



CASE STUDY:

Developing an online assessment tool for course placement

Mt. San Antonio College collaborates across departments to more accurately place students

Mt. San Antonio College (Mt. SAC), a large, public community college in California was one of the first colleges in the state to implement mandatory assessment and placement of students into English, math, ESL, and reading classes. Under this approach, students were required to schedule appointments with the Assessment Center and come to campus to complete at least two placement tests: a holistically graded writing sample scored by a minimum of two English faculty and one of four level tests for math. The results of the placement tests were then manually entered by staff and interpreted by the counseling department during their mandatory New Student Orientation.

The whole process would normally take several days to complete, especially during peak registration times. It was laborious and not necessarily student-centered.

Although validation research was conducted on the placement tests, there were concerns that the placement methods were inaccurate and holding students back. The vast majority of students were placed into lower level (non-degree applicable and/or non-transfer level) English and math courses. Studies



Enrollment
67,000

Objective
Develop a more accurate placement process that served faculty and students as well as met the state requirements

Solution
Ellucian Banner®

Results
Collaboration across departments to develop assessment tool
Anywhere access to assessment tool, reducing testing time for students
Increased enrollment and completion in transfer-level English and math courses

revealed that students who were placed at these lower levels would fail to complete the English and math course sequences—and thereby fail to graduate and/or transfer. Further analysis revealed that the negative impact was felt disproportionately more for ethnic minority students, especially Latinx, African Americans, and Pacific Islanders.

“We needed a more efficient and balanced assessment and placement system,” says Dr. Audrey Yamagata-Noji, vice president, student services. Many colleges, like Mt. SAC, were using a single test score to assess and place students, rather than models that relied on both cognitive and non-cognitive variables, including multiple measures.

On top of this, the State of California passed legislation (AB 705) that requires all California community colleges to use multiple measures—defined as high school grades and courses—for assessment and course placement purposes. The goal of the legislation is to accelerate student completion of required English and math courses—and place more students directly into transfer-level English and math classes.

The legislation did not prescribe how institutions should implement the mandate, but the state Chancellor’s office directed colleges to include support resources along with accelerated placement. This solution was designed for new students and left open how colleges would work with continuing students. With approximately 67 percent continuing students, Mt. SAC needed both an academic and a technological solution to meet the state’s mandate and to better serve its students.

Collaboration is the Mt. SAC way

Under the previous model, the role of IT was minimized to processing and posting results to students’ portals. This project required a different approach. The IT team had to play a critical role—changing from processing and posting to developing algorithms, logic models, and a complex system of interconnectivity with information and sources.

To accomplish this major change model, Mt. SAC utilized a systems approach based on a comprehensive, inclusive, and collaborative process not constrained by previous rules and models. To begin, all key stakeholders, including students, gathered for a series of day-long planning retreats to prioritize and clarify what they wanted and needed. This enabled the IT team to have clarity of purpose and direction and to offer up potential solutions.

“The IT team listened intently and posed critical questions,” says Yamagata-Noji. “They never assumed they knew it all and they never worked in a silo.”

Antonio Bangloy, director of enterprise application systems, adds, “the IT team was not a second thought, or an afterthought. We were brought in at the forefront to address, design, and implement this massive change. We were delighted and honored to have our work and contributions respected and valued.”

From this initial meeting, a work group was formed that included IT, Institutional Research, Assessment, Counseling, and faculty members. As faculty expressed what they wanted, IT worked closely with the dedicated research team to develop complex algorithms that took into consideration

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almost every aspect of a student's academic history in order to develop an automated assessment tool that was fair and accurate. They used different student scenarios to test it and asked students to test it live during a team event. This testing allowed all to see how the algorithm worked and to make adjustments accordingly.

"In all honesty, we placed ourselves in a position of vulnerability, but for all the right reasons," says Bangloy. "The entire design team, which included faculty, IT, research, and student services leadership, was more focused on learning how to make our new system work than protecting and defending our ideas and developments."

Developing the Assessment Questionnaire

The new design was built on a model that students could access independently as well as in a guided group session. It was efficient but comprehensive in order to provide students with resources, explanations, and critical information.

Together, the team developed an online Assessment Questionnaire, known as the "AQ". Students can access the AQ from a computer or mobile device and complete Mt. SAC's assessment process in minutes, saving them multiple trips to campus and over three hours previously spent completing assessments. Students are prompted to provide information about the courses they took in high school and the grades they received. From these responses, the AQ makes research-based placement recommendations for English, math, and co-requisite courses, the support curriculum developed by faculty

to help students successfully complete English and math. The team developed the AQ using the Oracle Application Express (APEX) platform because it integrates with Ellucian Banner, Mt. SAC's enterprise resource planning system. Students use Banner self-service to register for classes recommended by the AQ.

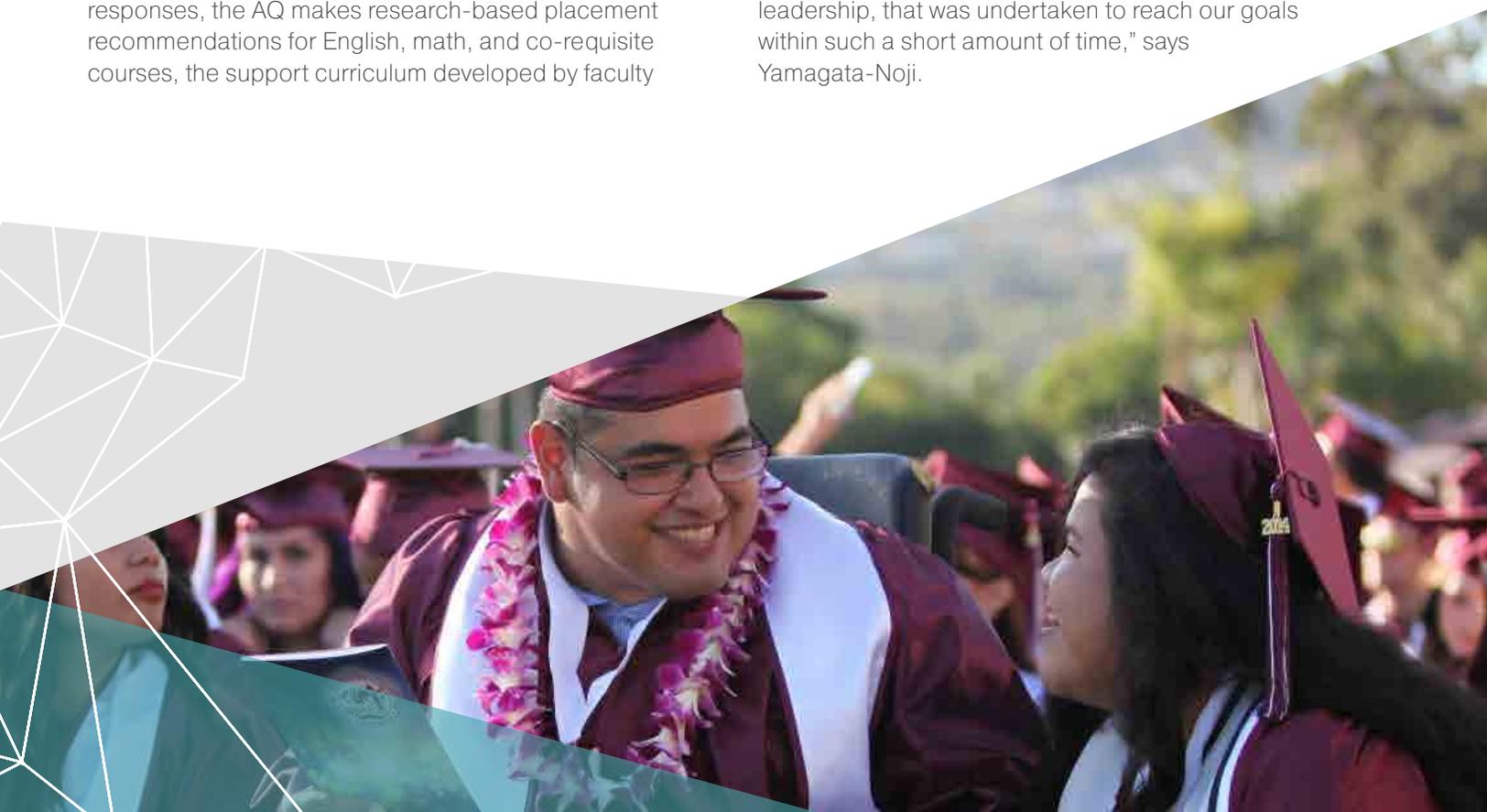
"Although simplistic on the surface, the extensive algorithm and programming 'behind the scenes' is very complex and dependent on several variables and data points," says Bangloy.

What sets the assessment model apart from other colleges is the full integration of comprehensive guidance information. Many colleges simply pull in high school course and grade information and provide a placement recommendation. The AQ features strategically placed links that allow students to view course content and sample math problems and to access online advisement and counseling resources. Faculty and counselors developed these tools, and the IT web team ensured they were ADA compliant.

Exceeding expectations ahead of schedule

After seven months working across departments to develop the AQ, and a month of pilot testing, the AQ went live in April 2018, enabling Mt. SAC to implement the new placement process more than a year before the state mandate.

"The most unique aspect of this project was the overwhelming team effort, including superior faculty leadership, that was undertaken to reach our goals within such a short amount of time," says Yamagata-Noji.



“The whole community provided support and guidance to make sure the implementation would be a success,” says Bangloy. “Ever since Banner went live at Mt. SAC, our culture changed and shifted from a siloed to a collaborative approach. Banner touched every department. It changed the way we think, the way we communicate, and the way we approach our implementations.”

Implementing the AQ simplified the whole placement process. Now, students can take the assessment anywhere, at any time—and they only need to take it once for English, math, and reading placements. The results are automatically recorded, and students can immediately register for the classes that match their placement recommendations.

In the first week that the AQ was live, 785 students completed the assessment. After ten months, almost 17,000 students have completed the AQ, resulting in students’ increased placement into transfer-level English and math courses needed to graduate. Placements into transfer-level courses increased from 15 percent to 81 percent in English and from 19 percent to 38 percent in math. Initial research indicated that students who placed into transfer-level English directly by their high school credentials were highly successful in completing the course (67 percent) compared to the overall average success rate in prior years (60 percent). Mixed results were found on math course success rates.

Before the AQ, very few Mt. SAC students qualified to enroll in transfer-level courses, making it difficult for them to eventually transfer to a four-year institution. Now they have more opportunities to graduate, transfer, and continue on toward a bachelor’s degree.

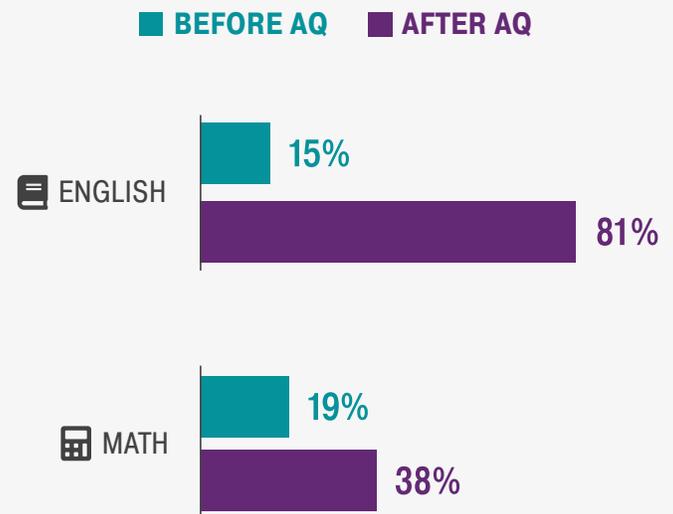
“We are very proud and excited of the tremendous collaboration of key stakeholders, especially faculty, across the campus on this project. It demonstrates our strong passion to provide students with more opportunities to succeed,” says Bangloy.

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Transfer-level course placements



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