How 7 Higher Education Institutions in the MEA Region Use Analytics to Improve Institutional Performance and Student Success
Higher education institutions globally are turning to data to help boost student success and engagement. However, gathering data is just one step of the process—analyzing it and defining its strategic application to accomplish institutional goals is the crucial step towards solving today’s complex challenges in academia. With Blackboard Analytics for Learn, the most powerful, flexible and comprehensive learning analytics solution in the market today, institutions can optimize online learning, support faculty development, promote reflective learning, and increase learning management system (LMS) adoption. We sat down with leaders from seven institutions in the Middle East, South Africa and Turkey to gather insights on how they’re using analytics to tackle their unique challenges, as well as the results they’ve experienced so far. Explore the many ways your institution can take advantage of Blackboard Analytics for Learn (A4L) to make informed decisions that positively impact students, faculty and administrators.

Meet the Interviewees

Dr. Adam Marks • Provost’s Advisor on Academic Quality and Strategic Initiatives • Zayed University • United Arab Emirates

Dr. Hassan Selim • Professor of Management Information Systems, Director of the University Center of Excellence Teaching and Learning • Acting Dean University College • United Arab Emirates

Dr. Hisham Jameel Bardesi • Deanship of E-learning and Distance Education • King Abdulaziz University, Saudi Arabia

Dr. Esin Caglayan • Director Teaching and Learning Center • Izmir University of Economics, Turkey

Saleh Alsalamah • IT Application Manager • Saudi Electronic University, Saudi Arabia

Dolf Jordan • Deputy Director E-Learning and Media Development • University of Pretoria, South Africa

Izak Smit • Director of the Centre for Innovative Education Technology (CIET) • Cape Peninsula University of Technology, South Africa
Zayed University: Using Analytics to Gather Student Performance Metrics and Highlight Key Curriculum Challenges

Challenge: Zayed University was looking to get better insight into student performance and key challenges through strong data sets that could point out problems across each term's curriculum. Also, the ability to analyze faculty performance, student outcomes, assessment instruments, programs, courses, sections, and terms, among others.

Solution: The university first began using Blackboard Analytics for Learn in 2016, due to a research study Dr. Marks had conducted to review university systems that could be used to produce dimensional information for executive management. Between the university’s student information system and learning management system, there was a wealth of data that could be used to advance decision making by using the right analytics tool. The university had to first conduct proper data cleansing across their system, so they could later adapt the reports and dashboard views on their regulatory and internal environments.

Results: Through the implementation of A4L, Zayed University has been able to make important curriculum improvement decisions across many courses and academic programs. The improvements have also led them to the successful accreditation of some programs, as well as an overall improvement in quality, branding, and university/program ranking. In Marks’ view, the implementation of Blackboard Analytics for Learn has been a success, particularly within the context of their online program and course offering. According to him, the tool’s Goal (outcome) performance analytics capability has been especially helpful for setup and regional requirements, as it allows him to conduct assessment seamlessly across all courses and programs for faculty and students.

United Arab Emirates University: Adopting Analytics to Measure Student Engagement in Online/Blended Learning and to Take Strategic Data-Informed decisions

Challenge: Support the university’s blended course transformation initiative by being able to gauge student engagement in the online learning portion of blended courses. The main objectives were to motivate faculty to trust the efficacy of blended or online courses, access deep insights about how students engaged with online activities such as multimedia-based course materials, adaptive and personalized learning, team-based teaching and flipped classroom, and provide top management (Department Chairs, Deans, Provost, and Vice Chancellor) with real time reports on the use of the university’s Virtual Learning Environment and how students and faculty are engaged.
Solution: United Arab Emirates University (UAEU) began using Blackboard Analytics for Learn in the summer of 2018, after seeing first-hand the various ways the tool could be utilized. Its value, according to Selim, was evident when he showcased his first blended graduate course at the university’s Center for Excellence in Teaching and Learning (CETL) Blended Teaching and Learning Symposium. As he noted, the online student engagement analytics reports generated by A4L surprised attendees and paved the way for other faculty members to adopt A4L’s Course Integrated reports. That same year, Selim presented the different Deans and Departments dashboards to the university’s Dean’s Group, in which he shared Blackboard adoption and utilization by individual course, academic department, and college. These dashboards provided the deans and other top university administrators with unprecedented reports about which online courses displayed the highest student engagement and their respective instructors and about which features of the LMS are utilized or under-utilized.

Results: Since the implementation of Blackboard Analytics for Learn, UAEU has greatly benefited from data-driven and evidence-based decision making. Below are some examples of the tool’s capabilities at work:

- Using course integrated reports such as Activity Matrix and Activity and Grade Scatter Plot has helped Selim to identify at-risk students and encourage them to increase their online participation in discussion forums or to interact with the online mini lectures and other online interactive course material.
- Using Department and college dashboards and reports helped CETL develop focused faculty professional development programs and workshops targeting features that are under-utilized or not used at all by faculty.
- Department chairs are able to recognize faculty members among the “top 10 most engaged classes” based on student engagement in online course activities.
- Deans can identify courses with a low LMS adoption rate and can assist faculty with professional development programs that will improve their skills.
- UAEU Chancellor, Vice Chancellor, and Provost can access dashboards and get real time analytics about how online and blended courses are being managed.
In the future, UAEU plans to increase awareness about the use of analytics and further its adoption across campus.

**King Abdulaziz University: Improving the Quality and Delivery of E-Learning Though Analytics**

**Challenge:** King Abdulaziz University wanted to make use of the data collected through the university’s LMS to improve the quality of online learning experiences and lead a positive change in the way courses were delivered.

King Abdulaziz University’s (KAU) Deanship of E-learning and Distance Education (DELDE) department set two main objectives for its use of analytics. The first, to identify best practices and possible shortcomings in the adoption of e-learning at the university from a colleges and departments perspective. The focus was on finding out whether their e-courses adhered to DELDE’s instructional design principles and standards. Secondly, KAU wanted to explore indicators about students’ engagement with online courses through their activity/behavior inside the LMS and its correlation to student achievement. To determine whether or not the university’s colleges and departments were steadily and progressively adopting Blackboard Learn for their courses, DELDE developed two KPIs: 1) Year-over-year growth and 2) Compound Annual growth rate. Through their findings, these KPIs would help inform how to customize training for faculty and effectively support KAU’s colleges.

**Solution:** DELDE implemented Blackboard Analytics for Learn in 2017, three years after adopting Blackboard Learn as their institutional LMS. The university provided staff training to all stakeholders so they could effectively extract and analyze big data reports. Initially, they also hired statisticians to help interpret the data. The following are two of the decisions DELDE has been able to make due data findings:

1. Implement a customized project-based process for the adoption of e-learning in colleges and departments, whereby analytics data would be used to set up project requirements, which would eventually correspond to the best practices the university wanted to support. For example, Course Design reports helped with the setup of design requirements, and activity reports facilitated support to the colleges in creating activities that would engage students.

2. The customization of DELDE’s support to colleges, departments and faculty depending on their usage data. Training sessions, for example, were used to raise awareness about design, delivery and interactivity in online courses based on user needs prompted through analytics reports. An activity report in one department revealed that faculty did not encourage the use of discussion forums or collaboration tools, and consequently, staff training for that department’s group focused on the importance of using analytics tools and instructional strategies to improve learning.

**Results:** Since making the decisions outlined above, DELDE has documented a positive impact on the quality of e-learning and delivery at KAU. The use

"Decide on the type of data you want to investigate and why. Sometimes, a simple and straightforward report can be rich in information and yields valuable information. Blackboard Analytics for Learn is an invaluable tool to uncover what goes under the surface of the learning experience and can be a tool that drives change if used properly."

– Dr. Hisham Jameel Bardesi, King Abdulaziz University, Saudi Arabia
of analytics reports to compare pre and post implementation of these initiatives shows significant improvement in student engagement, as well as more awareness on the part of faculty who use the LMS. Through analytics findings, DELDE developed an Exemplary Course Template, which made use of the best practices they observed in analytics reports, as well as the incorporation of their findings in training sessions to increase awareness of how instructional design can be improved. DELDE also used educational data mining techniques (Association rules, clustering, and classification) to group students according to specific behavior indicators, which led them to identify 3 main indicators for students' engagement at KAU: submissions, course interactions, and course minutes. Dr. Bardesi highlights the tool's slide, dice, and drill capabilities as one of the top features that has helped DELDE make sense of LMS data in specific contexts, contributing to more meaningful results.

**Izmir University of Economics:**

**Measuring Retention and Student and Faculty Engagement Through Analytics Reports**

**Challenge:** Izmir University of Economics (IUE) wanted the ability to analyze data collected through the university's LMS (Backboard Learn) and offer stakeholders significant reports that would allow them to understand how the LMS is used, as well as measure student and instructor engagement levels.

IUE's main goal was to facilitate proactive intervention and increase student engagement by identifying at-risk students, based on usage and performance, so faculty could take preventative measures against retention problems. Furthermore, IUE wished to raise student awareness through the use of reports such as Student at a Glance, which helps students see how much they are using a course compared to their peers, as well as measure their progress compared to others. Finally, IUE wanted to use analytics to compare faculty and department averages at the beginning and end of each academic year to determine success according to institutional objectives and educational outcomes. Gathering information such as user activity insights, course design, and student performance across schools and departments would help them improve LMS usage in support of learning, teaching and student achievement.

**Solution:** The university began using Blackboard Analytics for Learn in 2016 as a way to complement their Blackboard Learn LMS. The implementation project was completed in the fall of 2017, and course analytics reports have been available since then.
According to Caglayan, two of the tool’s capabilities that she would highlight are:

1. The existence of dashboards, which have provided them with the ability to put both prepackaged reports and their own self-service custom reports in one single place and create user-friendly dashboards.

2. The ability to insert dynamic text into publications created on the BI Office – Pyramid Analytics platform. These publications have allowed IUE to design, create and distribute user-friendly reports that use predefined BI Office – Pyramid Analytics views and can be scheduled and distributed to relevant stakeholders within the institution. Dynamic Text in publications has given them an extra level of flexibility and customization for every faculty/department in the university.

Results: Using a learning management system, coupled with a reporting system such as A4L, has created an environment at IUE in which students’ success can be monitored in real time by their instructors who can easily access numerical data related to the student’s course performance and provide feedback to keep track of their progress. Within the university’s Teaching and Learning Center, staff regularly check dashboard reports to shape their faculty training program and tailor it according to department and instructor needs. Dashboard reports also provide them with insight into usage patterns, and to monitor and improve institutional adoption of their LMS.

The Faculty of Medicine at IUE (a recently approved faculty), for example, relies heavily on their LMS for all content management, assessments and evaluations. Each content item, assignment, and assessment has been aligned with faculty-specific learning outcomes through the Goals tool on the LMS. Student achievements are stored electronically, and the system provides data on the level at which each student achieves the course learning outcomes. Because of this, advisors have been able to make use of analytics reports to monitor student and activities’ performance in the system and have been able to design development plans for each student under their guidance. Using analytics, as well as the other course evaluation tools on Blackboard, faculty, administrators, and coordinators are able to evaluate their program outcomes and use that information to design future curricula.

Saudi Electronic University: Converting Data Into Practical Insights to Drive Growth

Challenge: Since the adoption of Blackboard Learn as their institutional LMS, Saudi Electronic University (SEU) wanted to convert the vast amount of data now available to them into practical insights that could be available to the university’s key decision makers to drive growth. Using the Business Intelligence system and working with multiple sources of data using reports and dashboards, SEU wanted to solve these key challenges:

- Allow students to monitor their level of engagement over time and relative to their class average to increase their success rate
• Allow faculty to shape how students progressed along their courses in order to increase student success and retention
• Boost faculty productivity by tracking their activity
• Evaluate faculty performance across the university

Solution: SEU implemented Blackboard Analytics for Learn in 2016, giving them the capacity to measure faculty teaching performance through the use of dashboards and reports that presented clear insights about their delivery and course management skills. According to Alsalamah, A4L’s capability to measure student performance like user course access, interactions (clicks), time spent inside a course, and number of submissions, helps alongside other evaluation tools to guide decision making regarding student retention and course design, among others.

Results: At SEU, Blackboard Analytics for Learn has helped students increase their success rate and has enabled faculty to support at-risk students. It has also provided clear insights to functional groups looking to improve current courses or develop new curriculum, and administrators in their decision making. So far, SEU has been able to measure the outcomes of their analytics implementation by comparing pre and post analytics reports based on actions taken by the university’s colleges and departments. For instance, the office of the vice rector for academic affairs can monitor the overall performance of SEU’s colleges and advise them on how to increase student-instructor interactions. Department chairmen are responsible for monitoring overall interactions and results on course subject and class levels, and can advise faculties to enable and use the required course tools to achieve the desired course objectives.

“We know that institutions face a number of challenges and that these challenges vary depending on teaching style, delivery mode, course design, and so on. Blackboard Analytics will help institutions to transform the way they work to achieve the intended outcomes and improvements.”

– Saleh Alsalamah, Saudi Electronic University, Saudi Arabia
University of Pretoria: Using Prediction Data for Early Student Intervention

Challenge: The University of Pretoria (UP) was one of the first higher education institutions to implement a learning management system in 1998. The LMS became a vital institutional system to support teaching and learning, and students acknowledged its impact on their success. UP’s Department for Education Innovation embarked on a pilot of Blackboard Analytics for Learn to determine the impact and value of such a system for the university. From the pilot in 2014 and 2015, it became clear that Blackboard Learning Analytics may play a significant role in initiatives to support student success and the university’s FLY at UP project.

Solution: UP piloted Blackboard Predict in the second semester of 2018, as one of the challenges experienced across all faculties was identifying at-risk students and providing them with the necessary support to ensure academic success. The goal of the project was to improve institutional assimilation of a data-driven approach to student success, and to empower academic staff and faculty-student advisors, as well as other stakeholders, with real-time data about students, including progress not only in a single module, but also in their other active modules. The Predict data and model relies on access to meaningful formative assessment grades, which subsequently embarked the university on a strategy to increase the use of the Grade Center in Blackboard Learn to capture formative grades.

The Blackboard Predict model was initially piloted in six high-risk modules at the university and was later extended to other faculties in the first semester of 2019. Reports were developed after each test series, and the results given to both the lecturers and the Deputy Dean, Teaching and Learning, to determine which interventions or support mechanisms could be provided to the students. Prediction data of week 8 of the semester showed a strong to substantial correlation with the final semester grades of students.

Results: The data of the pilot project provided evidence of the value of the prediction data for early intervention. Positive feedback was also received from the faculty-student advisors who indicated that access to the data gave them insight into academic risk factors. It also provided them with a tool to track the success of an intervention and its eventual result in student performance.

All faculties benefitted indirectly, as data showed that the overall use of the Grade Center in undergraduate LMS modules improved from 56% to 66% in 2018. Lecturers and Faculty Student Advisors (FSAs) benefitted, and ultimately the students as well, through targeted interventions. Lecturers and FSAs indicated that the predict advisor dashboard allowed them to monitor students in their faculty based on numerous specific criteria, including the breakdown of semester marks and the timeline of the marks. Additional biographical information allowed the FSAs to filter students based on, risk levels, high school GPA, degree programs, majors and academic level and status, to name a few. Pilot lecturers were also able to provide additional support to students with high levels of risk; In one of the pilot modules, a small group of students received additional tutorials and all of them passed their final examination. Staff development also benefitted, as the increasing availability of data in the LMS has contributed to the development of a new staff development course to support lecturers with the use of data within their modules for appropriate interventions.

“Universities need to consider the alignment between strategic projects such as the use of data available in the LMS and capacity to execute, as data available in these systems will become more imperative than ever before. A student success strategy needs to be supported by a teaching and learning strategy which ensures the optimal use of the LMS to increase the value of the investment in descriptive and predictive systems embedded in the LMS.”

– Dolf Jordan, University of Pretoria, South Africa
“Lord Kelvin said: ‘If you cannot measure it, you cannot improve on it.’ For too long we relied on narrative feedback regarding the quality of teaching, whilst we believed that the grade a student got was enough evidence that there was proper learning. Analytics now allows us to measure learning, we can measure learner activity, and we can therefore manage more effectively.”

– Izak Smit, Director of the Centre for Innovative Education Technology (CIET), Cape Peninsula University of Technology, South Africa

Cape Peninsula University of Technology: Increasing Technology Adoption Through Analytics

**Challenge:** Cape Peninsula University of Technology (CPUT) identified the need to accurately measure adoption of the university’s learning management system (Blackboard Learn), as well as to measure student learning activity and inform retention efforts.

**Solution:** CPUT implemented Blackboard Analytics for Learn to complement their suite of Blackboard products, including Blackboard Learn and Blackboard Collaborate. From the beginning of using analytics reports, the university began applying a more focused approach to e-learning adoption and the effective use of educational technology. The use of non-integrated technologies or standalone applications started to drop, as measuring their uptake was not readily available. Smit highlights Pyramid as one of the tool’s best capabilities, as it allows them the opportunity to develop analytics reports per academic program. Since every department offers a different program, they require ‘fit for purpose’ reports and the risk factors for their students are unique. Pyramid allows them to develop reports that will highlight their particular needs.

**Results:** Using analytics has helped the university to measure against their own targets for their Vision 2020 plan, as well as to inform their long-term strategic planning, with blended learning now at the core of their next generation Vision 2030 plan. Since introducing distance education programs, CPUT has relied on analytics reports to evaluate between three modes of delivery: full classroom, part-time offering and their nation-wide distance education program. Analytics has also enabled them to easily identify at-risk students. Using student readiness surveys for instance, they can now account that 64% of student desertion is due to ‘non-academic’ reasons such as financial constraints or personal trauma. Analytics reports linked to the effective use of the Retention Centre Tool are becoming an important component of support mechanisms for faculty.

**In Conclusion:** As the universities above have showcased, tapping into the power of analytics can help higher education institutions solve a myriad of challenges and improve the overall learning experience for students, faculty and administrators. Analytics helps turn raw data into actionable insights that can help measure and increase student performance, foster faculty development, inform decision making and instructional design to create a functional institutional strategy that meets objectives in the short and long term.