

Background Radiation: Doing Well at LaGuardia and Dropping Out

Nathan Dickmeyer
Institutional Research & Assessment
March 4, 2015

Findings

- Challenges that students face because of prior academic preparation and time availability to study for and attend classes add greatly to the probability of dropping out, especially in the first two semesters.
- Even students not facing any of the challenges above are dropping out in later semesters at a rate that approaches seven percent.

Introduction

In “The Relationship between Student Time Allocation Decisions and Outcomes” Dickmeyer and Michalowski demonstrate that a simulation model of student drop-out behavior closely matches actual probabilities of dropping out. The model simulates the interaction of an on-going level of random life events capable of knocking a student out of school and a student’s build-up of resistance to these events through successful progress to a degree. This paper attempts to find the true probability of a student having a life event capable of knocking her out of LaGuardia: the “background” rate.

In “Towards a Comprehensive Model of Community College Student Progress: The Role of Critical Junctures” Michalowski analyses his interviews with students who had decreased enrollment intensity (dropped from full-time to part-time, stopped out, or dropped out). These students often spoke about a critical juncture: a collision between pressures at work or home and difficulty at school. The difficulty at school ranged from class absences to perceived “problems with the Financial Aid Office.” In this paper, I attempt to separate the effect of the level of outside pressure from the challenges generated within the college.

I will therefore examine three factors that are known to affect the drop-out rate: developmental need, full- or part-time attendance and cumulative grade point average (GPA). I will separate students who have favorable levels of each of these factors from those who do not. Then I will combine the three factors to look at the drop-out probabilities of those with positive indications on the three factors against those who are showing more stress meeting college requirements.

Definitions

The Dickmeyer and Michalowski paper included students who transfer to another institution as non-returning. This paper, however, examines drop outs and does not include early transfers in that figure. For that reason, the figures proposed in the Dickmeyer and Michalowski work will be higher than those seen in this paper.

The semester drop-out rate is the number of students who never return to the college (at least through the Fall 2014 semester) after being enrolled as a degree student in the previous semester divided by the number of active students in the semester. A student is considered active if she was enrolled that semester or if she has stopped out for that semester and enrolls again later.

This is a cohort study and the cohort consists of all first-time degree-seeking students who first enrolled in Fall 2009. None of the students in the cohort transferred in from another college. There were 2,936 students in this cohort. Students who graduated or were listed as enrolled in another college (using both National Clearinghouse and CUNY OIRA data) after leaving LaGuardia were not, of course, included in the drop-out counts.

The semester drop-out rate thus shows the proportion of students who never return (and did not graduate or transfer) after that semester as a percentage of those who were active that semester. This is not a cumulative cohort drop-out rate, but an enrolled student rate. Thus, the base gets smaller as the cohort ages and its members graduate, transfer or drop out. In each semester it is the probability that an active student did not return later.

Developmental Need

I classified these new students into three categories: those who had no developmental need; those who only needed Math 096; and all others with some developmental need. There is no

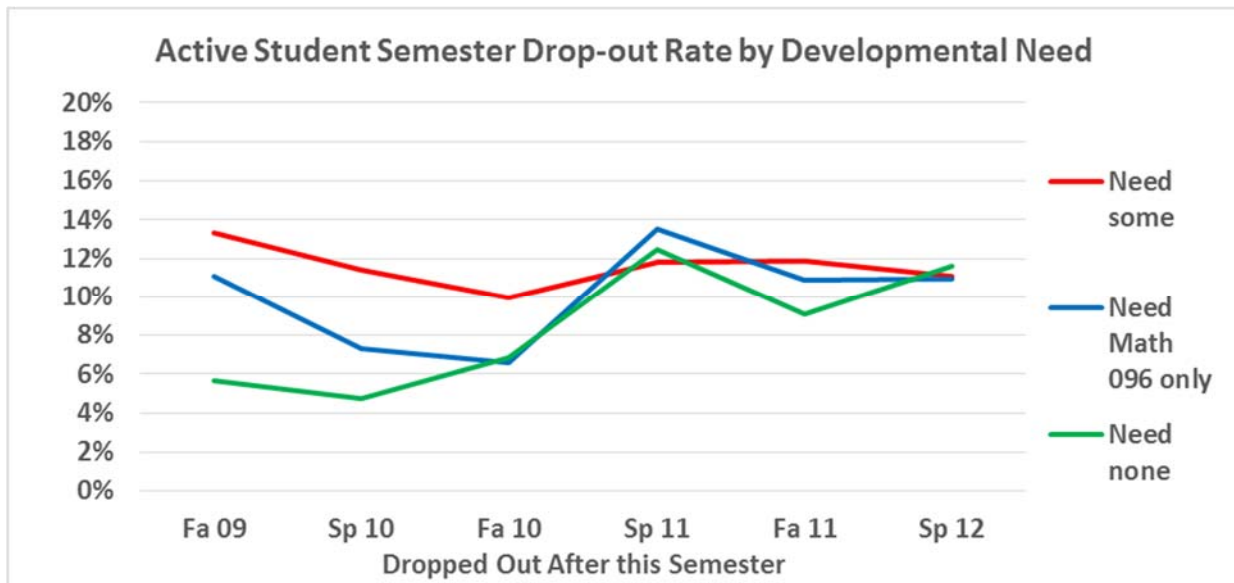


Figure 1

overlap in the categories. Those with some need included all those with multiple needs, including Math 096 in combination (but not alone) and those who needed only reading, only writing, or only ESL.

Examining the first two semesters, Figure 1 is not surprising: students needing other than just Math 096 dropped out at a higher rate than those who only needed Math 096, while those who had no need dropped out at the lowest rate. In the third semester, however, those needing Math 096 only and those with no need began dropping out at the same rate. In the fourth semester and thereafter, we cannot easily distinguish among the three groups.

- Students with no developmental needs drop out after the first semester at a six percent rate. Thereafter the rate climbs to twelve percent.
- Students with developmental needs drop out at a higher rate than those with no need until the fourth semester when initial developmental need no longer differentiates them.

Full- or part-time status

I created two groups: those who attended full-time at least 25% of the time (full-time group) and those who attended part-time at least 75% of the time (part-time group). Students who dropped out after the first semester either attended that semester full-time or part-time under this rule. Students who dropped out after the second semester and attended full-time in one or both of the first two semesters would have been classified in the full-time group. Only those who attended both semesters part-time would have been classified in the part-time group. The same thing is true of those who dropped out after three and four semesters: only those who attended part-time all semesters would have been classified as part-time. By the fifth semester only students who attended part-time for four or five of the five semesters were classified as belonging to the part-time group under this rule. This is a relatively “strict” part-time rule.

Figure 2 shows that those in the full-time group in the first two semesters drop out at a significantly lower rate than those who attend entirely part-time. Beginning with the third semester, students attending largely part-time drop out at about the same rate as those in the full-time group.

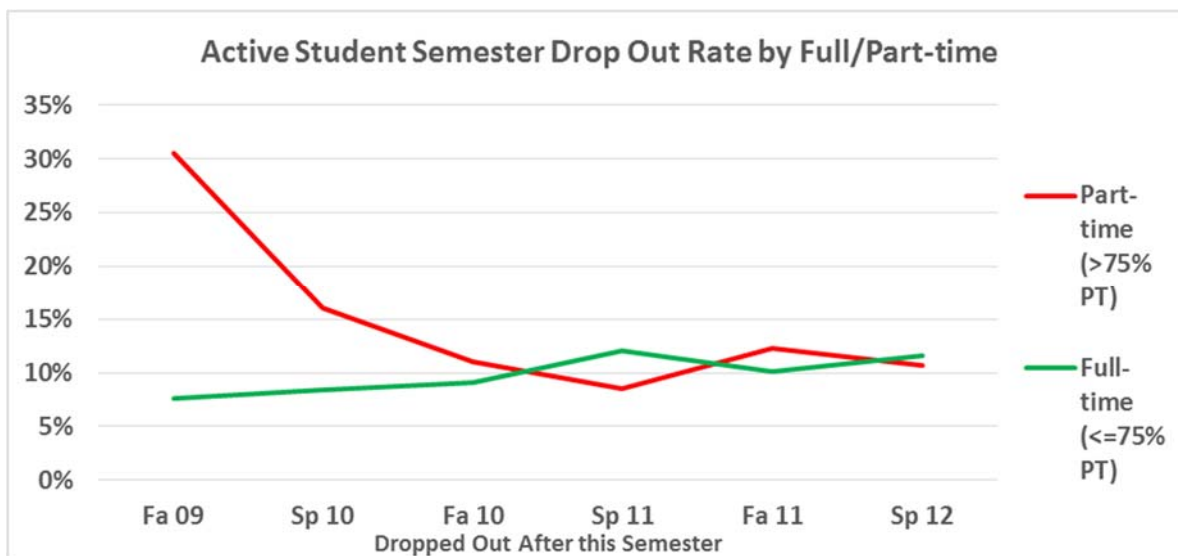


Figure 2

- Students attending mostly full-time drop out at a rate that begins around 8% and climbs to 12%.
- Students attending part-time drop out at a 30% rate after the first semester and 16% after the second, but, after that, drop out at rates similar to students who attend mostly full-time.

GPA

The GPA used in Figure 3 is the cumulative GPA at the end of the final semester for the student. None of the students who had a final null, cumulative GPA graduated, of course, and only a handful transferred. Thus, the drop-out rates for this group are huge, and almost all students who had a null GPA in their final semester dropped out after the first or second semester. Of the 2,936 students in the cohort, 124 ended their career at LaGuardia with a null GPA. Of these only 25 transferred early. (63% of the students in this cohort who took no college-level credit courses in their first semester dropped out.)

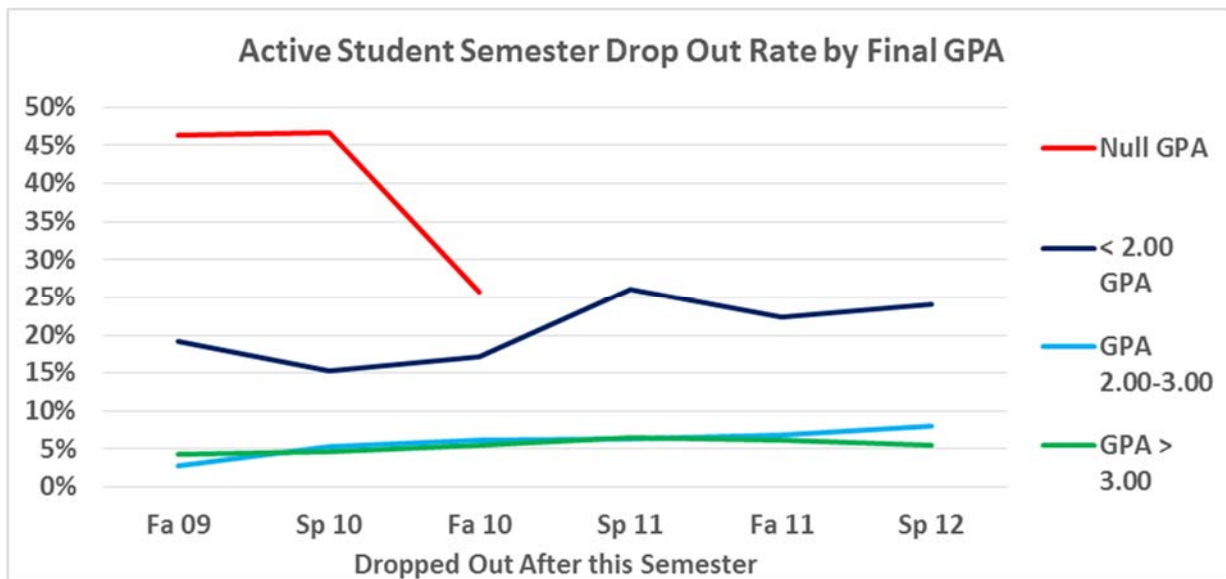


Figure 3

In Figure 3 we see that students with GPAs above 2.00 drop out at similar rates, while those with a GPA below 2.00 drop out at rates ten to twenty percentage points higher. Also, there is an increase in drop-out rates for these students beginning in the fourth semester.

- Students who attempt no college-level credits in their first semester are highly likely to drop out.
- Students who end with a cumulative GPA less than 2.00 drop out at a rate significantly higher than that of students with higher GPAs.
- The drop-out rate for students with better than a 3.00 cumulative GPA at the end of their career at LaGuardia is very similar to that of students with a final, cumulative GPA from 2.00 to 3.00.

Combination of Factors

In Figure 4 I defined three groups by the combination of all three factors charted above. “Good” developmental placement was defined as not needing any developmental coursework. “Good” enrollment status means attending full-time at least 25% of the time. “Good” GPA was defined as any final, cumulative GPA 2.00 or above.

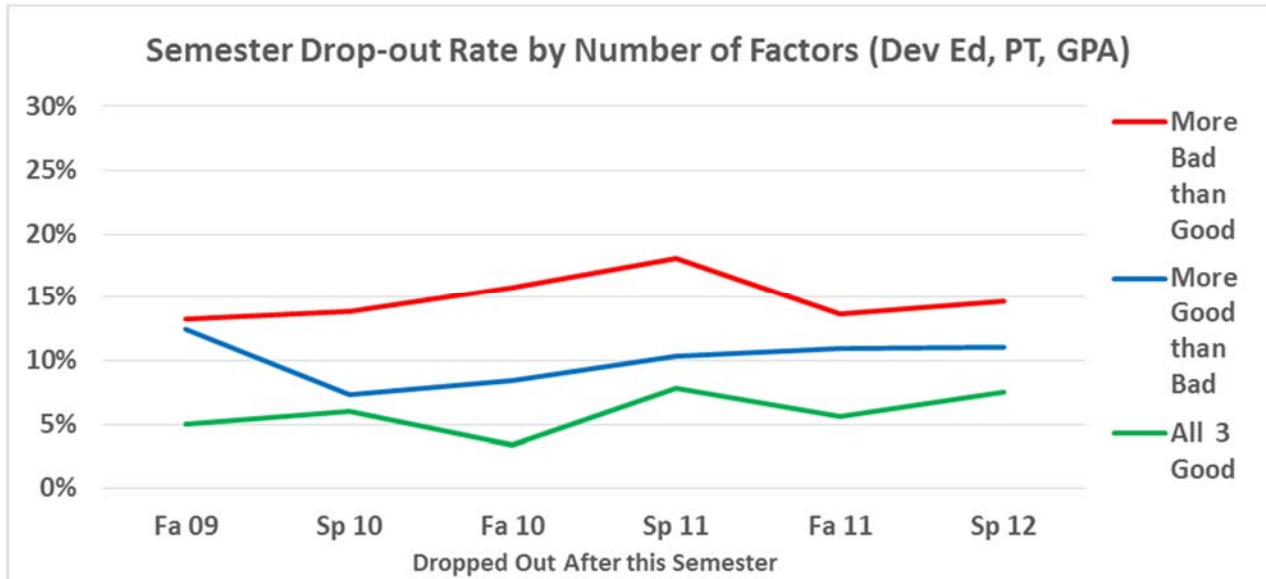


Figure 4

The graphs show the impact of increasing challenge: lack of sufficient preparation (Dev Ed requirements), lack of time to attend full-time (predominately attending part-time), and lack of time to study (GPA).

Those with none of these challenges dropped out at the lowest rate. Those with only one of the challenges dropped out at a somewhat higher rate. Those with two or three out of the three challenges, dropped out at the highest rate.

- Those with no challenges still dropped out at a rate that went from 5% to 8%.
- Each additional challenge added an average of 4.5 percentage points to the probability of dropping out.

Conclusion

Previous studies have shown that students in good academic standing leave LaGuardia each semester at about a 15% rate, figured against enrolled, active students. About half of these leavers are early transfers to other colleges. The other half have dropped out, although they began with no developmental needs, attended mostly full-time, and kept their cumulative GPA at or above 2.00.

Nearly all of our students face life's pressures at rates higher than students from middle and upper socio-economic levels. These pressures may manifest themselves in the necessity to obtain developmental level skills, attend part-time, or spend too little time studying. Even students who manage to overcome all these hurdles still stop attending college—any college—at rates that approach seven percent of the students enrolled each semester. Over six semesters, with no intervention, 35% of a cohort disappears at this steady seven percent rate.

There seems to be a small increase in drop-out rate after the first semester for those students without apparent challenge. This may be a statistical artifact, or it may be a troubling reality.

Caveat

The results are sensitive to the definitions. Be careful not to over-generalize. Changing the definition of part-time to, say, never attending full-time or, say, more than 50% part-time, changes the results. Changing the GPA definition also changes the results. If we were to define “good” as never having a semester GPA below 2.00, the resulting rates change once again.

(The internal research papers mentioned above are available from the office of Institutional Research & Assessment at LaGuardia and were the basis of two presentations at AIR.)