![Campus Labs - Data Driven Innovation]

A NEW PERSPECTIVE:
Advancing the Power of Analytics with an Expanded Data Layer

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Data in higher education is a topic the team at Campus Labs is very passionate about, so one can only imagine our delight in seeing data play such a prominent role in several recent articles from *EDUCAUSE Review*. From the Internet of Things (IoT) to predictive analytics, devoting entire issues to the continued advancement of data analytics and its promise for higher education only reinforces the importance for institutions to understand the data layer and its possibilities. Made up of a combination of data (or an ecosystem of data) collected or available to an institution, this data layer holds the power to unlock valuable information and insight. In our experience, however, many institutions focus exclusively on the data from traditional enterprise systems to equip institutional leaders with insight derived from analytics - leaving behind valuable data points. As adoption of analytics continues to increase into the mainstream as a part of the fabric of institutions, campuses need to expand their ability to incorporate the depth of the data layer in order to harness its unique analytical power.

Going Beyond the Status Quo

Making it onto the EDUCAUSE Top 10 IT Trends list for four of the past five years, using analytics continues to be a leading IT trend. And it's exciting to see more and more campuses embrace the power of analytics each year. Still, the conversation around analytics in higher education continues to focus on just two areas: student success and operational effectiveness. These areas have been pioneers of the analytics movement, yet they may not be the fastest route to mainstream the adoption of analytics across an institution. Typically, these areas equip only a small handful of administrators with limited information. If the institutional adoption of analytics is limited to these two areas, core institutional components that are ripe for analytics – and that could benefit much larger groups of stakeholders – are likely to be missed.

By incorporating more of the data layer into institution-wide analytics, the possibilities for insight greatly expand. At Campus Labs, we think assessment, particularly around learning, is one of the biggest areas waiting to be harnessed by the power of analytics. Learning assessment data has the potential to unlock valuable insights for instruction and teaching, thus leading to deeper student learning and engagement – areas proven to impact student success and retention. It only makes sense that learning, which is core to the institution, be incorporated into the enterprise view of analytics. And doing so may not be as challenging as one might think.

Leveraging the Power of Assessment Data

From our work with over 1,000 campuses, we see assessment efforts and tracking of student participation as a near constant activity at most institutions. On any given day, campus administrators, faculty, and staff are creating and gathering data around assessment and the student experience in an effort to understand and improve learning. Yet ironically, this is one of the largest data sets that institutional leaders overlook when they think about their analytics programs. These assessment activities are in fact creating data and adding to the data ecosystem for the institution to leverage. The information is ready and waiting to be incorporated into the greater institutional data layer, but only if institutional leaders expand their view to bring it into the fold.

Every year, the EDUCAUSE Center for Analytics and Research (ECAR) maturity index tracks higher education's progress in delivering different IT services. Since ECAR began tracking analytics in 2012, the most and least mature areas have remained consistent, with Institutional Research (IR) involvement being the most mature, and investment and resources the least. It's interesting to see that despite IR's heavy involvement in supporting the institutional analytics strategy, much of the assessment and experience data they

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work with daily, outside of traditional transaction systems (ERP, SIS, LMS), is often underrepresented. One likely reason is that assessment data creation activities and systems are only now starting to emerge as enterprise systems. And it's this data that holds the key to helping institutions unlock the true power of analytics on their campus, particularly around the heartbeat of the institution – teaching and learning.

Expanding the Enterprise View of Analytics

Data sets concerning student learning outcomes, engagement tracking, and program effectiveness are not merely solutions to address key external stakeholders such as accreditors. This data is critical to the institution, and as such, should be seen as part of the enterprise. How can the data and systems that support the documentation, investigation, and understanding of student learning not be seen as an important enterprise technology? These data sets are in fact the very core of the institution's reason for being. Without learning as the central focus of the institution, other enterprise systems would almost seem irrelevant. Yet, assessment systems at most institutions are not given the same importance to the institution, as IT leaders often fail to include them in analytic programs or even create analytic programs around these key practices. The absence of these systems from the enterprise perspective clearly results in missed opportunities. Let's consider some fresh possibilities. Incorporating instruction methodologies and learning outcomes is just one example of how a more holistic view of these data

points can provide more than just reporting for stakeholders. Typically, assessment systems such as course evaluation tools and assessment management solutions are deployed

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separately across campus to capture data on instructor methodologies and learning outcomes. Results are then reported as if these were two distinct areas. By contrast, an integrated enterprise approach empowers campuses to connect the dots between these data sets. Academic leaders now have greater insight into effective instruction methodologies, areas for faculty development, and evidence of student learning. Outcomes analytics can also equip curriculum committees with the tools needed to examine academic programs around outcome sequencing to better prepare learners for life beyond the classroom.

Indeed, the insight gained from an enterprise approach is much more valuable than systems that just report back results. With an expanded view of the data sets, institutions will have the ability to make more informed decisions at a greater scale. But let's not forget that the approach can also put the power of data into the hands of more stakeholders in a very practical and meaningful way.

The Power of "Nudges"

It's clear that an expanded data set yields greater possibilities. But these possibilities go beyond just predictive analytics, which offers a high-level view of the data for institution-wide

decisions. Expanded views of data provide prescriptive analytics for a very practical day-to-day use of the data for a variety of campus stakeholders. As cited in the September/ October 2016 issue of *EDUCAUSE Review*, Kevin C. Desouza and Kendra L. Smith support the use of data to create nudges in order to guide action. Their premise is that when data is presented in a useful context, it can help individuals make informed choices. This is one of the best opportunities for applying analytics in higher education: the ability to nudge staff, faculty, and even students. In our experience, many campuses often equip their faculty and staff with this type of analytics through dashboards. But when pressed about how faculty and staff are using that data to guide action, the conversation digresses. The reality is that dashboards do provide data, but they are still wildly open to interpretation and rarely guide many actions. But what if that same data didn't create just a dashboard, it created a nudge – how much more impactful would that same data be? And with an expanded data set with which to inform the nudges, how much more powerful would those nudges be?

Take, for example, an introductory major-level course. A common data point regarding future success in a given major is the grade received in an introductory course. The most frequent conclusion is that students who receive a grade below a certain threshold are not likely to either persist in the major, or even continue at the institution. Yet, when open to interpretation, this data point could lead to several different conclusions and subsequent actions on the part of the course instructor or the administrators evaluating faculty effectiveness and student success at the institution. However, if the view of the data set is expanded to include learning, the opportunity for accurate insight and effective nudges in this example greatly increases. Historical course evaluation and assessment data can provide the instructor with valuable insight on the teaching methods most likely to set students up for success in the course, and even

present the faculty member with professional development content to improve upon teaching strategies. Learning outcome analytics can offer additional insight to the instructor on the level of preparation the student brings to the course. This new knowledge can then guide the progression of the curriculum or even warn an instructor when the course outcomes are not measurable or clear. And those are just nudges aimed at faculty. Imagine the nudges that could be created for advisors when learning data is layered with student engagement, student success, and demographic data. The possibilities are endless, and the educational impact is far-reaching.

Redefining Your Relationship with Data

Analytics empower us to answer the most pressing questions facing our institutions and provide the insight needed to best guide the actions of faculty, staff, and students. But to unlock this potential, institutions must redefine their relationship with data. Higher education leaders and CIOs must challenge themselves to think outside traditional data sources when crafting their analytics strategy and approach. They need to expand the utilization of the data layer and leverage information beyond the current applications of analytics today. Only then will the true power of analytics be revealed.

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