Using Data Analytics to Increase Student Success

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In the digital age, students' online interactions with their course materials can reveal much about the likelihood that they will complete their degree.

A UA initiative is taking a closer look at how the University can use data to increase student success.

The initiative is a collaboration among the **Office of the Chief Information Officer** [1], **Student Affairs and Enrollment Management** [2], the **Office of the Provost** [3] and **University Analytics and Institutional Research** [4]. These units are partnering with Civitas Learning, a data analysis company, to explore ways predictive analytics can improve student retention and success.

Angela Baldasare, assistant provost for institutional research, said Civitas Learning has been a valuable partner in the UA's ongoing data collection and analysis efforts.

"For several years, the University has been looking at solutions for both retention support products and predictive analytics," she said. "Civitas Learning came at it from an angle we had not seen before. ... This is a predictive analytics product created for and by higher education professionals. This is a true data science approach."

The UA is in the second year of a three-year contract with Civitas. Currently, Civitas Learning pulls data from three sources: PeopleSoft, the UA's student information system; Desire2Learn, the UA's learning management system; and TutorTrac, the UA's tutor management system.

The data is a combination of student record information – credit hours, grades earned, academic performance and other information – plus data that relates to student interactions with their online course portal, such as how early they log in to see their course syllabus or how long they spend looking at course materials, participating in discussion boards and other actions.

"Usually, these systems are siloed and they don't connect to one another," Baldasare said. "We're putting all these pieces together."

Once the data is collected in the Civitas Learning platform, a predictive model is generated that can be used by analysts to visualize the data, understand patterns and take action.

"That helps us start to see where we can intervene and better support our students," Baldasare said.

Kasey Urquidez, dean of undergraduate admissions and vice president of enrollment management and student affairs advancement, said analyzing and acting upon student data helps the UA achieve its academic mission.

"The UA is committed to student success," Urquidez said. "In Student Affairs and Enrollment Management, our motto is 'Recruit to Retain to Graduate to Career.' To ensure we move students effectively through their college experience with the very best academic and engaged experience, we must constantly innovate and provide proactive opportunities and timely interventions. Civitas Learning will help us do just that through advanced analytics that we can put to action."

One example of data analytics in action at the UA happened last fall, when Civitas Learning provided data to the UA identifying female non-resident students with a GPA between 2.4 and 3.0 as a group with a higher-than-average risk of not continuing at the UA.

"That's much higher than the GPA range that we would normally look at for students at risk," Baldasare said. "We knew we had challenges retaining our non-resident students because they have a different set of challenges.... But this helped us identify females as disproportionately at risk in that group."

The UA is currently considering using Civitas Learning applications that show instructors, faculty members and academic advisers how engaged their students are. Instructors, faculty members and academic advisers are invited to attend upcoming live demonstrations of the apps to ask questions and provide input.

The demonstrations will be held on April 30 in the Student Union Memorial Center's Ventana Room. The academic adviser demonstration will be from 8:30-10 a.m. The instructor and faculty demonstration will be from 10:30 a.m.-noon. No RSVP is required.

"Our goal is to leverage this information and get it in the hands of people who work directly with students every day," Baldasare said. "Attending these demos is a great first step to understanding what's possible in better using data to advance the ways we support the success of our students."