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SMC receives $2.7 Million STEM grant to support Hispanic students

By A.K. Carroll

Imagine you are a young Latina in her first semester of college. You are the first in your family to pursue higher education, the first to dream of the opportunities a college degree can afford. Your parents are proud. Your siblings are impressed. Your community back home is cheering you on.

But after several weeks on campus, your feelings shift from excited to anxious. You're not sure how your loans are being processed or if you need to pay the interest. Your chemistry class is harder than you anticipated and none of your instructors seem to understand how homesick you are. You think of getting a job to send money back home, but you don't know where you'll find the time. You were so eager to imagine yourself as a doctor months before, but now the path from here to there seems too steep to trek.

The barriers to student success are a real and tangible issue for first generation students on college campuses across the country. It's easy to assume that a student who drops out didn't have what it takes or shouldn't have started in the first place, but often that isn't the case.

"When a flower doesn't bloom we don't change the flower, we fix the environment," said Tracy Pascua Dea, Assistant Vice Provost for Student Success at Saint Mary's College.

Earlier this year Pascua Dea collaborated with other SMC faculty and staff to apply for a $2.7 million Hispanic Serving Institutions Science, Technology, Engineering & Mathematics (HSI STEM) and Articulation program grant. The grant, which was awarded last fall, comes from the Department of Education and will be used to support a new initiative called Caminos a la Ciencias (CALC)-"Pathways to Science." The CALC initiative was designed to supplement and expand the curriculum and resources offered to STEM students at the college, with an emphasis on supporting Hispanic and low-income students.

Why this particular population? There are myriad answers.

"First generation college students are the largest group entering college nationally and they typically overlap with under-represented groups in general, often low income, Latino, or African American; that overlap creates a common goal," said Gloria Aquino Sosa, assistant professor and co-director of SMC's High Potential Program and Program Director of College Student Services. "It is crucial that we ensure that they understand what goes into the college process."

Sosa explained that this is often a struggle for students whose parents desire that their children go to college, but who have no firsthand experience of what that process entails.

"I am (first generation) myself," said Pascua Dea, whose parents emigrated from the Philippines. "I relate to a lot of the students who are first generation on campus. Applying for financial aid or scholarships, buying books, etc.- my parents didn't know how this was done so I had to try and figure it out myself."

Part of CALC's goal is to make all of this more feasible. The naming of the initiative is representative of both its structure and purpose. "It's both literal and figurative," said Pascua Dea. "There are different ways to go about achieving a degree in STEM. Let's find the path that works for (each student), as opposed to throwing them all in one path."

The program consists of five major components: The creation of a new STEM center with increased services for STEM students; enhanced transfer articulation and support, specifically with students from Los Medanos College, a two-year community college in Pittsburg; faculty development, curriculum development and ongoing evaluation and assessment.

In its first year, the program targeted 262 students, including 171 Hispanic and low-income STEM majors and 91 undeclared first-year Hispanic and low-income students who intend to major in STEM disciplines.

"Hispanic and low income are our target populations," said Roy Wensley, Dean of the School of Science and principal investigator and project lead for CALC. "(But) the kinds of things you do for one population of students help and benefit all students."

The new STEM center, for example, which Wensley described as, "a locus for students majoring in science and mathematics," will be open to all 600-some STEM students. "They'll receive help with academic work, but also help with understanding why they are pursuing the field and how to be successful."

The same goes for changes in pedagogy, which will directly impact the whole campus. Such changes are as much about a shift in approach as they are an alteration of practice. "(Instructors) need to know their audience and know the narrative of the population," said Sosa. "Then they'll be able support the population better."

A major goal for SMC on the whole is what Sosa calls strengths-based institutional change.

"(It's) moving away from deficit-based conceptualizations of our student population and looking at a student from a strengths-based lens. Our students come to us with motivation and a desire to achieve. What causes most students to be unsuccessful is an idea that they can't make it," said Sosa.

Pascua Dea echoed those sentiments. "There's a psycho-social piece that goes beyond academics," she said. "Those questions of, Do I believe I belong here? Do I know what I'm doing? Do I have a network and people to go to? The whole point is to look at the student holistically."

Ultimately, the goal of CALC might be summarized as an institutional shift that will result in increased student success.

"The biggest shift we've done across compass is switching to strengths-based assessment," said Pascua Dea. "We ask what are the strengths the students bring and what can we do to support that?"

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