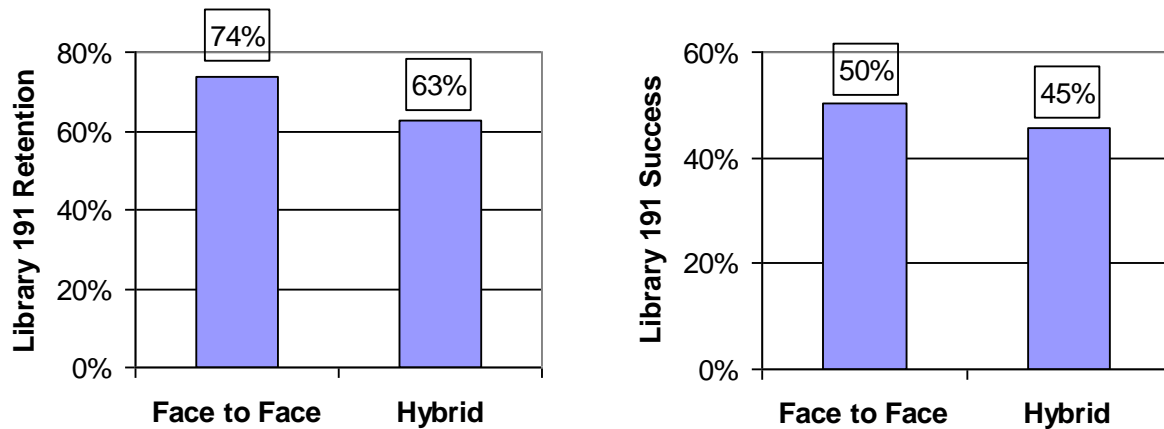
Figure 7: Cumulative units completed



Face-to-face and hybrid Library 191 classes

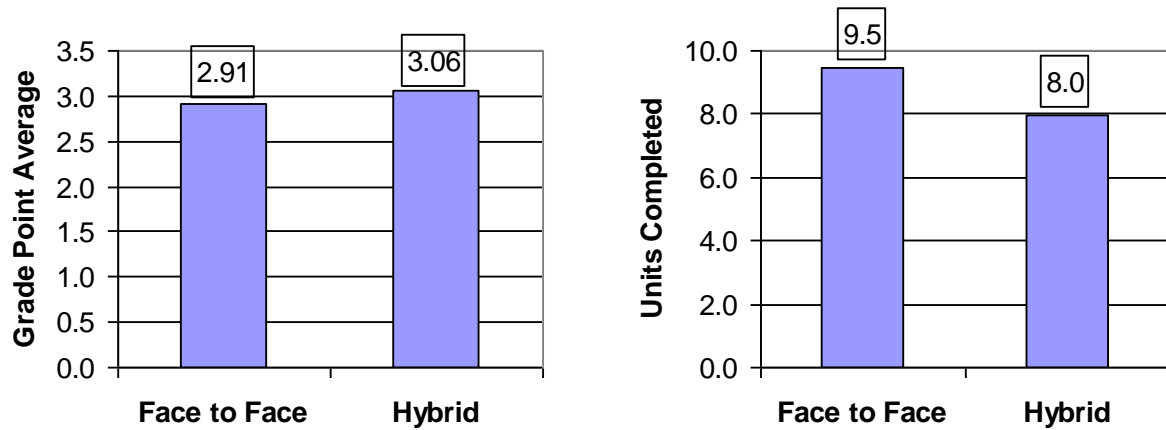
Some classes of Library 191 were taught in hybrid format beginning in Spring 2010. Students in hybrid sections learned material online in addition to meeting in classrooms on campus. This section compares student performance in regular face-to-face classes and hybrid classes. The average retention rate for students in face-to-face classes was 74% compared to 63% in hybrid classes. This difference of 11% was measured to be statistically significant. The average success rate for students in face-to-face classes was 50% compared to 46% in hybrid classes. However, this difference is not considered to be significant. Figure 8 shows retention and success rates between face-to-face and hybrid classes.

Figure 8: Retention and success rates for face-to-face and hybrid classes



Examining students who pass Library 191, those in face-to-face classes achieved mixed short-term outcomes than students in hybrid classes. Students who passed face-to-face classes achieved a 2.91 grade point average in the semester they enrolled in Library 191 compared with a 3.06 GPA for hybrid students. The average term GPA was higher for hybrid students by 0.15, but this difference was not considered to be statistically significant. Students who passed face-to-face classes completed an average of 9.5 units each semester, compared with an average of 8.0 units completed by students in hybrid classes. Students in face-to-face classes completed 1.5 more semester units than hybrid students, and this difference was statistically significant. Figure 9 compares GPA and units completed between the two groups.

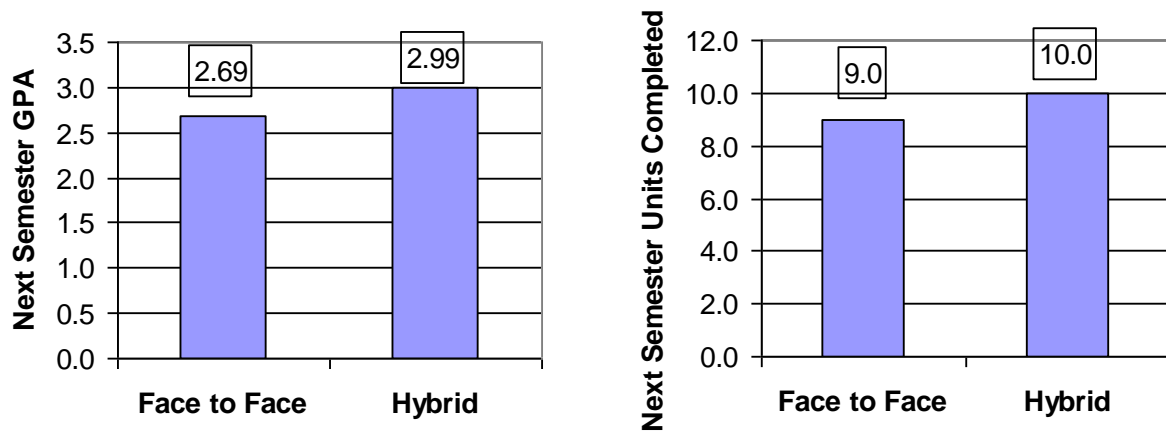
Figure 9: Grade point average and units completed for face-to-face and hybrid classes



On average, around 75% of students who passed a face-to-face class in a given term enrolled in the following Spring or Fall semester. This percentage is slightly higher than the 65% of students in hybrid classes who enrolled in the next semester. The difference of 10% between the two groups is not considered to be statistically significant.

GPA and units completed in the following Spring or Fall semester were also analyzed. Students who passed hybrid classes achieved higher outcomes than students in face-to-face classes for both metrics. Students in hybrid classes achieved an average next-term GPA of 2.99, compared with 2.69 for students in face-to-face classes. The difference of 0.30 points was measured to be statistically significant. Students in hybrid classes completed an average of 10.0 units in the following semester, compared with 9.0 units for face-to-face students. However, this difference of 1.0 unit was not considered statistically significant. Figure 10 shows next-term GPA and units completed for both groups.

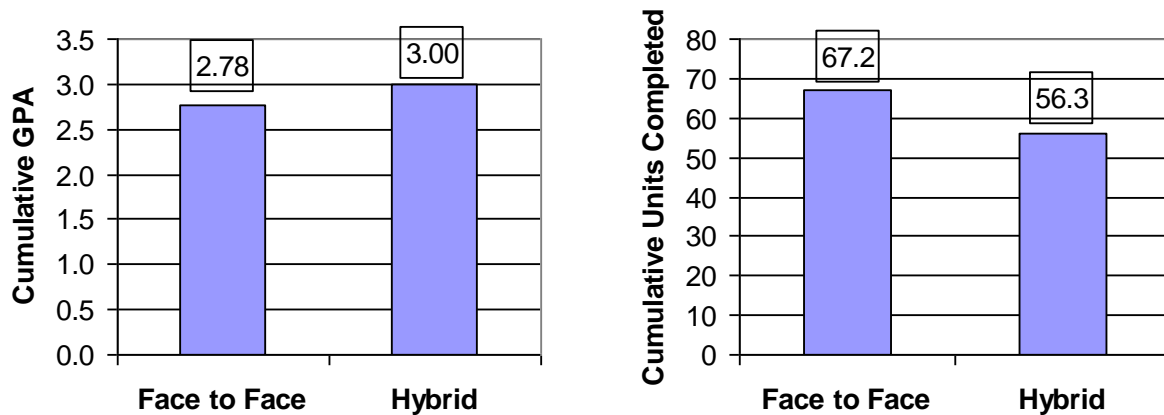
Figure 10: Next semester GPA and units completed for face-to-face and hybrid classes



Students who passed Library 191 hybrid classes achieved higher grade point averages in the long term than students in face-to-face classes. The average cumulative GPA at the end of Spring 2013 for students who passed hybrid classes was 3.0, while the average cumulative GPA for students in face-to-face classes was 2.78. The difference of 0.22 points was statistically significant.

However, students who passed face-to-face classes earned higher cumulative units completed than hybrid students. The average cumulative units completed for students in face-to-face classes were 67.2 units, compared with 56.3 units for students in hybrid classes. The difference of 10.9 units was considered to be statistically significant. Figure 11 shows cumulative GPA and cumulative units completed for both groups.

Figure 11: Cumulative GPA and units completed for face-to-face and hybrid classes



Conclusions

This report presents evidence that success in Library 191 was positively associated with short-term and long-term student success. Students who passed Library 191 achieved higher grade point averages and units completed during that term, compared with students from a matched group. Additionally, students who passed Library 191 achieved higher cumulative grade point averages and units completed than students in the matched group. However, the indicators of persistence to the next semester, next-term GPA, and next-term units completed revealed little difference between the two groups.

Comparisons of student performance between students in face-to-face classes and hybrid classes show mixed results. Students in hybrid classes achieved lower retention rates, units completed during the term, and cumulative units completed, compared with students from face-to-face classes. However, hybrid students earned higher next-term GPA and higher cumulative GPA than students in face-to-face classes.

The following statistically significant results were found for Library 191 courses across 12 semesters:

- Students who passed Library 191 earned 0.23 points higher GPA's than a matched comparison group of students who did not pass Library 191.
- Students who passed Library 191 completed 0.8 more semester units on average than the matched comparison group.
- Students who passed Library 191 earned 0.12 points higher cumulative GPA's than the matched comparison group.
- Students who passed Library 191 completed 10.6 more cumulative units on average than the matched comparison group.

The following statistically significant results were found for face-to-face and hybrid classes:

- Students in face-to-face classes achieved a higher retention rate of 11% than students in hybrid classes.
- Students who passed face-to-face classes completed 1.5 more semester units on average than students in hybrid classes.
- Students who passed hybrid classes earned 0.30 points higher next-term GPA's than students in face-to-face classes.
- Students who passed hybrid classes earned 0.22 points higher cumulative GPA's than students in face-to-face classes.
- Students who passed face-to-face classes completed 10.9 more cumulative units on average than students in hybrid classes.