

The Impact of Enrollment Restrictions on Hybrid Course Fail Rates

LaGuardia Community College

Jenny Zhu
Nate Dickmeyer
Institutional Research & Assessment
November 18, 2014

Academic Administration asked Institutional Research & Assessment to help them evaluate the impact of enrollment restrictions for hybrid and online courses. There are four restrictions: students must not be in their first semester; students must not have a cumulative GPA below 2.00; students must have passed all developmental work; and students must not take more than one hybrid/fully online course at a time. Testing was possible because many students took hybrid courses in defiance of the restrictions.

We looked at course grades for Fall 2013 and Spring 2014. There were 4,473 enrollments in hybrid courses, but only 300 course enrollments in fully online courses. Results were not reliable using only the fully online courses. As a result, we only examined the impact of restrictions on hybrid courses.

To make comparisons, we built control groups where, for each restriction listed in Table 1 below, the contribution to the average fail rate was the same by course for the control group as for the hybrid group. For example, if BTC 200 contributed 10% to the hybrid fail rate calculation for students in their first semester, then the non-hybrid sections' BTC 200 fail rate was weighted such that it too contributed 10% to the control group fail rate calculation.

Findings

- 1) Taking more than one hybrid course does not change the fail rate differential between regular and hybrid, but the fail rate for those taking any hybrid course decreases with the number of hybrid courses taken. This restriction should be removed.
- 2) There was no significant difference in the fail rate between students taking hybrid courses and a matched set of non-hybrid courses, if, and only if, all students who violated any restriction were removed from the sample, except those taking more than one hybrid course (if no other restriction was violated).
- 3) Allowing students into the sample who violated a restriction caused the fail rate to be significantly different between hybrid courses and a matched set of non-hybrid courses, where the hybrid fail rate was higher.
- 4) These results persisted across most departments, except ELA, Natural Sciences and Social Science, where there were too few courses to achieve statistical significance.

Policy implications

Table 1 shows the degree to which individual restriction violations disadvantage students. Violations of the restriction against "having a GPA less than two" means an increase in the fail

rate of hybrid courses relative to non-hybrid of 8.0 percentage points. The most positive restriction violation, “not yet completing developmental math,” still shows a hybrid fail rate 5.6 percentage points above that of the non-hybrid students. (Note: the reason that even hybrid students with a GPA above 2.00, for example, are disadvantaged compared to non-hybrid is that this group may also contain students who have not completed developmental work.)

Looking at the absolute differences, between six and eight students out of 100 fail a hybrid course after violating at least one restriction who would not have failed a non-hybrid course. Since we normally expect only ten to fail in total, this is a huge increase in failures.

Restriction	Hybrid Minus Regular Fail Rates (Percentage Points)	Regular Fail Rate	Hybrid Fail Rate	
Not First Semester	3.2%	13.0%	16.2%	*
First Semester	6.5%	18.1%	24.6%	*
GPA ≥ 2	2.7%	10.5%	13.2%	*
GPA < 2	8.0%	27.5%	35.6%	*
Passed Math	2.7%	10.9%	13.6%	*
Failed Math	5.6%	20.7%	26.2%	*
Passed Writing	1.1%	9.3%	10.4%	*
Failed Writing	7.6%	9.1%	16.7%	*
Passed Reading	1.5%	9.3%	10.8%	*
Failed Reading	8.4%	11.6%	20.0%	*
Online Course Load =1	6.3%	12.7%	19.0%	*
Online Course Load =2	6.2%	7.2%	13.4%	*
Online Course Load =3	7.3%	4.1%	11.4%	*
Not 1st Sem, GPA ≥ 2 , Passed All	1.5%	9.4%	10.9%	
All Students	3.4%	13.9%	17.3%	*
*Significant difference at 5%.				
Pink shading = at least one restriction violation				
Gray shading = no restriction violations				

Table 1

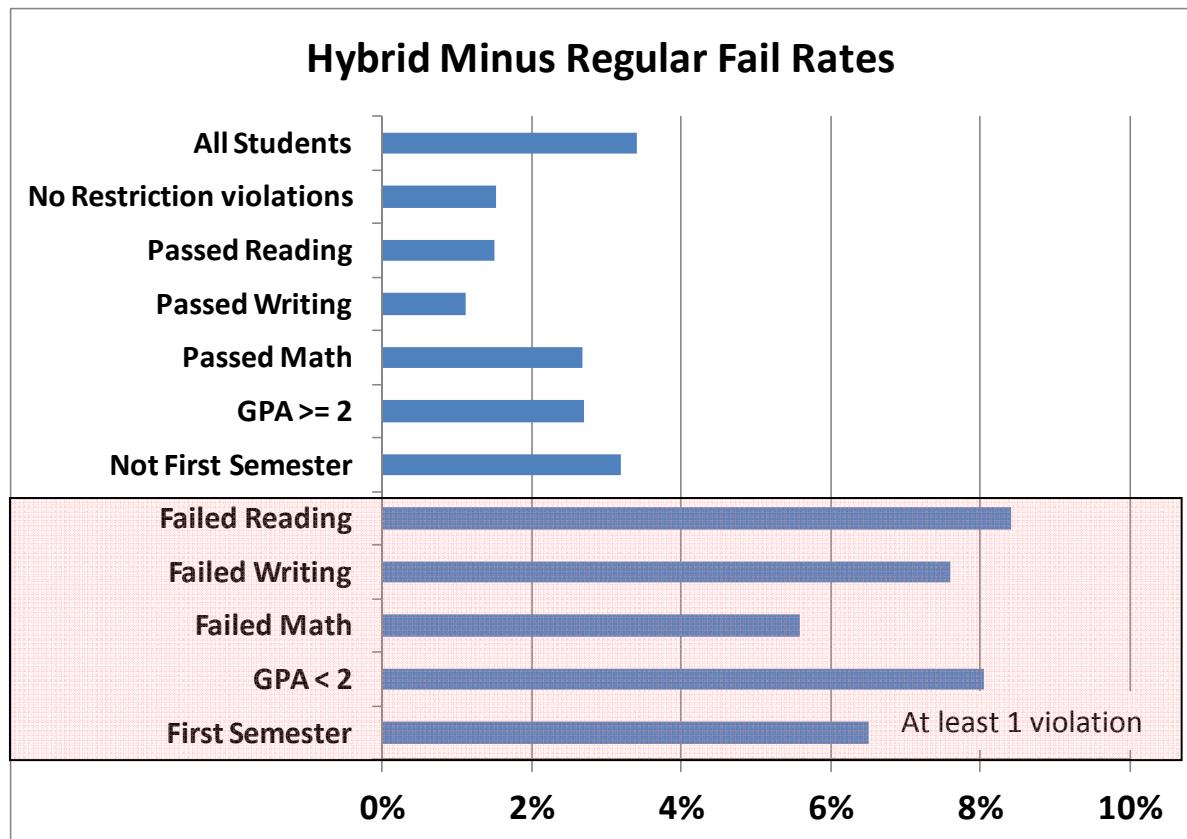


Figure 1

(In both Table 1 and Figure 1, “No restrictions violated” means no restrictions except the restriction on taking more than one online course.

By Department

	Hybrid Minus Regular Pass Rates (Percentage Points)	Regular		Hybrid	*
		Regular	Hybrid		
Business & Technology	-2.6%	91.4%	88.8%		*
Education & Language Acquisition	-5.2%	86.9%	81.7%		
Humanities	-3.9%	87.9%	84.0%		*
Liberal Arts	0.1%	91.3%	91.4%		*
Math, Engineering & Computer Science	-4.7%	75.0%	70.3%		*
Natural Sciences	-5.9%	81.2%	75.3%		
Social Science	-1.4%	85.8%	84.4%		

*Significant difference at 5%.

Gray indicates not significant

Table 2

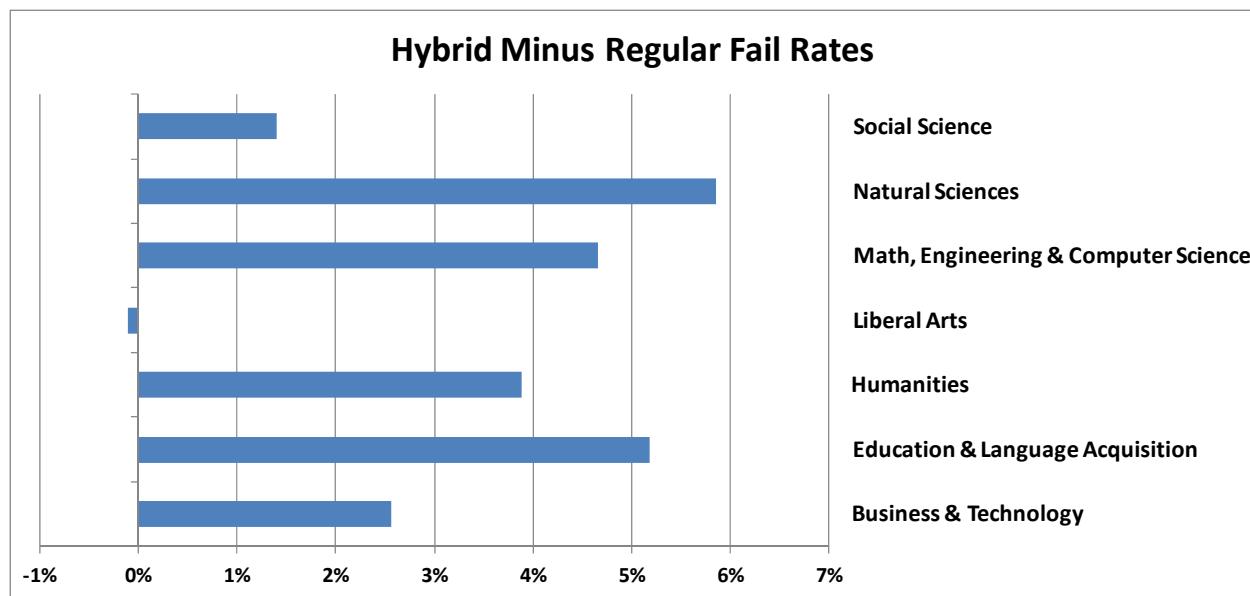


Figure 2