University of North Texas Insights Program

From data-rich, information-poor to a $37.8 million return on investment

The University of North Texas' Data, Analytics and Institutional Research team has reengineered the data landscape for the institution. Jason Simon, PhD, Associate Vice President at UNT and the leader of the team, started the university on their data analytics journey in 2015 with the Insights program.

Insights takes a comprehensive approach to data warehousing and predictive analytics. Simon fundamentally redesigned the data analytics ecosystem, leading a team of 13 practitioners whose work earned a CIO 100 award in 2019. Under his leadership, UNT was also accepted as one of seven higher education institutions to help inform the 2023 Bill and Melinda Gates Foundation grant to support analytics adoption and expansion in higher education.

Insights 1.0

In 2015, UNT's data and analytics team exemplified the phrase "data-rich, but information-poor." As they prepared for changing student demographics and strived to become an R1 research institution, the university sought to address:

- Disparate data silos without structure for data quality, integrity and governance.
- Reactive reporting with more than 1,000 ad hoc data requests each year.
- How to identify complex enrollment, retention and graduation rates and trends.

Like many institutions at the time, UNT focused on data that was too late to affect grades, retention rates or any type of student success – what Simon calls "autopsy data." They realized they needed to focus on the future instead.

Rather than rushing to embrace new tools and technologies, the data and analytics team took a radically different approach. The group of business intelligence professionals, data modelers and institutional researchers planned to methodically deploy the latest tools of the trade and establish an inclusive, planned culture of data for the entire university.

The team collaborated with partners from across the campus to conduct stakeholder analysis, engage subject-matter experts and hold forums with vendors and academic partners. The result was the launch of the Insights program, a comprehensive approach to data warehousing and predictive analytics. The original Insights program, now known as Insights 1.0, started with the following goals:

- Secure a new executive sponsor.
- Reorganize the data teams.
- Prioritize human and fiscal resources.
- Conduct faculty-led executive stakeholder focus groups.
- Engage subject-matter experts in a data culture assessment.
- Conduct a tool and technology roadshow.
- Form collaborative workgroups across the university.
- Create a charter and ROI plan for investment.
- Execute a strategic plan and assessment.

To learn more about Insights 1.0, read ***Building an Analytical Culture for Success: How the University of North Texas Created a New Data Landscape***. This paper highlights how the team overcame challenges and took actions to evolve analytically, including further details about their results and successes.

Today: Insights 2.0

Insights 2.0 was created as a gateway to data-informed decision making for users across the university. UNT is now the analytically driven institution they strived for, with reports and trends at their fingertips.

The data and analytics team has an annual operating budget of $1 million and continues to innovate, grow and add new analytics tools for the benefit of the campus users. With an analytically driven culture in place, they actively implement predictive analytics and continue to add a broader set of diverse data. Working with SAS, UNT:

- Implemented data governance as the foundation for the system.
- Made significant improvements that make data more available and answer user questions, reducing ad hoc requests. For example, the admissions funnel is updated daily, offering day-to-day comparisons from the prior year. This makes it easy for the admissions teams to quickly see how the funnel looks for the next year and how it compares to the previous year (see Figure 1).
- Created easy access to important trends with 28 dashboards for areas such as enrollment, retention, faculty and degrees produced.

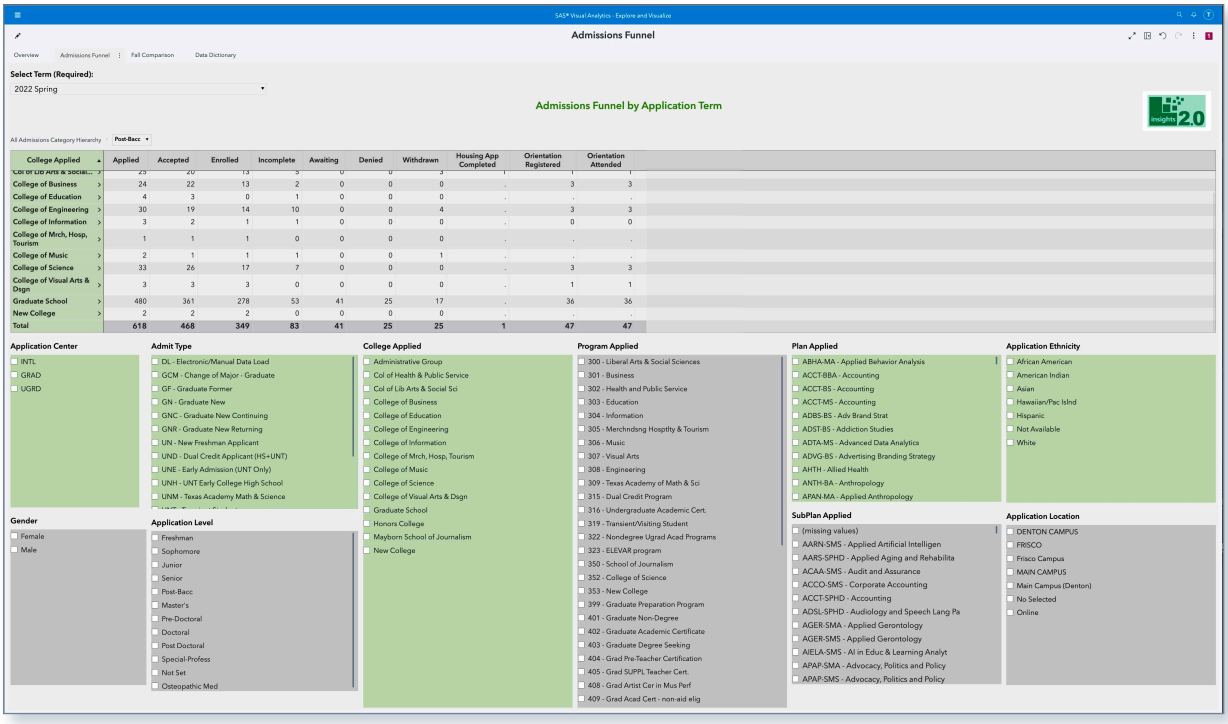


Figure 1: Admissions funnel dashboard

Figure 2 shows how UNT identifies graduation rate patterns and number of degrees produced. As increasing evidence shows, the more engaged a student is in their institution, the better they do academically. UNT has a system that tracks every student's engagement with a voluntary card-swipe system. The data is modeled and utilized with other predictive tools to track and improve student retention.

Figure 2: Graduation rate and degrees dashboard

In addition to student retention, UNT also looks at enrollment patterns to help inform their operations. One important goal is diversifying and tracking their mix between undergraduates and graduates. The report (Figure 3) drills down into specific colleges and departments, and shows actual plans and supplements. Understanding patterns helps the university advance from a culture of reporting to a culture of using data to make operational decisions for the future. In turn, that helps them better understand how students succeed.

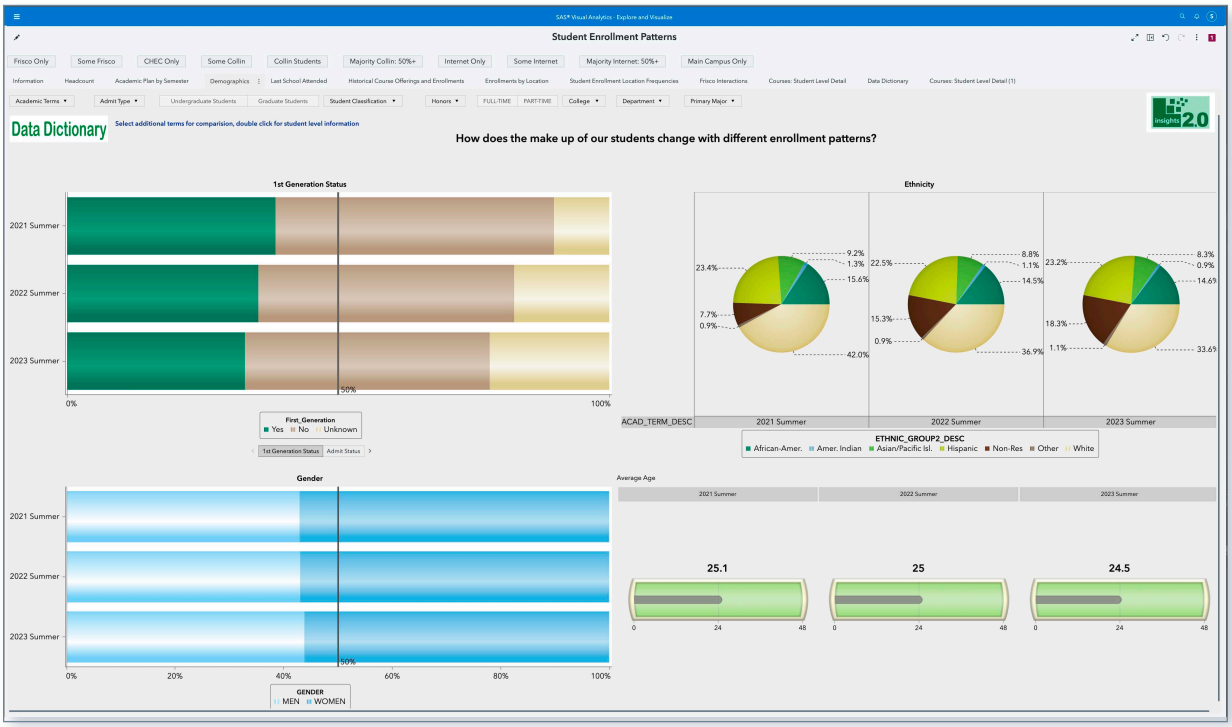


Figure 3: Enrollment patterns report

Using data to help students succeed has resulted in much more success for UNT. In 2015, when Insights 1.0 was launched, enrollment was flat. In less than a decade, Insights 1.0 and 2.0 have helped the university's leadership expand a culture of data-informed decision making, which helped to:

- Record the largest enrollment in history, more than 44,500 students.
- Achieve the highest three-, four- and six-year graduation rates in history.
- Award the highest number of degrees in one year – 10,500.
- Introduce the first comprehensive faculty data model in the institution's history.
- Support data-informed strategies, policies and structural efforts to increase enrollment growth, which created an estimated $37.8 million* in additional revenue per fiscal year.

*Derived from UNT AIS Contribution Model output of average net revenue per undergraduate/graduate student for Fall 2023.

Lastly, UNT's senior academic affairs leadership and deans requested a deeper level of actionable data around student course performance. This analytic tool is guiding areas of focus and conversation for intervention, course redesign, and examining approaches to and impact of course modality. In addition, it enables UNT users to examine the impact of strategy on student course performance, thereby identifying patterns amongst the larger noise of thousands of individual grades.

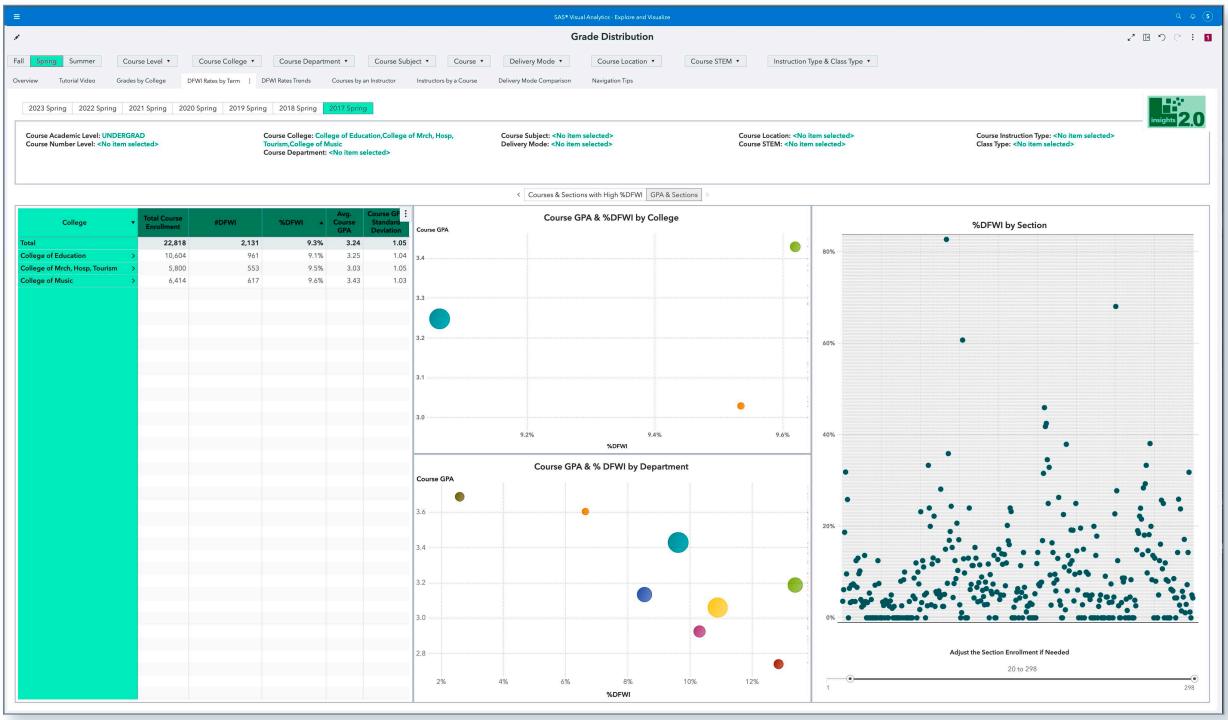
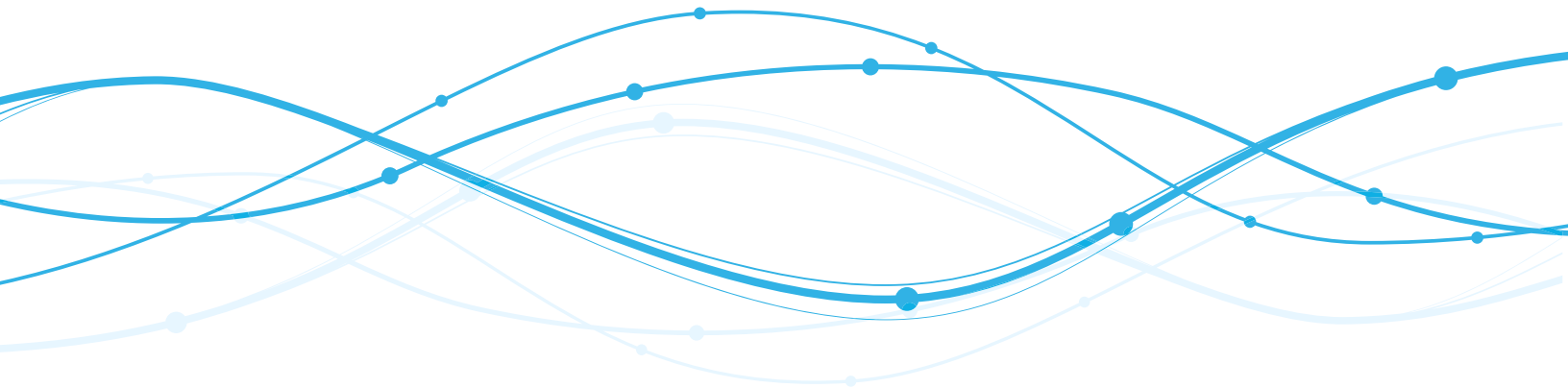


Figure 4: Grade distribution dashboard

To learn more about UNT's success, watch Simon's webinar ***The Road to a Strong Data and Analytics Culture at the University of North Texas***. He shows several examples of how UNT moved from reactive reporting and decision making to recognizing analytics success in everything – from student outcomes and daily enrollment counts to the faculty member tenure and promotion process. Hear what strategic lessons they learned, the success behaviors they identified along the way and how decision making has put them in the driver's seat to success.



Learn more about how SAS is used in higher education.