Upper elementary teacher Peggi Robinson goes over the Four Cs with her students.

COURTESY

THE MONTESSORI CENTER SCHOOL'S FOUR Cs

Before she became the head of Montessori Center School five years ago, Melanie Jacobs had more than 20 years of experience on-site, starting as a part-time assistant teacher right after college and moving up to earn her elementary and administrative credentials.

A Century-Plus of Collaboration, Critical Thinking, Creativity, and Communication

For more than 100 years, Montessori education has been integrating what its educators call "The Four Cs" (collaboration, critical thinking, creativity, and communication) into early childhood and elementary education. Here, Jacobs explains what they mean.

COLLABORATION: "The ability to collaborate with others is a crucial skill for young people today," Jacobs explained. "To work in collaboration with others means that you can listen to other perspectives and cohesively share your thoughts. It also means that you can work within a team, utilizing the strengths of those around you to meet goals and expectations."

Montessori groups children in three-year age groupings: ages 3-6 (transitional K-K); ages 6-9 (1st-3rd); and ages 9-12 (4th-6th). "This allows students to act as leaders, serving as role models to the younger students academically and socially."

CRITICAL THINKING: "At its simplest," Jacobs said, "critical thinking is the ability to think clearly and rationally about the world around us by taking in information, analyzing it, and making decisions based on that information. To foster this in young children, it is necessary to allow them to be as independent as possible. Our Montessori environments are designed to allow as much independence as possible at every stage of development. Our teachers are trained to observe and give students time and space to think things through by not intervening too soon.

"As they grow and develop, they are guided in the scientific method, conducting experiments, creating hypotheses, and making judgments based on their observations. Montessori lessons are famous for their concrete representations of academic concepts, giving students a very clear idea of the why and how behind each idea."

CREATIVITY: "Montessori students are great at thinking out of the box, exploring various ways to solve problems creatively," Jacobs continued. "Within each classroom, our students are urged to participate in discussions that explore their creativity and the sharing of ideas. Students are encouraged to keep an open mind and respect the ideas of their peers and teachers. After receiving a lesson, students are often given freedom in how they would like to do their follow-up work, such as making a book, chart, or oral presentation. Artwork is often incorporated into their daily work to promote self-expression. We also have specialist teachers in art, music, Spanish, physical education, library, computer, and drama to help develop students' creativity."

COMMUNICATION: "Communication is truly the key to a successful educational experience, and it is at the heart of the Montessori philosophy. From a young age, we encourage our students to express themselves clearly and respectfully. Many of our classrooms create agreements [that] impart the needs of the students and teachers. These agreements are made collaboratively with active participation from the students. These agreements are then signed, posted, and referred to all year as a reminder of all of the expectations in the classroom.

"Our students are also given opportunities at an early age to speak to a group. In our preschool rooms, examples of this would be sharing an interesting item [or] presenting a piece of work they completed. In our elementary classrooms, students recite poems, give oral presentations on historical figures, present year-long projects, and participate in drama and music productions. The older students in all of our classrooms act as leaders and role models. All of these experiences help to build confidence and communication skills, preparing them for middle school and beyond."

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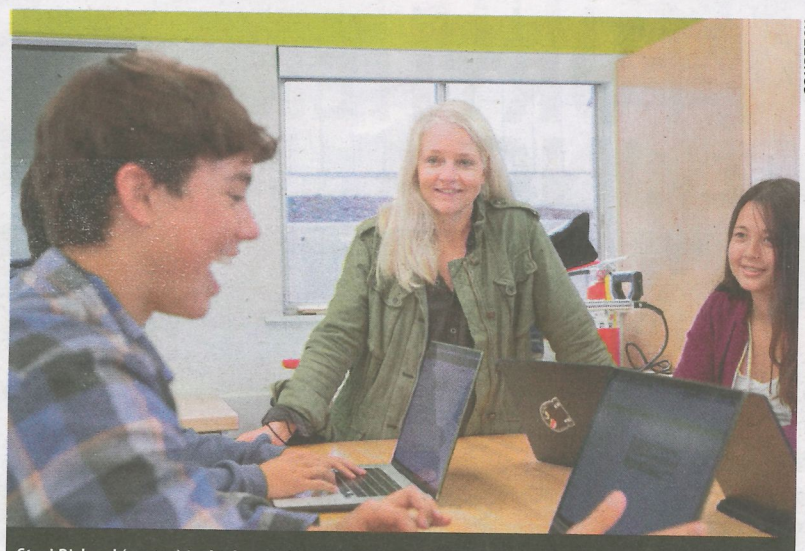

COURTESY

Staci Richard (center) is the head of Laguna Blanca's Science Research Program.

Two-Year Deep Dives at Laguna Blanca

Science Research Program Is Latest Track for Motivated Students

Laguna Blanca has long been known for signature programs. With titles such as Mission to Mars, Soapbox Derby, Urban Adventures, and its TEDx talks — returning in February after last year's pandemic pause — the independent school embraces project-based learning.

A recent addition, launched in 2017-18, is the Science Research Program, a two-year course of study for motivated students to pursue an invigorating and "deeply edifying odyssey into the weeds of scientific inquiry," said Tara Broucqsault, the school's communications director.

Heading up the program, Staci Richard said it's grown considerably since its initial cohort to a little more than 40 percent of eligible students.

The Science Research Program starts in 10th grade by growing each student's understanding of the STEM (science, technology, engineering, and math) field and teaching them how to read research papers and exposing them to a range of speakers and discussion groups to help channel their enthusiasm.

In 11th, the students select an emphasis — examples include solar energy, aquaculture, robotics, AI, and Alzheimer's research, among other pursuits — for a full-year dive that's guided by mentors, most of whom are based in Santa Barbara. (Last year, via Zoom, the program pioneered remote mentorships, some with out-of-state experts, Richard said.)

This second year consists of a thorough examination of one specific area. At year's end, it's fashioned into a comprehensive report and final presentation before an audience of peers, parents, mentors, teachers, and Laguna Blanca boardmembers. These presentations are essentially 15-minute "conference talks," says Richard, and include visuals, questions from the audience, and a recap of the student's two-year STEM journey.

All of it is buoyed by Laguna's recently opened Center for Science and Innovation, anchored by new biology and chemistry laboratories and the built-out Nakamura STEM Research & Innovation Lab, an interdisciplinary maker space for 3D design and robotics. "That's an important piece of the program," Richard said.

"It can be hard to ask kids to do real research," she reflected. "It's a long process, and they see how hard it can be. Sometimes it feels to me that they're doing undergraduate research. And as these students are going off to college, we're seeing that they're more confident meeting and talking with professors and getting access to research laboratories."

That's a big plus, she says. But the flip side can be good, too. "Some students learn along the way that what they thought would be interesting really doesn't interest them. And that's been another great outcome."

Either way, she added, their eyes have been opened to a much broader range of STEM careers than they would normally see in high school. "And it's been a great way for the kids at Laguna Blanca to take advantage of the great things happening in Santa Barbara," said Richard. "They're connecting with doctors and tech people and nonprofits. It's been a way to build community."

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