

DRIVING ACADEMIC SUCCESS THROUGH TECHNOLOGY

The higher education EdTech scene bustled with discussions about iPad 1:1 and 1:1 technology programs around 2013-14. Lynn University, Maryville University, California State University—Northridge, and others started pilot programs that eventually turned into larger implementations, which encouraged the general higher education community to explore the merits of exploration and innovation through the use of tablets and laptops in the classroom.

Fresno State launched its DISCOVERe mobile program in 2014, led by President Joseph Castro's bold vision to better empower students and support success through modern use of technology in the classroom. The campus welcomed its first 1,000 students that year and has grown the program to include an enrollment of more than 9,000 during the academic year. Its program goals include:

- Redesigning and improving pedagogy through the use of mobile technology

- Improving student learning as evidenced by content mastery
- Improving student digital literacy, and
- Lowering the cost of instructional materials to students

Fresno State has continued to invest in DISCOVERe, because of the changing landscape in higher education and the expectations employers have of college graduates. Fresno State defines student success to include higher graduation rates and also uses the term to emphasize the importance of preparing critical and creative thinkers in preparation for a tech-savvy workforce. A key focus of DISCOVERe is to approach the classroom with student-centered learning, such as through active engagement in a technology-infused learning environment. DISCOVERe has also facilitated conversations and efforts to help Fresno State better understand how technology is becoming more and more integral in the day-to-day of the administrative and academic missions of the university.

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Key characteristics of Fresno State's DISCOVERe program include being platform-agnostic, being bring-your-own-device friendly, participation from faculty on a voluntary basis, support and buy-in from campus leadership and various divisions around the campus, a focus on faculty development, an emphasis on identifying low- or no-cost course materials, modern technology for faculty and students, engaging students in using technology inside and outside the classroom to engage content and each other, robust technology support, classroom technology modernization efforts, and strong shared governance. Fresno State has moved toward these best practices over time using an approach that includes feedback, focus groups, program assessment, and continuous improvement.

Fresno State strongly believes that to be most successful in support of its students and their success through the use of technology, faculty need to be the focus of its efforts and need to take strong leadership roles in the program. Professional development for faculty includes a focus on pedagogy, technology training, and peer support. A DISCOVERe summer institute trains faculty using the SAMR model, and instructional designers work side-by-side to help with faculty-created course materials. A faculty laptop program and a specific DISCOVERe device program help provide the proper technology tools for faculty who are willing to explore and innovate.

DISCOVERe is a true campus effort. More than 300 faculties have gone through spring learning communities and summer institutes to prepare, led by the Center for Faculty Excellence. The Kennel Bookstore serves an important role in providing mobile device procurement services for its 25,000+ students. The Course Scheduling office ensures we are matching the appropriate faculty with DISCOVERe courses, as well as making sure we have the appropriate technology-enabled learning spaces allocated. The various technology teams and the college and divisional IT liaisons support the preparation, deployment, and support of the devices and classrooms, the DISCOVERe Hub provides training and support for students, and the Guides on the Go and the Classroom and Video Services team provide just-in-time support for classroom technology requests. The Administrative Services division and the Technology division partner to support the creation and renovation of technology-infused classrooms. The Division of Student Affairs and Enrollment Management partner supports student success efficacy. University Advancement promotes the appropriate marketing and branding efforts. The Office of Academic Affairs works with deans, chairs, and faculty to coordinate curriculum and assessment. The campus-wide DISCOVERe Task Force and its subcommittees advise the CIO and Provost and makes sure everything is moving forward.

Data show that students who participate in DISCOVERe have higher engagement levels than compared to their non-DISCOVERe courses, which show a slightly higher end-of-term GPA performance compared to non-DISCOVERe students, who have higher retention rate than non-DISCOVERe students, and are more on track to realize higher 6-year graduation rates than non-DISCOVERe students. Fresno State will continue to invest in the future of its students, and DISCOVERe will be one approach that allows its faculty to better prepare its students to be better critical thinkers and knowledge workers in today's digital workforce.

Fresno State is at an important juncture and is committed in growing the DISCOVERe program because of the promising results it has observed so far. The campus has continuously assessed the higher education landscape and has reached out to peer institutions, Apple, Google, and others to learn and to apply lessons learned to its own program.

Many higher education institutions have chosen the path of iPad 1:1 programs.

Fresno State explored the feasibility of an all-Apple approach for DISCOVERe but found it challenging to be successful for many curriculum areas and also for our student demographic. Fresno State will continue to explore iPad

1:1 feasibility in specific colleges and will keep track of other efforts in higher education, such as Ohio State's Digital Flagship Initiative, yet

the campus will continue to explore how to best engage students through smartphones, which is a device almost all of its students own.

Fresno State learned that there is no perfect way or guaranteed approach to implementing a successful 1:1 technology program, although success seems more likely with strong campus buy-in and support, including support from the President/Chancellor and executive leadership and across the university, especially including faculty and day-to-day supporting staff roles. Fresno State President Joseph Castro's bold vision includes all of its 25,000+ students being able to take at least one DISCOVERe course per semester and all of its 1,700+ faculty engaged in the program. The DISCOVERe Task Force will make stronger efforts in communicating the value of the program, as early participants had mixed experiences and perceptions about the program. Challenges exist, such as financial sustainability of such a program at a higher education institution that assesses its students a total cost for tuition and fees that is one of the lowest for an American university. Still, Fresno State's students, of which 70% of its graduates are first in their families to obtain a college degree, expect and deserve a higher education experience that will prepare them for life after college. **ET**

