



CASE STUDY

MONTEREY COUNTY OFFICE OF EDUCATION MIGRANT EDUCATION PROGRAM REGION 16 MONTEREY COUNTY, CA

Inquiry-Based Instruction Helps Migrant Students in Monterey County Achieve Gains in Science

SUMMARY

The Monterey County Office of Education (MCOE) [Migrant Education Program Region 16](#) is California's largest migrant region with more than 12,850 migrant students identified. To support migrant students in achieving academic success, several school districts in Region 16 use STEMscopes™ as the central curriculum in their Migrant Education Summer Academies. Students who use the online, comprehensive science curriculum have improved their content knowledge and skills — and developed a love for science.

CHALLENGES

In Monterey County, Calif., agriculture is the area's top industry. Each year, the Central Coast county attracts thousands of migrant workers seeking temporary or seasonal employment in agriculture or fishing.

The MCOE Migrant Education Program Region 16 serves the largest migrant student population in the state, with more than 12,850 migrant students identified across 13 public school districts. To reduce the educational discontinuity and the social-emotional challenges that result from multiple moves, Region 16 coordinates a variety of direct student services, including Migrant Education Summer Academies. MCOE operates district summer academies in two of its regionally operated school districts, King City Union School District and Santa Rita Union School District. The other districts within the region are subgrant-reimbursement districts, which means that they apply annually to the Migrant Education Program Region 16 office for the funds with which to operate the Migrant Education Program within their districts. The services within the subgrant application include district summer academies.

“Many students lose academic ground during the summer. Migrant students who frequently move, not just from state to state but also district to district, are also at higher risk of falling behind academically during the school year because of these moving patterns,” said Summer Prather-Smith, director of the Migrant Education Program Region 16. “Our goal with the Migrant Education Summer Academies is to provide students with educational opportunities they may have missed during the school year, as well as interventions to close gaps and new opportunities to extend their learning.”

For the summer academies in 2016, after reviewing feedback from students, parents, and teachers — and after focusing on English language arts, English language development, and mathematics for several years — the Migrant Education Program Region 16 decided to make a change from the traditional interventions they had always done.

“Based on this feedback, we learned that many migrant students were missing out on science opportunities during the school year because they were spending that time in English language development or academic intervention classes,” said Prather-Smith. “Looking at national trends, we know that Latinos are among the most underrepresented groups within STEM careers. So, as a region, we decided to switch our focus to STEM in the summer academies to begin to help students visualize themselves as scientists, technologists, engineers, and mathematicians from a very early age.”

SOLUTION

- Implementation of the [STEMscopes California](#) digital STEM curriculum

In 2016 and 2017 in Region 16, the Alisal, Greenfield, King City, and Santa Rita Union School Districts implemented STEMscopes California in the Migrant Education Summer Academies, as well as a Spanish version that is available for grades K-5. Built from the ground up to help students meet today’s state standards and the Next Generation Science Standards (NGSS), STEMscopes provides teacher and student digital resources, supplemental print materials, and hands-on exploration kits that build student engagement and excitement for learning science. It can be used as a core science curriculum or supplementary resource in traditional, blended, and 1:1 classroom environments.

“There are several reasons we chose STEMscopes for the Migrant Education Summer Academies. One reason was the cost. STEMscopes is reasonably priced. Another was the quality of the program and the content that’s available to students and teachers. The dual language opportunity was a big selling point as well. Basically, everything we had on our checklist was there in STEMscopes,” said Prather-Smith.

Supporting teachers

To prepare for the summer academies, the Migrant Education Program Region 16 provides its summer staff with online access to STEMscopes, followed by on-site professional development. Educators for the summer academies include local teachers and teachers with the Binational Teaching Program. As part of the Binational Teaching Program, teachers from Mexico spend several weeks during the summer in Monterey County schools, sharing culture and teaching strategies to support migrant students.

“Giving our binational teachers the opportunity to access and review STEMscopes before they arrive helps them better prepare for our professional development,” said Prather-Smith. “Then, during training, we work with the teacher teams to select the STEMscopes units we think will most benefit our students, and we break that down into 20 days of instruction.”

To help teachers continuously improve their teaching, STEMscopes includes embedded support such as professional development videos and how-to guides. In addition, up-to-the-minute analytics provide feedback on each student, so teachers can accelerate learning with differentiated activities.

“With STEMscopes, everything the teacher needs is right there, from vocabulary cards to videos to support materials. It gives them the resources they need to provide quality instruction to every student,” said Prather-Smith.

Providing inquiry-based instruction for diverse learners

For students, STEMscopes promotes inquiry and a real-world understanding of science, engineering, technology, and mathematics through hands-on and digital experiences. Each STEMscopes unit is developed around the 5E model of instruction, with additional phases for Intervention and Acceleration to meet the needs of diverse learners. As students dive into the investigations in each scope, they develop their own contexts and meanings for the scientific concepts they are learning, retain more knowledge, and develop deeper understandings of the world around them.

“The STEMscopes curriculum brings science to life through hands-on learning. It appeals to different learning modalities, and it gives students multiple ways to engage,” said Prather-Smith.

RESULTS

According to Prather-Smith, the Migrant Education Summer Academies and STEMscopes have been beneficial in preparing students for district benchmark assessments and the new California Assessment of Student Progress and Performance (CAASPP). “With STEMscopes, we can scaffold and provide inquiry-based instruction to students in a nurturing environment. This gives them a positive experience with the inquiry model, which helps them prepare for their district benchmarks and the CAASPP tests,” she said.

Within STEMscopes, teachers can conduct pre- and post-assessments in each scope to measure students’ growth in both content knowledge and skills. “In reviewing our pre and post summer academy data, we saw great gains at all grade levels,” said Prather-Smith, who directly oversees the Migrant Education Summer Academy in the Santa Rita Union School District in Salinas, Calif.

Santa Rita Union School District	
2017 MCOE Migrant Education Summer Academy	
<i>Average gain from pre-assessment to post-assessment score in STEMscopes</i>	
Grade	Increase
Grades 1-2	+16%
Grades 3-4	+6%
Grades 5-6	+47%

According to student and staff surveys, which are administered at the end of the summer academies, students are now more engaged in science. “The surveys show that students love learning science, and teachers are now more excited to teach science because of STEMscopes,” said Prather-Smith.

This engagement is helping students develop a love for learning and for school. “We have one student who is from a high-needs family, and we have had a difficult time keeping him in school. Since we introduced STEMscopes last year, we’ve seen a big increase in his attendance at the summer academies. This year, he missed only one day because he was so engaged in the content. The science itself has impacted him academically and motivated his desire to be in school,” said Prather-Smith.

Across Region 16, the Migrant Education Summer Academies have evolved into high quality, engaging, and thought-provoking sessions for students.

“Our success is due to the dedication of our leadership, who make it possible to provide students with these opportunities, and the investment of the staff. We search for teachers who have a passion for teaching this content, and we give them everything they need to be successful. Because STEMscopes is our primary curriculum, it allows teachers to really focus in on science and cover topics in depth, and the curriculum is engaging to students,” said Prather-Smith. “When the summer academies end, we rely on our area schools to take over. Several are now using STEMscopes, so students get that continuity throughout school year, which is very beneficial for them.”

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