Success Through Predictive Analytics

Timothy Renick is vice provost and vice president for enrollment management and student success at Georgia State University. Named one of 2016's Most Innovative People in Higher Education by Washington Monthly and recipient of the 2015–2016 Award for National Leadership in Student Success Innovation, his work has been covered in the New York Times, the Wall Street Journal, and CNN. Former President Barack Obama also recognized his efforts. In this interview, Renick discusses Georgia State's use of data and predictive analytics, "intervention" numbers, and results—increases in retention, the impact of holding onto students, and why this matters.

Could you speak about your work at Georgia State University with predictive analytics and how it's led to your success in retaining students?

We were inspired by some rather sobering data, which was that we were losing hundreds of students every semester who never reached out to anybody on campus to seek help. They didn't come to the advising center; they didn't come to tutoring; they didn't come to faculty office hours. They were not signaling to us that they were struggling or thinking of leaving the university. And what we needed back in 2010 was some way to proactively identify these students and reach out to them in many cases before they might even know that they were beginning to face academic difficulties.

So, we worked on a big data project. We ran 10 years of our data, 2.5 million grades, and 140,000 student records. The point of the data project was just to see what kind of identifiable academic behaviors and actions correlated in a statistically significant way to them dropping and flunking out. We found over 800 different identifiable student behaviors that, from a data perspective, correlated to students dropping out of the university for academic reasons.

Since in December 2012, we've been tracking every single Georgia State student for every one of those 800 risk factors. So, as we update our data systems every night, we're looking for any of those 800 behaviors. And if one is identified, the next morning, a staff person (an academic adviser) typically gets an alert and we'll reach out to that student within 24 hours with some kind of remediation or offer to help. This has been very large scale. The last 12 months, we've had over 52,000 one-on-one meetings between our staff and students that were prompted by alerts coming out of the system. We call the system GSP Advising. For us, it stands for Graduation and Progression Success.

Now, if we can see when things are first going awry and we correct it immediately, then we're going to not only keep more students on path, but those who get off path are going to get back on path at a much higher percentage. It's the idea of using data to customize the support and intervention that we can deliver to our students and making what we do as a university much more personalized. It's had a huge impact on outcomes as well.

How would you advise a university or college that's not as large as Georgia State on implementing this type of program?

What we found is that the most common and the most impactful alerts don't necessarily require you to have a fancy system where you're looking at millions of grades and hundreds of thousands of student records. What we've seen flow to the top again and again are certain types of behaviors. If a student is not performing at an above average level in their field of study at the beginning, then clearly, they need some kind of help.

There's either something going on in their personal life or academically. So, respond and intervene at that moment. Another pressure point that we found, easily identifiable for any campus, but often not acted upon, is if a student drops or withdraws from a course in the middle of the semester, intervene then to see what's going on and to try to help.
Could you talk about the increases in retention accomplished through early advisement and how a one- or two-point increase in retention has impacted Georgia State’s return on investment?

We now use meta-majors and learning communities to onboard students. We’ve seen significant gains across the board in student outcomes. We’re graduating 2,800 more undergraduates every year than we were when we launched this platform a little over five years ago. That’s a 67 percent increase over this time period. The graduation rates for every demographic group has gone up. What we found that’s particularly interesting is while we raised our graduation rates by about 22 percentage points [for all groups], the biggest gains have come for the students who were struggling the most under the old system.

For instance, our upper-income and middle-income students are doing much better than they were before we launched the platform. But the gains made by our low-income students are greater than for the middle and upper-income students. Our white students are doing better than they were before we launched the platform. But the gains made by our African American and our Latino students are greater than the gains made by white students. It’s not merely that these interventions help students succeed. What also has happened is that it’s helped us close the achievement gap. For each of the last three years, our African American students, our first-generation students, and our Pell students on average graduated at or above the rate of the overall student body.

Has the success of the program increased your applications? Do you find that your applications are up across the board, across demographic groups?

Yes, there are two positive outgrowths of this. One is that it has helped our recruitment in many ways. We’ve had a significant increase in applicants for our programs. And the other positive has been it’s really helped the finances of the university. We did a calculus—every 1 percent we increase our retention rates on the Atlanta campus—the main campus that has about 32,000 students enrolled—that’s 320 students who are going to be held on to who in the past would have dropped out of the university. We also then did a calculus to work with our finance team and looked at what the average student bill was over the previous 12-month period. What does a student contribute in tuition and fee payments to the university? And the average bill for a Georgia State student over 12 months is about $9,800. You put those two things together, it means that every time you increase the retention rate by 1 percent, you’re holding on to 300 students, each student is worth, you know, $9,800, that’s over $3 million a year in additional revenues for every single percentage point that you increase the retention rate. This is a significant source of additional revenues. It definitely helped get the university through the recession.

So, it’s been been very positive. And I think that’s a way to build buy-in for programs like this. There are lots of people who recognize the social justice reason why we pursue these efforts—that it’s important that we succeed in graduating more students. This is a trust that the families and the students put in us to support them. It’s unconscionable that we have the national achievement gaps that we do where, by some measures, upper-income students, students at the top quartile, are as much as 10 times more likely to graduate from college as students in the lowest quartile ... where white students are up to 20 percentage points more likely to graduate than black students, and so forth. I think there’s a social justice reason that is very important and that motivates me on a day-to-day basis.

Could you elaborate on the social justice aspect of using predictive analysis to support international student success and retention and why it matters?

I have complete confidence that the international students we enroll at Georgia State are every bit as capable, intelligent, and able as any domestic student we enroll. I have the same confidence with regard to the low-income students we enroll domestically from Georgia State. They come in with the same abilities and capabilities. They don’t always come in with the same ability to navigate the complex bureaucracy that is a university like Georgia State. So, what we want to do is look for early signs that a student is uncertain, confused, getting off path, and give them the information they need. And 90 percent of what Georgia State’s interventions do are just that. They’re providing information to students. You thought you registered for the right class, but in fact you didn’t. You struggled on this first quiz, but here’s where the tutoring office is and here’s the support system you can use to get yourself back on track. Just giving the students the information—I think our international students benefit from that immensely. ■

This interview has been condensed for brevity.