

Momentum

A Simple Predictor of Next Semester Retention: Passing Courses

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In Figure 1 we see that 29% of Fall 2016 students who passed no courses enrolled in Spring 2017, while 95% or more of students who passed five or more courses enrolled that next semester.

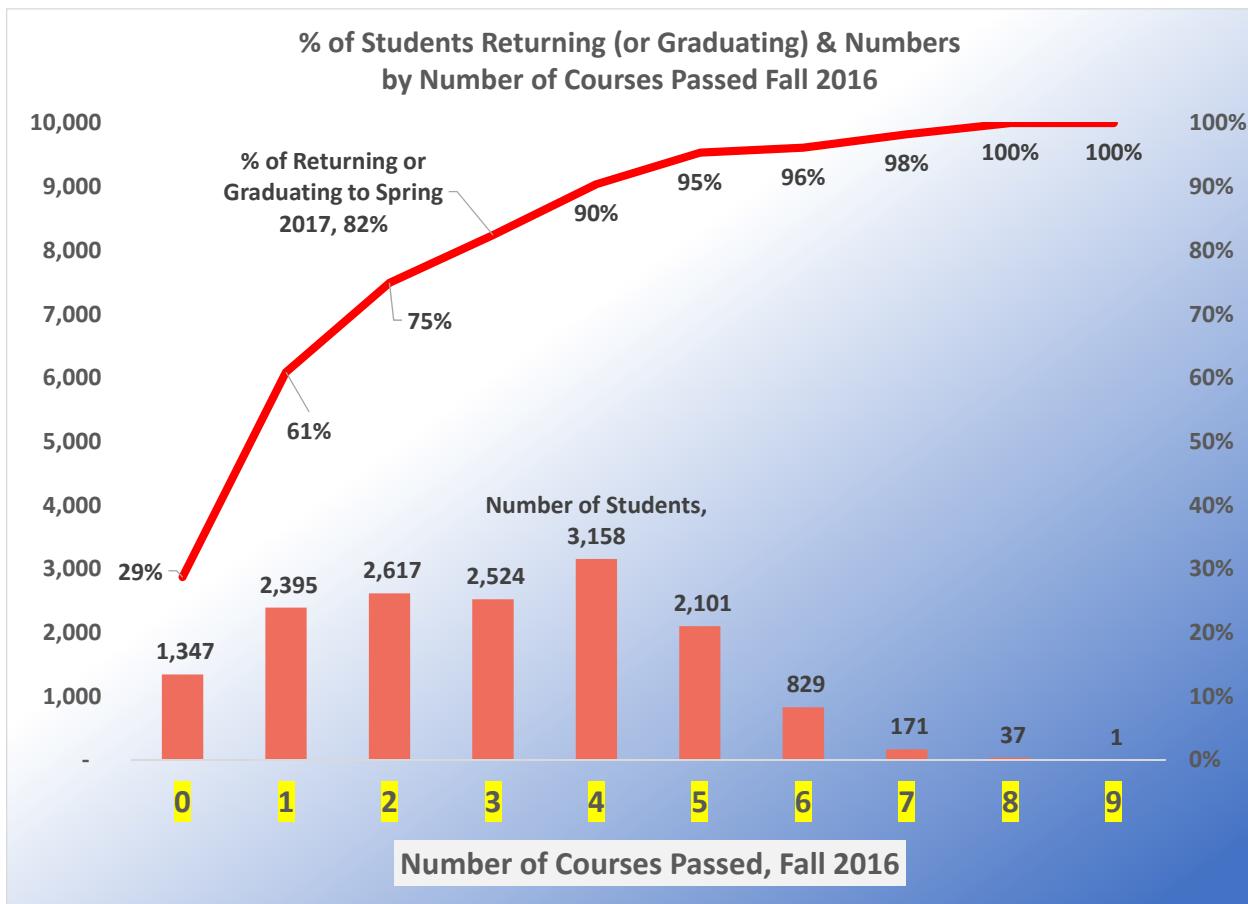


Figure 1

Passing one course, instead of none, more than doubled the rate of return of students in Fall 2016, from 29% to 61%. In Table 1, we see the steady increase in the rate of return of students as they pass more courses.

Is this “better” than the statistical prediction made from nine (or more) factors by Jenny Zhu in this office for two-semester retention? No! First, it only has nine probabilities, while in the stepwise regression mode, every student has an individual probability (technically, the r-

squared is much higher with Jenny's). Second, Jenny's predicts an outcome nearly two semesters in advance, while this one predicts barely before the start of the next semester.

From Table 1 we can see that if we predicted that all students who passed no courses *would not* return, we would be right 960 times and wrong 387 times. If we predicted that all students who passed only one course *would not* return, we would be right 937 times and wrong 1,458 times. If we predicted that all students passing five course *would* return, we would be right 2,003 times and wrong only 98 (not bad, actually).

Courses Passed Fall 2016	% of Returning or Graduating to Spring 2017	Number of Students	Number Return or Graduate	Number Non-Return
0	28.7%	1,347	387	960
1	60.9%	2,395	1,458	937
2	74.9%	2,617	1,961	656
3	82.4%	2,524	2,080	444
4	90.4%	3,158	2,855	303
5	95.3%	2,101	2,003	98
6	96.1%	829	797	32
7	98.2%	171	168	3
8	100.0%	37	37	-
9	100.0%	1	1	-

Table 1

A second question we might ask is whether the number of courses attempted makes a difference. This answer seems to be no, not much. The rows in top part of Table 2 are the number of courses passed, while the columns are the number of courses attempted. Neglecting the gray areas, which in the bottom part of the table you can see have fewer than 100 students in each category, only the number of courses passed makes a strong difference. That is, the difference between passing one out of one course and one out of four courses is only six percentage points (66% to 61% return/grad rate), while the difference between passing none out of four and one out of four is 35 percentage points (61% to 26% return/grad rate).

We have noted that a good GPA and full-time attendance is necessary for momentum. A student can't pass five or more courses without both of them.

Passing courses does not "cause" students to persist. Passing courses is merely an indicator of the investment students are putting into their LaGuardia degree. Indeed, over 400 students passed four or more courses and did not return. Many of them transferred, but for some, momentum could not overcome life's challenges.

Percentage Returning (or Graduating) from Fall 2016 to Spring 2017									
Number of Courses Passed	Number of Courses Taken								
	1	2	3	4	5	6	7	8	9
0	29%	28%	27%	26%	49%	27%	67%	100%	
1	66%	51%	53%	61%	65%	69%	75%		
2		77%	70%	72%	81%	94%	100%		
3			82%	81%	85%	89%	67%	100%	
4				90%	91%	94%	67%		
5					95%	95%	100%	100%	
6						96%	98%	100%	
7							98%	100%	
8								100%	
9									100%

Number of Students in Category, Fall 2016									
Number of Courses Passed	Number of Courses Taken								
	1	2	3	4	5	6	7	8	9
0	493	339	284	171	45	11	3	1	
1	1,363	494	306	160	52	16	4		
2		1,609	575	326	90	16	1		
3			1,599	713	172	36	3	1	
4				2,625	458	69	6		
5					1,901	193	6	1	
6						787	40	2	
7							167	4	
8								37	
9									1

Table 2

Tentative Conclusion

If an intervention does not lead to helping students take and pass more courses, it probably will not have much effect on student success.

Notes:

- Only degree students were included in the analysis.
- All courses with non-zero equated credits were used, including developmental and zero-credit first-year seminars. All courses were counted as single units, regardless of the number of credits.
- Only unambiguous grades were included. (Incompletes were excluded.)