SIGHTLINE TO STUDENT SUCCESS

CASE STUDY: Financial Factors Contributing to Late Student Departures at a Four-year Public University in the Midwest

PROBLEM: Dropout risk as students near degree completion is an understudied area of research. Do financial aid and net tuition have an impact on long-term student retention? If so, what can we do about it?

The responsibilities of recruitment and enrollment teams are continuing to expand. Yet, with a potentially smaller pool of qualified applicants in the coming decade, the importance of retention and long-term student success through graduation becomes more critical to the financial health of an institution. Financial awards and tuition variables appear to impact student retention at various times in the student lifecycle. The financial factors contributing to late departures should be evaluated to understand the most impactful way to support the most students until graduation.

SOLUTION: Analyze existing university data to model the probability a student will drop out relative to total credits earned and quantify the impact of risk factors.

CASE STUDY

Median Drop-out Risk by Total Credit Hours Earned
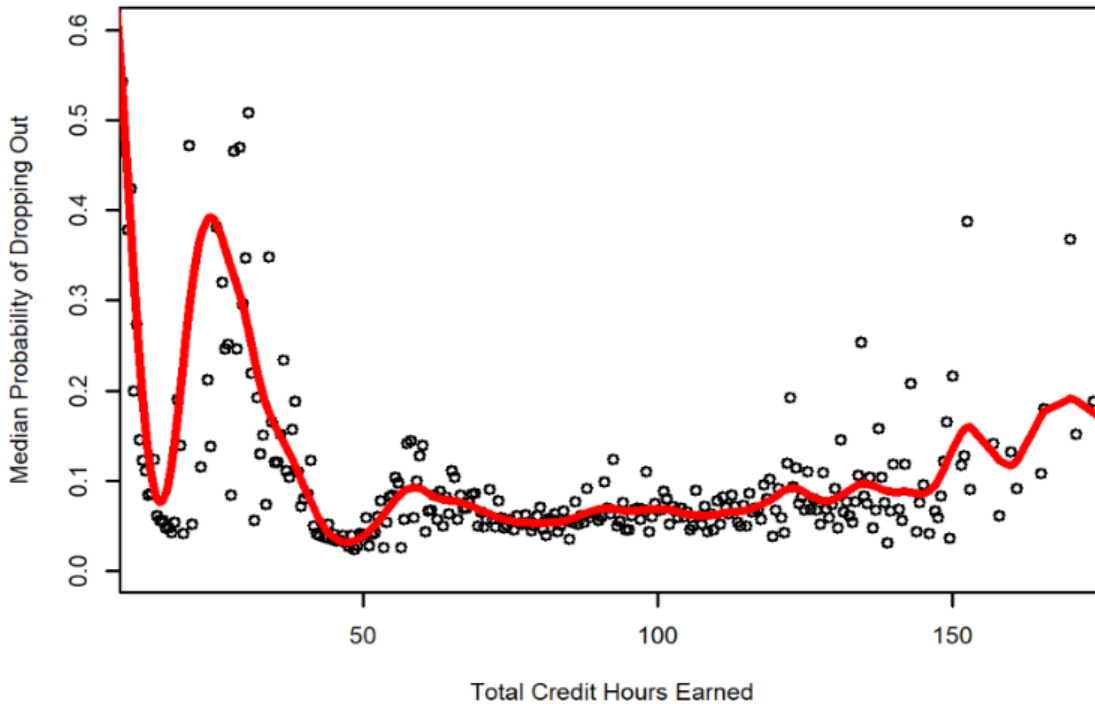
Drop-out risk for students varies throughout the student lifecycle. The variables impacting student drop-out risk are also dynamic throughout the student lifecycle.

From our assessment of a four-year public university in the Midwest, the highest probability of dropping out is when students have earned around 25 total credit hours shown on the figure above.
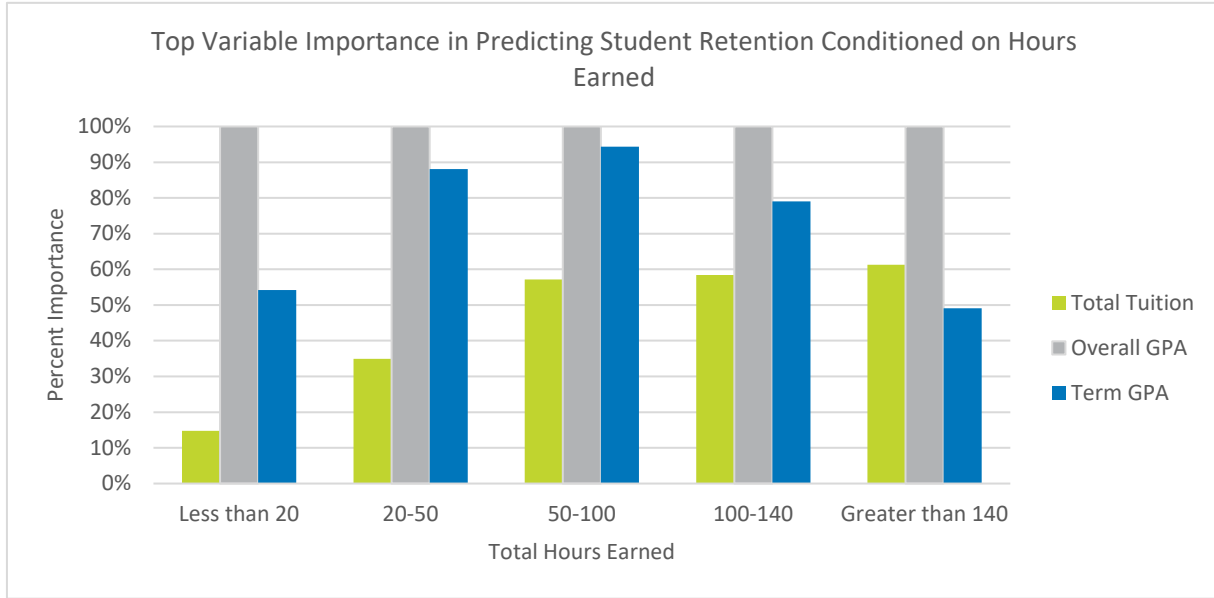
This is most likely between their first to second year at the university. For the purposes of this assessment, we are excluding the peak drop out risk for students with below 10 total credit hours as there are few data points below that threshold, and they were most likely non-degree seeking students. Over time, the risk of dropping out slowly increases for another time of high drop-out risk which we will call *late departures.* These are students with more than 115 total hours earned.

To determine what variables may be most closely associated with late departures, we quantified the relative importance of the top three predictive variables in identifying individual students who are likely to drop out, conditioned on total credit hours earned shown in the plot on the next page.

For all students, the most important long-term retention factor was Overall GPA because students struggling academically typically stop attending. As students earned more credit hours, Total Tuition Paid by the student, or net tuition, increased in importance. Comparing students with less than 20 total credit hours, and students with 100 to 140 credit hours earned, the importance of Total Tuition Paid went up from 10% up to nearly 60%.

For students with greater than 140 total hours earned, the importance of Total

Top Variable Importance in Predicting Student Retention Conditioned on Hours Earned

(bar chart: Percent Importance vs Total Hours Earned; series: Total Tuition, Overall GPA, Term GPA)

Tuition Paid exceeded 60%. These students most likely changed majors, resulting in earning more total credits than required to graduate and the financial strain may have become overwhelming. This scenario of dropping out with so many credit hours and most likely very high loans is the worst-case scenario for both the student and the university.

Additionally, the relationship between Term GPA and drop-out risk was nonlinear and peaked for students with between 50 total credit hours and 100 total credit hours. This indicates that academic retention resources should be targeted to students who are in their sophomore and junior years while financial literacy resources and targeted performance-based scholarships may be targeted towards seniors or second semester junior level students.

BOTTOM LINE: Student retention and graduation risk factors change over time. Quantifying these factors leads to better understanding and proactive intervention and financial support and education may be key for students nearing graduation.

There is an opportunity to proactively intervene with at-risk students and provide the most relevant resources to them. Considering these resources may be financial support or financial literacy tools, it is critical for the Enrollment, Student Financial Services, Budgeting, and Student Success teams to work collaboratively and proactively.

Therefore, we believe that a university's financial success and students success go hand-in-hand.

To learn more about SightLine's student success and financial aid solutions, contact the SightLine team or visit our solutions page.

About SightLine: SightLine is a boutique analytics firm, providing easy to interpret, student-centric predictive analytics solutions without the need for complex software. We support colleges and universities throughout the entire student lifecycle, using data to answer the complex questions that institutions have about how to enroll and retain students.