

## **Amelia Earhart School Model Programs and Practices**

### **School Information**

CDS (County District School) Code: 01611196100374

County: Alameda

District (Local Educational Agency): Alameda Unified

School: Amelia Earhart School

### **Demographics**

Enrollment: 645 students

Location Description: Urban

Title I Funded: No

School Calendar: Traditional

Charter: No

### **Overview**

Amelia Earhart School stands on Bay Farm Island in Alameda. The community boasts an elaborate system of bike and walking trails adjacent to lagoons and the San Francisco Bay. Parks, ball fields, community centers and a public library add to the small-town atmosphere and closeness of our community. Near Oakland Airport, we are reminded of our namesake and the tradition of setting and achieving high standards. We experience both the challenges and advantages of a suburban school operating in an urban school district.

Earhart is the largest elementary school in Alameda with 645 student. Our student body is ethnically diverse with a balance of Asian and Caucasian children representing 82% of our students. Eight other ethnic groups are represented in smaller numbers. 12% of our students receive free or reduced lunch. 22% of our students are English learners representing 27 “first” languages. Most students, including our EL students, are middle class with college-educated parents.

Our school boasts a highly trained staff that works collaboratively and utilizes best practices. Our teachers hold themselves to rigorous standards and share professional development opportunities to provide quality instruction. Our staff, along with the strength of our PTA, distinguishes Earhart. The success of all students is the goal of the Earhart community. Enhancing our traditional program with our Innovative School Program: STEM with the integration of music is an element of extreme pride at Earhart School. Each week students experience science both in their classrooms and in our lab and music is integrated to support vocabulary and content learning. Extended learning opportunities in science and the arts is a commitment of both our staff and our PTA. Enrichment programs including coding, STEM activities, robotics and chess provide academic as well as social emotional development and are integral to the development of our children as lifelong learners.

The spirit of volunteerism that our parents and community members embrace defines our school culture and commitment to excellence. Volunteers, including senior citizens and Coast Guard enlisted, tutor children in reading and math, volunteer in science lab, provide support for learning in the classroom and reinforce social skills in the lunchroom and on the playground. As a community, we have embraced academic learning in an active and engaging environment.

It is the shared belief of the Earhart community that a lifelong love of learning is the best legacy a school can give its students. During Amelia Earhart's lifetime, she faced the risk of flying with incredible courage. Our children are empowered to use their courage to soar to excellence each day.

## **Model Program and Practices**

Name of Model Program/Practice: Music with Science, Engineering, Technology and Math M(STEM)

Length of Model Program/Practice: 5–8 years

Target Area(s): Closing the Achievement Gap, Parent, Family, and Community Involvement, Professional Development, Science, Technology, Engineering, and Mathematics

Target Population(s): Asian, Black or African American, Filipino, Hispanic, Pacific Islander, White, Two or More Races, English Learners

Strategies Used: Parent Engagement, Data-Driven Decision Making, Professional Development

## **Description**

In 2011, a strong group of PTA parents wanted to convert our school to charter believing that our district underfunded successful schools. That belief was coupled with desire to define unique qualities that made our school successful. Following the parcel

tax passage in 2012, our district offered Innovative grants which allowed us to shift the direction of moving to charter. In a demographic survey of our families 65% were working in technology, finance or science. Families saw education in these fields as paramount to their children's success. Staff believed our school's strengths and unique elements supported student learning in technology and science. Data discussions led us to apply for an Innovative Program grant, Music(STEM). We integrated music to help students learn facts and build a foundation for concept development. The shift in our science pedagogy was to strengthen our capacity as a staff to bring rigorous science instruction to our students daily. Our staff had created two science labs and periodically set up hands-on investigations. Two teachers had explored science based musical performances. Our M(STEM) grant integrates and systemizes these disconnected parts with math and the use of technology and music into a cohesive curriculum. STAR data indicated that our ELs struggle with content vocabulary.

To bring the disconnected parts of our curriculum together we hired a grant funded science teacher to co-teach with classroom teachers each week in the labs and provide professional learning during collaboration. The music teacher and EL teacher provide teachers a clear integration of curriculum and connections for ELs. Prior work with an Isabel Beck vocabulary model provided accelerated achievement for our EL students. Explicit teaching and modeling of vocabulary to begin every lesson and reinforcing the vocabulary supported achievement for our ELs and for all students. Science and math achievement coupled with vocabulary of the discipline builds critical thinking and achievement for all students. A weekly engaging science lab gives instructional access to unique populations including special needs and kinesthetic learners, students with behavioral needs, and EL students. To communicate our vision of an integrated system of learning to our community, the first day of school ended with an assembly to introduce our theme Curiosity and view the landing of the Mars Rover, Curiosity. Parents joined their children! The first two weeks each grade level did daily projects on Curiosity and integrated music to learn concepts while using technology to follow Curiosity. During the year we shared learning linked to our theme through the special Innovative Evening Showcase events. The theme Curiosity has been followed by Innovation, Collaboration, Conversation, Ecology and Guardianship as an Ocean Guardian School.

Daily instructional planning is aligned to CCSSmath and NGSSscience. Our plan aligns to District LCAP goals 2a, 2b and 3.

### **Implementation and Monitoring**

The year begins with a focus on the theme and theme song in every classroom. EL students learn the songs with the EL teacher and all students sing songs focusing on the content and concepts.

Teachers meet with the science teacher for PL, to plan the next steps in the integrated unit of instruction, identify vocabulary and concepts, develop investigations for lab day and identify class work. Teachers teach the vocabulary and concepts and share with parents in the weekly homework. We ask parents to have a conversation with their child

using the science vocabulary. EL students get practice with the EL teacher and by talking with older siblings. Supports for learning new vocabulary are provided with an instruction routine, sentence frames, photos, and partner talk. Science musicals aligned to NGSS are performed by every class. Speaking and learning content based music supports EL students' learning. Families attend the musicals resulting in an audience of 200. Three yearly Innovative events, attended by 600–1000, have become more popular with each event. We share our work through visual presentations, explorations in math, science, technology and music. One evening 75 innovators (5th graders in costume) around the campus shared achievements. Small workshops have included math activities, student led science labs, coding, and exploration on iPad apps. After the event we solicit parent feedback to guide our future planning.

Weekly 57 parents and community members support M(STEM) as lab volunteers. 55 parents support classrooms as students write expository science paragraphs, create math stories, do math contracts or math labs. Parents are joined by Coast Guard volunteers. The Coasties are models of how M(STEM) can be used in a career. The Astronomical Society sets up telescopes on our yard. 150 students and families study stars and planets using an iPad star app to identify constellations. After Hour of Code, we trained teachers and offered after school coding classes to 90 students. Coding, robotics and animation classes engage students in learning.

For staff, in addition to ongoing science learning, part of our work is Tech Time for learning Google apps and for staff to share tech strategies. Professional Learning is a core value for our entire staff. Staff have attended Code.org workshops and are members of BaySci Team and NOLA.

Teachers are committed to continuous improvement using Cycle of Inquiry/COI to implement instruction to fill gaps in student learning. Data collection and analysis then informs further shifts in practice. COI's at each grade level are connected to expository writing in science. Weekly students write using the content from science labs. Writing is compiled three times a year and scored on a rubric. COI data is discussed, disaggregated and graphed to show student growth. Using multiple sources of data we disaggregate, analyze and use the data to inform the next step in our use of the Cycle of Inquiry.

## **Results and Outcomes**

Our student achievement goals are measurable by student achievement data, yet in many cases more observable in students' passion for their learning. As a staff we are establishing more specific ways to measure progress. Our goal is to measure progress more globally in science on each of the science strands with pre and post content assessments. With the shift to NGSS we are remapping assessments. For example, weekly as students write in their science notebooks, student understanding of key concepts is noted by teachers. Each teacher has strategies to support students in the deepening of their notebooking skills. For example, Kindergarten children complete sequential drawings with some labels to support their learning. Recently after a second grade classroom notebook gallery walk, students spent another ten minutes labeling

drawings and adding gleaned information to their own notebooks. Upper grade students readily consult their notebooks for additional content while completing expository writing tasks. The notebooking skills of our students are an assessment each week of the student's understanding of the scientific concept.

Use of reflective journals, science notebooks, self-evaluation and class and partner discussion following a formative assessment gives students further opportunities to assess their own learning. Summative data includes tests, quizzes, projects and technology based presentations showing content mastery and COI data.

STAR/CAASP scores show that all students are making progress in math and science. The practice of expository writing in science is further evident on the 2015–17 CAASPP scores in writing and in math where students must write to explain their math solutions. 72% of our EL students met or exceeded the writing claim. All of our EL 5th graders are redesignated and 94% met or exceeded the writing claim. In math school wide 78% met or exceeded the standards.

Our 2015 scores in science show clearly that after three years of consistent daily science instruction all of our students have moved from 86% to 97% proficient. Most notably 62% are advanced. Using compiled and disaggregated data we then design further inquiry cycles with the goal of increasing student learning. Each year we graph our data and by grade level complete written reflections on next steps to build stronger student achievement. While quantitative data shows that the M(STEM) program supports all students, the most compelling data is evident as parents report the depth of content and vocabulary in dinner-time conversations. Science and vocabulary and concepts are also evident in everyday conversations at school. During morning circle, one 2nd grader announced he wanted to be a paleontologist so he could collaborate with other scientists about research and fossils. Our vision for the twenty first century Earhart student is becoming a reality each day.