About Ka Pilina

Ka Pilina is a 3-year research project at the Center on Disability Studies, University of Hawai‘i Manoa, funded by the U.S. Department of Education, Native Hawaiian Education Program (Award #S362120030) to improve mathematics outcomes of 7th-12th grade students.

Ka Pilina means The Connection in Hawaiian. This project aims to “connect” middle and high school students to math activities and resources that will improve their achievement in math.

Ka Pilina has three goals:
1. Strengthen students’ interests and skills in algebra;
2. Help students use math in their life and in science, technology, and engineering (STEM); and
3. Help students become more successful in math as they transition into high school and into college.

To achieve these goals, students and teachers practice math skills by using examples from local and Native Hawaiian culture. Students and teachers also incorporate math computer programs into their math lessons at school. Students also work with math mentors who are college students from the University of Hawai‘i system.

Ka Pilina Project Participants

Students: Grades 7-12
Teachers: Math Teachers
Schools: James Campbell High School, Ilima Intermediate School, Ewa Makai Middle School and Ke Kula ‘o Samuel M. Kamakau Laboratory Public Charter School
Mentors: Students from the University of Hawai‘i System

Math Community Days

More than 150 students and their families attended Ka Pilina Math Community Days on November 5th at Ewa Makai Middle School and on November 7th at Ke Kula ‘o Samuel M. Kamakau LPCS. Activity booths were provided by Ka Pilina staff and mentors, the UH Mānoa Institute for Astronomy, and the UH Mānoa College of Engineering. Students and families scaled the solar system, viewed light spectrums, built balloon towers and telescopes, used Information Technology Systems, and calculated slopes of paths on a map. Students earned prizes for participating at different booths. At the end of both nights, a lucky student at each event won a grand prize: a Microsoft Surface RT!
On December 26 & 27, middle school and high school students from our participating schools attended the Ka Pilina Winter 2013 Math Camp: Navigating the Past, Present and Future at the University of Hawai‘i at Mānoa. Middle school students learned about ratios as they calculated the cost per student to attend camp, adjusted recipes to prepare our yummy lunch, rationed food and water supplies for their crews on their imaginary voyage on the Hōkūle‘a, patterned and created bead keychains, and measured objects using traditional Hawaiian units of measurement. High school students learned about the Golden Ratio and Fibonacci numbers as they are closely related to each other, but often confused for being the same thing. There was a lesson on sequences and limits, which are typically Calculus concepts, but was introduced at this camp to explain the relationship between the Fibonacci sequence and the Golden Ratio. On the field trip to The Bishop Museum, both groups of students went on a guided tour around the Hawaiian and Pacific Halls and participated in a scavenger hunt utilizing the skills they had just learned in their Math Camp classes. The camp was a great success!

Spotlights

**Jerrik Feliciano, Ka Pilina Staff, Math Camp Coordinator**
Ewa Beach, HI
M.A. Candidate, Mathematics

**Q: What do you do for fun?**
**A:** I like to surf, fish, dive, and hang with friends. Basically, whatever’s clever! =)

**Q: How long have you worked with Ka Pilina?**
**A:** I have been working with Ka Pilina since the project started. So about a year and a half now.

**Q: What do you like best about Ka Pilina?**
**A:** The thing I like the best about Ka Pilina is the project’s aim to break students and people’s preconceived notion that math is hard and that not everyone can be good at it.

**Q: Why do you want to work for Ka Pilina?**
**A:** I want to help the project grow and to help as many students/people as we can.

**Q: List 3 ways you use math every day.**
**A:** Cooking, doing my finances, when trying to figure out how much time I have for each activity in my day.

**Q: Why should students care about learning math?**
**A:** Students should learn math because math is used in pretty much every aspect of life. Funny thing is people probably use math every day, they just don’t realize they are. One of the most useful skills in life is learned through math: critical thinking.
Chrissy Amundsen, Ka Pilina Mentor
Ottawa, Canada
Business Administration-Accounting Major

Q: What do you do for fun?
A: I enjoy spending time with family and friends, watching the latest films in the theaters, and exploring different restaurants around our beautiful island.

Q: How long have you worked with Ka Pilina?
A: I have worked with Ka Pilina since April 2013.

Q: What do you like best about Ka Pilina?
A: Ka Pilina makes math fun! It helps students see and experience math in many different ways. The math games are especially fun for students. The Ka Pilina project makes math a much more enjoyable, rewarding, engaging, and interactive experience.

Q: Why did you want to be a mentor?
A: I am very passionate about math education. I believe that world-class math education is a right for all of Hawaii’s students and I wanted to be part of the coalition that will help make that happen.

Q: List 3 ways you use math every day.
A: To examine and re-evaluate my budget, calculate how long it will take me to get to school while waiting in traffic, and figure out what my averages are in each class.

Q: Why should students care about learning math?
A: In middle school or high school, students may wonder if they will ever use what they learn in math class in the real world. In college however, you realize, yes, you will! Many disciplines including science, business, and engineering use math as their foundation. Also, students need a certain level of math to be admitted into college regardless of what they study. So whether students study something math based or not, everyone needs math at some point.

Ululani Victor
Makakilo, HI
Ke Kula ‘o Samuel M. Kamakau LPCS

Q: What do you do for fun?
A: Read, hike, write, work in the garden, go beach

Q: What grade(s) do you teach?
A: I team-teach grades 7-12; I do high school math, middle school PE, and all science and all Hawaiian language.

Q: What do you love most about teaching?
A: I love when kids catch on and are inspired by what we are working on. I love watching them grow up, from being bratty middle schoolers to becoming awesome graduates, and being able to see them as whole people who are prepared to go out and make a difference for Hawaiians.

Q: What are the benefits of the ITS that you use?
A: ALEKS is pretty cool because it adapts to the needs of the student. It’s also great for teachers because it sends us a weekly report on how much time students spent on it, what kind of progress they made, and how we might be able to encourage them to improve.

Q: List 3 ways you use math every day.
A: Time. Buying and selling. Playing ANY sport -- do you know how much calculus you use just to catch a wave? Optimization, estimating area and speed, comparing slopes and limits; if you knew how much you knew, you would be amazed!

Q: Why should your students care about learning math?
A: Because we need Hawaiians with solid math skills to keep our people going into the future. Because without math, they won’t be able to do as much as they might like to do. Because with math, they can do ANYTHING that they want, and math will help them to do that thing well. Because I said they should. Because if they care, then they will work hard, and great work yields great rewards. Because their parents will kill me if they don’t.
Mahalo

Mahalo to the following presenters: UH Mānoa Institute for Astronomy; UH Mānoa College of Engineering & The Bernice Pauahi Bishop Museum. Mahalo to the following hosts: UH Mānoa Center on Disability Studies; UH Mānoa Department of Kinesiology and Rehabilitation Science; The Bernice Pauahi Bishop Museum; Ke Kula ’o Samuel M. Kamakau LPCS; & Ewa Makai Middle School.

Also, mahalo to the teachers, mentors, and volunteers who helped plan, prepare and facilitate the activities.

Upcoming Events

Teachers
Professional Development Days:
January 25, 2014
March 01, 2014
April 26, 2014
May 10, 2014

Teachers and Students
Community Days April 2014
Spring Math Camp March 17-19, 2014
Summer Math Camp July 2014

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