University of California, Irvine

Compass: Comprehensive Analytics for Student Success
UC Tech 2019 - Larry L. Sautter Award Program Submission

Submitter

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Summary

When UC Irvine realized that advisors had access to the right data in the wrong way, we harnessed business intelligence tools to provide richer and more timely reporting through a new self-service data analytics application as part of the Compass initiative. Drawing on the success of the initial descriptive analytics project, Compass now looks to provide this same level of convenience and innovation in data access to faculty and administrators with the goal of improving outcomes for all of our students.

The Story of Compass

In 2016, UC Irvine found itself at the end of a student success software vendor pilot that had failed to deliver on the expected value. Rather than immediately try another product, senior leadership decided to re-evaluate campus needs. Two staff with backgrounds in user experience were asked to meet with a variety of campus faculty and student support staff in order to determine appropriate next steps.

In meeting with academic advisors at all of our schools it became immediately apparent that the campus had provided advisors with the right student data, but in a format that was impacting their ability to serve students effectively and efficiently. Advisors could view student information one student at a time, but had no access to real-time aggregate information about their populations. Error-prone merging of outdated spreadsheets was the norm. Any ad hoc reporting requests were processed through a cumbersome special request process that could take several weeks to fulfill, leading to missed opportunities for outreach and intervention.

It occurred to us that there might be low-hanging fruit in utilizing existing technologies in new ways. Leveraging the student data feeds that had been put in place for the vendor pilot, we suggested that we could point our IBM Cognos business intelligence software at this data and produce reporting interfaces that would allow advisors to self-serve robust reports based on rich, filterable criteria. As Cognos was already present on the campus (primarily used in financial services and facilities management) and because we had staff with Cognos expertise, we were able to rapidly build prototypes that demonstrated the potential for a fuller proof of concept.

In the fall of 2016, senior leadership gave us the greenlight to build out two proof of concept reports for our advisors. Employing design thinking, we partnered closely with advisors to build user-centered reports to meet their specific needs. By readily iterating and refining prototypes, we were able to have advisors directly interact with and critique the draft reports. We continued in this design cycle until we were able to provide advisors with the student data display options they needed to effectively manage a variety of academic performance and outreach activities.

After launching the first reports, the project met with immediate success. For instance, the new Academic Progress report provided advisors with student grade information within hours of final grade submission, information that they normally would have waited almost a week for previously. And rather than working with the onerous, large spreadsheets that were traditionally provided, which required hours of complex merging and clean-up, advisors instead could click a few buttons in Cognos and have the output they needed within a couple of minutes. This allowed advisors to begin reaching out to at-risk students to schedule intervention activities well before the start of the next quarter, in time to help struggling students get back on track and course correct.

The proof of concept quickly transformed into a production service. We now offer seven advisor-centered reports, with several more planned, all built using the same design thinking methodologies that embed the advisors directly into the development process. This partnership is at the heart of the reports' effectiveness. Our advisors have provided continued positive feedback:

> *"I have been able to run reports myself, no requests for the Registrar's Office. With Compass, it takes mere minutes to compile the information needed!"* - Engineering

> *"Compass has saved hours of work and allows me to quickly respond to requests by the dean or associate dean."* - Social Sciences

> *"Having direct access to Compass data equates to a savings of a few weeks per year on the part of one staff member."* - Business

> *"It's really easy to sort and find specific populations of students. It's helped with programming and outreach for programs like Honors programs and events, a program for low-income students, a program for first-generation students, etc."* - Social Ecology

> *"Compass is a much easier and efficient way to gather, sort, and compile data needed by all departments."* - Physical Sciences

The next chapters of the Compass story have us exploring new ways to effectively put student data into the hands of faculty and administrators.

We launched the Course Demographic Insights report to our campus faculty in the fall of 2018. This report provides faculty with new insights into their courses' incoming student cohorts. In addition to data about class standing and majors, faculty are given information about the percentage of first generation, low-income, and international student in their enrollment. Next to each of these data points is a link to more information about how to effectively engage and teach these various populations. We also present student preparedness information, such as writing progress and completion, so that faculty better understand where their students are at in their journey at UCI.

In April 2019 we released a suite of reports for Chairs and Deans that provides data on student demographics, first year experience, and academic performance. This information has not previously been made available in this format and has never had the ease-of-use and self-service nature that the Cognos report interface provides. These academic administrators are already sending in their suggestions for enhancements and additional reports.

As the Compass initiative continues to grow and mature, we're investigating other student success data science questions beyond this successful set of descriptive reports. The aim is to use data collection, analysis, measurement, and reporting across UCI to inform how to improve student retention, time to degree, and completion rates, while identifying and remediating risk factors, and providing targeted outreach and intervention.

Collaborations of Note

The larger Compass initiative is a truly cross-campus effort, including partnerships with student data providers, campus data scientists and researchers, and a wide variety of staff within OIT. For this particular arm of the project, we would like to highlight the following units, whose partnership helped us to so rapidly get Compass off the ground:

Office of Institutional Research
Division of Teaching Excellence & Innovation
Division of Undergraduate Education
OIT's Business Intelligence and Data Warehousing teams

and of course, all of our academic advisors!

Compass Timelines

Fall, 2016   Proof of Concept: Descriptive analytics reports for advisors
Winter, 2017   Transformation to ongoing production service for advisors
Fall, 2018   Launch of first faculty-facing report
Spring, 2019   Launch of the Chairs & Deans report

URL

https://compass.uci.edu/