CASE STUDY:
KAPA’A HIGH SCHOOL

Kapa’a High School (KHS), located in Kapa’a, Hawaii, boasts 1,023 students who are divided into several Smaller Learning Communities (SLCs). When Principal Daniel Hamada returned to his alma mater in the 2010-2011 school year, he wanted to build a more focused school, framed based on student interest. Thus, the SLCs were incorporated, intending to give high school students the opportunity to take extensive coursework in subjects of interest to them. At KHS, there are two primary SLCs: the HOPES Academy, which has a service industry focus, and the IDEAS Academy, which focuses on engineering and design. With a college-like semester based schedule, the high school works to fully prepare their students for post-grad life, implementing projects and community internships by graduation for integration of learning.
Principal Hamada has always been attentive to the growth of technology in education, working to achieve 1:1 status at KHS, refreshing all computers as needed to be sure they are under 3 years old. “Everything at KHS is built around the interests of our students. Students are the ones who sell a course. When interest around computer science began to surface, I had to figure out how to offer a learning environment around it,” described Principal Hamada. “We started this journey because we knew we needed to go to the next level in terms of providing a discipline that helps our students and staff understand computer science.” With former experience as the Assistant Superintendent in charge of curriculum, he was aware of the national CS offerings already. When he opted to look into Edhesive, he was quickly assisted by the Edhesive school program management team. “I was really given an idea of how to approach blended learning opportunities. I was comfortable with the sequence at that point, and quickly began to plan incorporation of the curriculum.” KHS thus began to offer both Intro CS and AP CSP through Edhesive.

Implementation and Success at Kapa‘a High School

Intro CS Teacher Richard Sypniewski believes that Computer Science will eventually join the ranks of reading, writing, and math as a cornerstone of educational necessity. “The reason that reading, writing, and math are foundational is because they are subjects that everyone needs to know. Now, technology and computers have become necessities of daily human function! You can’t even drive a car without CS-based technology. Basic knowledge of how computers work is instrumental in society.” With a background in chemistry, Sypniewski had never taught a computer science course when he was chosen to teach Intro CS earlier this year. “I found the program very accessible, even from the beginning,” he explained. “To prepare, I work through the program myself while referencing the solutions provided in the curriculum.”

Sypniewski stresses the value of teamwork in his classroom, encouraging students to ask questions and use the online student forum. “The compiler offers immediate feedback, and the student forum is always guaranteed to generate a quick response.” He trusts the comprehensive benefits of an online structure in strengthening students’ work ethic and follow-through. “It’s important for them to build an endurance factor. In the real world, they will be presented with obstacles and will need to come up with independent solutions. Learning how to navigate a high level course and check their work as they go develops accountability and responsibility.”
At KHS, students love to get involved in hands-on projects beyond the computer screen. “Students really love the course. One student really clicked with the video instruction; he wouldn’t stop watching!” Other students thrive more with supplementary activities, so Sypniewski came up with the Steiner Tree Project. Students were tasked with designing an island, complete with rivers, mountains, and elevation. The students were required to research how much it would cost to build a computer tower while measuring how many meters of space would be needed to run and install cables most economically. “The Steiner Tree Project stressed interconnectivity and completeness of thought for the students, asking them to find the shortest and most effective path between point A and point B. This can be connected to the competency and design of modern computers and technology. The students were able to explore the calculated thought that goes into making something like a cell phone or laptop so small, yet so capable.”

Principal Hamada loves to visit his students in their classroom to experience for himself what each course has to offer. “When I see the students working in Intro CS, I can tell by their level of discussion and posture even that they’re beyond just working on a computer. They’re very involved and participating in such relevant discussions. The strong relationship going on in the class is palpable; it’s neat to see it happening. I can already tell now that CS will be staying the course with us. We can already tell that there will be several more sections of Intro CS added next year, as well as another section of AP CSP. We hope to eventually expand the program even further,” he remarked.

A KHS student’s Steiner Tree Project

Reflection

As technology changes, jobs in computer science become more readily available by the day. “In Hawaii, there is much opportunity for careers in computer science. We are just like the rest of the world. The infrastructure on our island is changing and growing exponentially to match the increased use of cell phones, internet, and other new technologies. There’s a huge job market for students. It’s vital that they be introduced to coursework like Intro CS as early as possible,” understood Sypniewski. Though many Hawaiian high school alumnus remain on the island after graduation, Sypniewski reported that some students have become interested in pursuing CS degrees, with one senior applying to UCLA and a sophomore student who already plans to go to MIT. “She is dedicated to the class and willing to work for it. In our culture, going to the mainland can seem unattainable. It’s amazing that a program like Intro CS can bring students’ futures to life.” Principal Hamada added that “Computer science is evolving. It’s a science. We have found a lot of success working with Edhesive. When educators talk, we try to minimize the amount of hurdles we have to go through. I would happily invite any educator into our Intro CS classroom so they could see the students’ involvement in and enjoyment of the course for themselves.”
Outcomes at Kapa’a High School

- Kapa’a HS now offers two Edhesive courses: Intro CS and AP CSP, and already plans to increase their section numbers and offerings.

- Students are learning the ethics, accountability, responsibility, and teamwork, relying on each other as well as the student forum to solve problems.

- A few students at KHS are considering future careers in computer science.

Highlights for Teachers

- The online format of Intro CS creates accessibility for new CS teachers.

- Supplementing the online course with hands-on activities such as the Steiner Tree project provides engagement for many types of learners, making student engagement palpable.

- The ease of the Edhesive implementation process consists of few hurdles and much support.

Edhesive makes online learning accessible, personal, and meaningful. We combine online instruction from nationally recognized experts with the personal support of local teachers, who offer students face-to-face guidance and support.

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