# Almost in Good Academic Standing

Institutional Research and Decision Support
University of California, Merced
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On April 23, 2016, Ed Venit wrote in the EAB's (Education Advisory Board) Student Success Insights Blog about the relationship between first-year GPA and graduation rate. To illustrate the relationship, he used a graph from a large Midwest flagship campus. The striking relationship encouraged Student Affairs Acting VC Nies to request a similar graph for UC Merced. This is in response to that request. As is often the case, the UC Merced story is unique and result is that UC Merced outperforms expectations.

Institutional Research and Decision Support has conducted many studies about the relationships between admissions measures, student characteristics, freshman performance, freshman behaviors, and graduation. Several of those studies have been to evaluate University policies regarding academic performance and have therefore used freshman grade point average thresholds. Oversimplified, those policies are good academic standing (GPA $\geq$ 2.00), academic probation (GPA < 2.00), special probation (GPA < 1.50), and subject to dismissal (GPA < 1.50).

Figure 1 shows the EAB graduation rates for the large public Midwest university (Midwest U) compared to figures for UC Merced.

Figure 1: Freshman GPA and Six-Year Graduation Rate Comparing UC Merced to Midwest Public
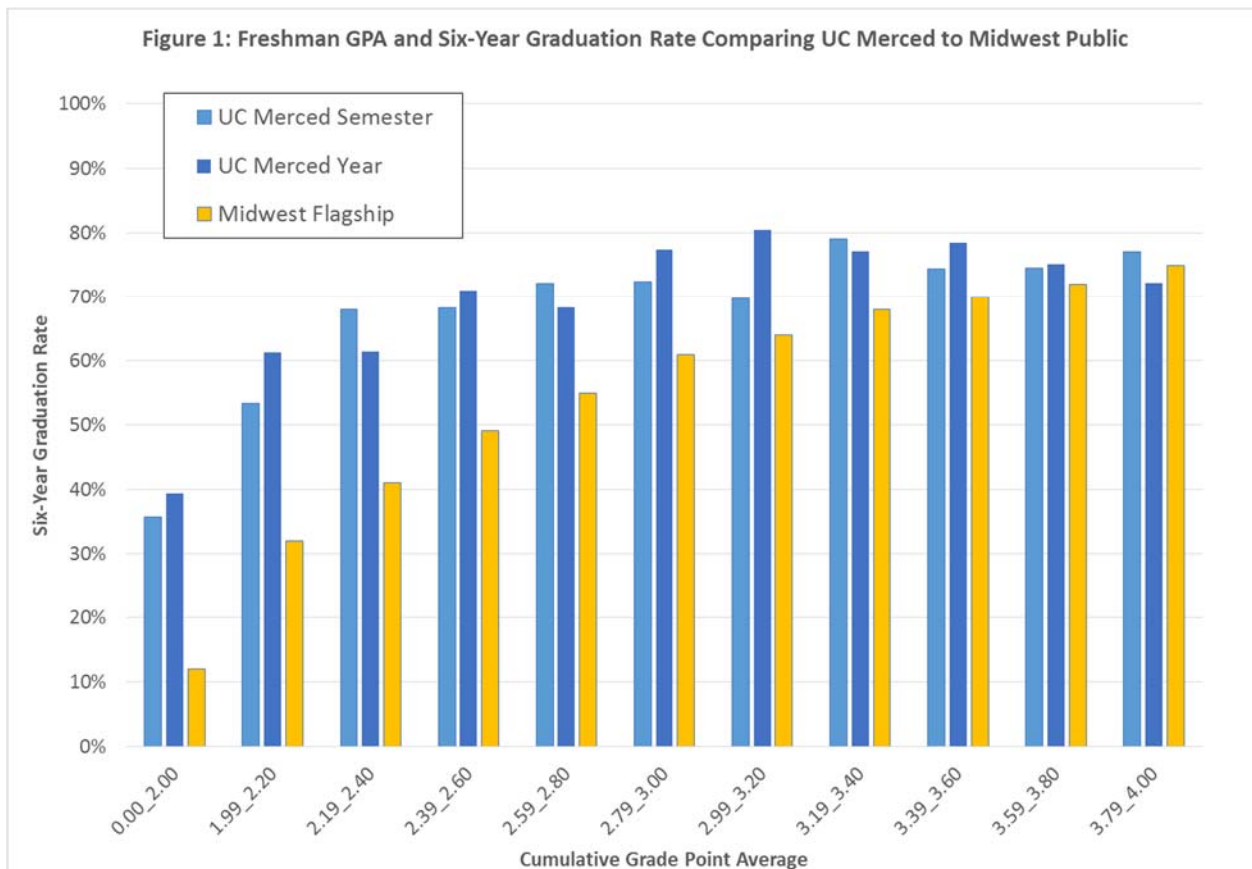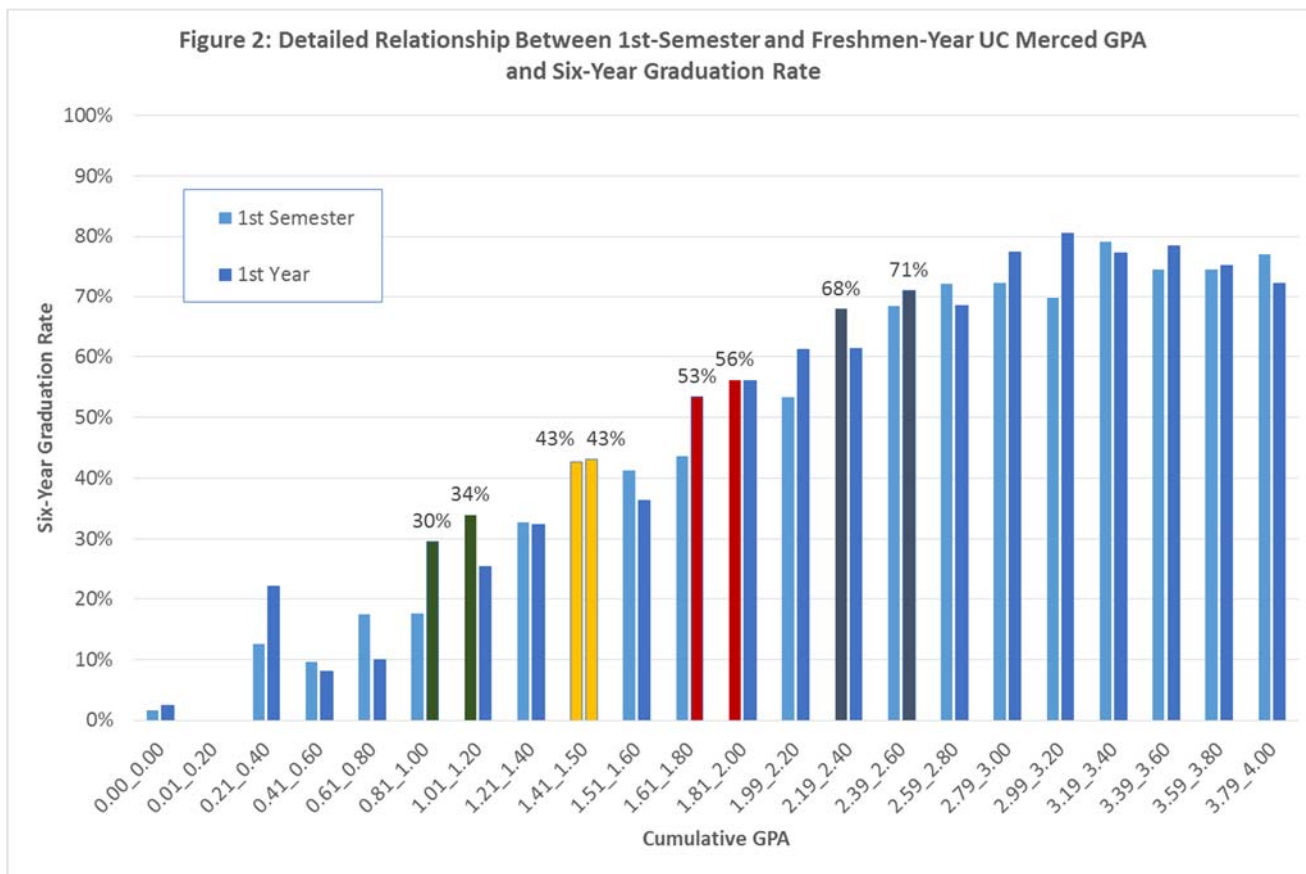
There are a couple very notable differences. First, Midwest U exhibits a nearly linear relationship between first-year GPA and probability of graduation. In particular, the graduation rate for students with a cumulative GPA < 2.00 was a very low 12% and climbed steadily to a high of 75%. The graduation rate for students with a cumulative GPA < 2.00 is about one in eight students. Second, the Midwest U graduation rate was lower

overall. Together, these statistics suggest that Midwest U is a fairly typical large public university with a graduation rate of about 60%. Institutions with those characteristics grant a college opportunity to students but recognize that many will fail and the near linear relationship suggests that there are few efforts made by Midwest U to alter students' negative academic trajectory.

UC Merced's pattern is very different. First, the relationship between freshman GPA and graduation rate is fairly stable from about 2.00 and higher (good academic standing). Second, the graduation rate for students with a first-semester or even first-year GPA less than 2.00 (academic probation) is well above one third. That is one in three in contrast to Midwest U's one in eight. There is clearly something different happening at UC Merced and it could be a function of Merced's unusual student body, support and intervention services, or unknown factors.

Because UC Merced's graduation rate pattern for students with GPAs below 2.00 was very different, Figure 2 was prepared to see the relationship in greater detail by continuing the 0.2 GPA intervals below 2.00.

Figure 2: Detailed Relationship Between 1st-Semester and Freshmen-Year UC Merced GPA and Six-Year Graduation Rate

Again, UC Merced is very different from Midwest U. It is only when the GPA at UC Merced was less than 0.60 that a graduation rate like Midwest U's < 2.00 graduation rate is seen. Also, there are four thresholds across the distributions that suggest something like a step function (significant change followed by plateau. From the highest GPAs, the first threshold is at about 2.19-2.40 first-semester and 2.39-2.60 first-year GPA. From that point higher, the graduation rate was about 70%. The second threshold happened about the 1.6-2.0 range where the graduation rate was better than 50%. The third threshold was at about a 40% graduation rate and occurred where the first-semester and first-year GPAs were 1.41-1.50. The fourth threshold was at 1.01-1.20 at the first semester or 0.81-1.00 at the first year where graduation rates dropped sharply. There was also a decline in graduation rate at the very highest GPA intervals. That is likely the result of some very able students transferring out.

Given these patterns, what can we expect to know about first-year GPA based on first-semester GPA? That is the subject of Table 1. Based on the performance of prior students at UC Merced, cumulative distributions were prepared by first-semester GPA intervals. The percentages show the percent of students in an interval who finished the year with a GPA at that cell level <u>or higher</u>. For example, 55% of students with a first-semester GPA of 1.41-1.50 (subject to special probation) finished the year with a GPA of 2.00 or above (good academic standing). The figures in red indicate the middle of the cumulative distribution (about the 50th percentile or 50% of cases). There are horizontal and vertical lines to indicate critical GPAs for academic good standing/probation and probation/special probation. If the University is willing to accept a 50% chance that a student will manage to achieve good academic standing, then it should continue to encourage and support students with first semester GPAs as low as 1.01. It is unlikely that students below that level of performance will be in good academic standing at the end of the year.

Summary Observations

UC Merced research has shown that initial academic performance is very clearly associated with graduation. A first-semester GPA of 2.0 or higher was identified as one of four key student behaviors associated with on time completion (*Student Behaviors Associate with Degree Completion in Four Years or Less*). Similarly, the most impactful indicator of retention was good academic standing. If students completed the first semester with a GPA of 2.0 or higher, it was likely that they would return for a junior year. It was in the report, *Attrition before the Junior Year, Academic Standing, USTU010 and Fiat Lux Scholars,* that the relatively high retention rate of students on probation was noted. "The majority of students on probation at the end of any semester made it to the 5th semester and the retention rates were substantially higher after the first semester. The retention rate of those on probation was closer to those in good academic standing than those subject to dismissal or special probation." This study supports prior findings and is a glass half full.

About one in four new freshmen will complete the first semester with a GPA of 2.00 or lower. About half of those students will move their cumulative GPA from probation (< 2.00) to good academic standing (> 2.00) by the end of the freshman year. Unlike Midwest U, a poor first semester is not as detrimental at UC Merced. In fact, a student with a first semester GPA as low as 1.0 has about a 50% chance of finishing the year in good academic standing. This is likely a testament to good support and intervention at UC Merced but also recognition that the college transition is difficult for many UC Merced students who initially perform less well than expected. After all, UC admission is competitive and admitted students can reasonably be expected to succeed.

Table 1: Cumulative Distribution of the Relationship Between 1st-Semester GPA and 1st-Year GPA -- Likelihood of 1st-Year GPA

GPA at 1st Semester	Drop Out	0.00 0.00	0.01 0.20	0.21 0.40	0.41 0.60	0.61 0.80	0.81 1.00	1.01 1.20	1.21 1.40	1.41 1.50	1.51 1.60	1.61 1.80	1.81 2.00	1.99 2.20	2.19 2.40	2.39 2.60	2.59 2.80	2.79 3.00	2.99 3.20	3.19 3.40	3.39 3.60	3.59 3.80	3.79 4.00	N
0.00 0.00	**100%**	11%	11%	10%	7%	7%	7%	5%	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	61
0.01 0.20	< 10																							8
0.21 0.40	100%	67%	58%	58%	54%	**50%**	**50%**	**50%**	46%	42%	42%	42%	38%	33%	25%	21%	21%	13%	8%	4%	4%	4%	0%	24
0.41 0.60	**100%**	38%	33%	33%	31%	26%	26%	19%	19%	17%	17%	17%	12%	12%	7%	7%	5%	5%	0%	0%	0%	0%	0%	42
0.61 0.80	**100%**	46%	41%	41%	41%	39%	39%	37%	37%	35%	33%	33%	33%	17%	15%	15%	11%	9%	4%	2%	2%	0%	0%	46
0.81 1.00	100%	78%	73%	73%	72%	65%	62%	58%	**50%**	**49%**	46%	43%	34%	30%	26%	23%	16%	12%	5%	3%	3%	3%	0%	74
1.01 1.20	100%	84%	82%	80%	80%	80%	77%	77%	75%	71%	66%	66%	**59%**	**46%**	32%	30%	27%	13%	5%	4%	4%	4%	0%	56
1.21 1.40	100%	91%	89%	89%	88%	86%	82%	77%	73%	69%	65%	62%	**50%**	40%	35%	30%	22%	12%	6%	4%	4%	3%	0%	104
1.41 1.50	100%	97%	95%	95%	94%	92%	86%	85%	80%	75%	72%	72%	68%	**55%**	**43%**	35%	28%	18%	6%	3%	2%	2%	0%	65
1.51 1.60	100%	93%	92%	92%	90%	90%	88%	86%	82%	78%	75%	71%	67%	59%	**55%**	**42%**	26%	19%	12%	10%	7%	4%	0%	73
1.61 1.80	100%	97%	93%	93%	93%	91%	89%	85%	82%	81%	80%	77%	72%	64%	**50%**	42%	33%	23%	13%	8%	5%	3%	1%	149
1.81 2.00	100%	98%	96%	96%	96%	95%	95%	94%	93%	91%	87%	84%	76%	65%	**55%**	**48%**	36%	25%	15%	9%	7%	5%	0%	244
1.99 2.20	100%	96%	93%	93%	92%	90%	89%	89%	87%	82%	78%	75%	72%	65%	**57%**	**44%**	35%	22%	15%	9%	7%	4%	0%	197
2.19 2.40	100%	97%	96%	96%	95%	95%	94%	92%	91%	88%	85%	84%	79%	70%	61%	**52%**	41%	32%	18%	13%	9%	5%	0%	309
2.39 2.60	100%	98%	98%	98%	98%	97%	96%	95%	94%	90%	87%	87%	81%	73%	68%	**57%**	**44%**	34%	20%	12%	10%	5%	0%	319
2.59 2.80	100%	97%	96%	96%	96%	96%	96%	94%	94%	92%	92%	91%	88%	83%	75%	64%	**53%**	**41%**	28%	19%	13%	8%	1%	359
2.79 3.00	100%	97%	97%	97%	97%	97%	97%	96%	95%	94%	93%	92%	90%	87%	82%	76%	65%	**55%**	**39%**	28%	23%	18%	3%	380
2.99 3.20	100%	96%	96%	96%	96%	96%	96%	95%	95%	94%	93%	92%	90%	86%	84%	78%	69%	**60%**	**42%**	31%	25%	20%	4%	331
3.19 3.40	100%	100%	100%	100%	100%	100%	100%	100%	99%	99%	98%	97%	95%	93%	88%	79%	73%	**59%**	**42%**	29%	24%	18%	4%	153
3.39 3.60	100%	96%	96%	96%	96%	96%	96%	96%	96%	96%	96%	96%	94%	93%	88%	86%	79%	74%	**63%**	**48%**	35%	29%	5%	145
3.59 3.80	100%	98%	98%	98%	98%	98%	97%	97%	97%	97%	97%	97%	96%	96%	95%	93%	88%	83%	71%	60%	**55%**	**48%**	15%	508
3.79 4.00	100%	98%	98%	98%	98%	98%	98%	98%	97%	97%	97%	97%	97%	97%	97%	97%	97%	93%	92%	86%	81%	**76%**	**40%**	153
Total	100%	93%	92%	92%	91%	91%	90%	89%	87%	86%	84%	83%	79%	74%	69%	62%	**54%**	**45%**	33%	26%	21%	17%	5%	3,838

Note: The percentages shown are a cumulative distribution showing the likelihood that the 1st-year GPA will be at the interval listed or above. For example, 22% of students with a 1st-semester GPA of 1.99-2.20 can be expected to have a 1st-year GPA of 2.79-3.00. Ranges at or near the median (50th percentile) are highlighted in red.