



Makerspace

AT INCLINE
ELEMENTARY

By Mike Danahey

THIS SCHOOL YEAR, students at Incline Elementary are taking part in a hands-on approach to learning as they head to a makerspace classroom twice a week.

“A makerspace is a classroom in our school where students will learn critical thinking, problem solving and resilience while working with coding, robotics, engineering activities, crafts and so much more,” said Incline Elementary Principal Dan Zimmerman.

To develop Incline Elementary’s makerspace, Zimmerman and teacher Trina Kleinhenz visited existing makerspace classrooms, including one at Lake Tahoe School which focuses on industrial arts projects and learning for students grades K - 8. Kleinhenz is overseeing instruction for the Incline Elementary makerspace.

“Though our focus won’t be the industrial arts, it was still valuable to see how a project could be scaffolded from kindergarten to fifth grade,” Zimmerman said. “There was also a high level of engagement in the makerspace, which was exciting.”

Kleinhenz said she’s providing the Incline Elementary makerspace with a strong focus on robotics and coding.

“I have been the coach of our robotics team here at IES for the last two years, and I also have an endorsement in computer science,” Kleinhenz said. “By exposing all students to computer science from a young age, we are promoting equity and diversity in that field.”

Kleinhenz met with staff from each grade level to determine priorities for what else will be taught in the makerspace. She is working collaboratively with and supporting other teachers in the makerspace on two projects, a reflection on the pandemic, and a Lake Tahoe environmental project come spring. Kleinhenz also is teaching a class on digital citizenship for all five grades. Zimmerman said the goal for having the makerspace is

to expose students to an inclusive classroom where they are taught through strategies that support gifted and talented education.

“Minorities, students with disabilities and children who come from families that struggle economically - who make up a significant portion of our enrollment - are often underrepresented in gifted and talented education,” Zimmerman said. “Poverty is directly related to whether a student will be accepted into a gifted program, and that can have a negative impact on access to honors and AP classes in middle and high school.”

Lack of access to such instruction creates obstacles to college success and participation in science, technology, engineering, and math careers, Zimmerman said.

Zimmerman said decreasing inequities should lead to increased participation in college and STEM programs, particularly among underrepresented groups such as girls and minority students, and ultimately help such students grow their potential for economic advancement.

As for how the Incline Elementary makerspace operates, Zimmerman said Kleinhenz has specific learning targets that she teaches, for which she presents a problem, a project, or a challenge.

“Students then work collaboratively and creatively to apply their learning and solve the problem or create a solution,” Zimmerman said.

Zimmerman said, “Reflection on mistakes and making corrections is a large part of the process. Most important is the need to be resilient, to be able to learn from failure and persevere.”

The makerspace classroom houses all of the materials, supplies, and equipment that students will need to be successful.

Zimmerman said, a focus for Kleinhenz is educational technology, so student access to various coding programs, robotics kits and personal devices like laptops and iPads is essential. Students also are using art supplies for planning, storyboards, and craft-based activities and team building, he added.

So, while the Incline Elementary makerspace is up and running, items of all sorts are still needed to bring it to its full potential.

To that end, the Incline Education Foundation provided seed money for the project to get underway. The foundation, in conjunction with the school’s PTA, continues to raise funds and purchase items for the makerspace.

For more information, including a list of what’s needed, see iesmakerspace.weebly.com.