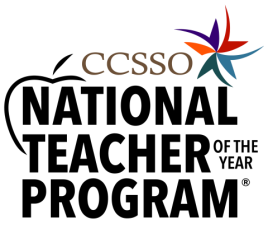


2022 National Teacher of the Year FINALIST



Whitney Aragaki
Hawaii

School: Waiakea High School
Subject: Science
Grade: 9-12



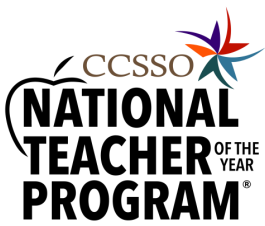
Whitney Aragaki (she/her) supports students to learn through a lens of abundance that honors place, people and cultures. Her teaching focuses around conversations, practices and systems that sustain the intimate inter-relationship of public education, community and environment. Returning to serve her high school alma mater, Aragaki teaches biology and environmental science at Waiakea High School in Hilo, Hawai'i. In partnership with the Hawai'i Virtual Learning Network, Aragaki aims to provide equitable access to environmental science and computer science courses statewide. She is the daughter of two educators, and was a student in her mother's biology class. Aragaki's two children thrive in this supportive public-school ecosystem. Aragaki has a Bachelor of Arts in biology from Swarthmore College, and a Master of Science in tropical conservation biology and environmental science from the University of Hawai'i at Hilo. She currently is at the University of Hawai'i at Manoa College of Education, where she is pursuing a Doctor of Philosophy with a focus in curriculum and instruction. Aragaki began her teaching career with support from the Woodrow Wilson-Rockefeller Brothers Fund Aspiring Teachers of Color Fellowship and the National Science Foundation's GK-12 Fellowship. She is an alumna of the Hawai'i State Teacher Fellowship and the National Education Association Teacher Leadership Institute. Aragaki is a National Board certified teacher in adolescence and young adulthood mathematics, a Google-certified educator and a 2019 and 2021 state finalist for the Presidential Awards for Excellence in mathematics and science teaching.

Application Questions

- 1. Describe a content lesson or unit that defines you as a teacher. How did you engage students of all backgrounds and abilities in the learning? How did that learning influence your students? How are your beliefs about teaching demonstrated in this lesson or unit?**

Every year, I welcome students with a wealth of cultures, abilities, and experiences into my biology class. Required for graduation, most students do not enter our class with the intention of becoming career biologists. Yet, through place-based and wellness activities, they engage in experiences that offer introspection of their own lives and community. We work together to frame abundance in their learning, health, and future.

In biology, students need to comprehend and articulate the concept of energy utilization as a key characteristic of life. I prepare them for success through engagement in diverse and contextual content. Throughout the unit, students learn through inquiry-based lessons and devise models to explain phenomena connected to cellular respiration and energy utilization.



To learn about the different biomolecules that contribute to nutrition, we research and compare diets that are familiar. We discuss American fast food and fad celebrity diets, then juxtapose them to Indigenous Pacific Islander diets. I pull from the knowledge of my students' families to learn about proportions of starches and proteins between different island groups. While the lesson is intended to focus on food and energy, it also highlights food security inequities and the pervasive colonialism by Western culture. What results are meaningful conversations and shared learning among the class community.

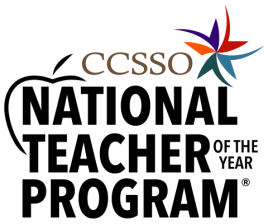
As the unit shifts to the biochemistry of cellular respiration, students do not easily transition to molecular concepts. While able to retort the formula and memorize the products, student interest piques when we use a disease of the process, type-2 diabetes, to learn about how cellular processes distort typical function and an individual's wellbeing.

In our classes, it is rare to have a student who does not know someone affected by diabetes. Providing a safe learning space, students have many questions about the disease, its impacts on health and lifestyle, and how it complicates other medical issues. Currently, calculations project 50% of Hawai'i adults will have diabetes or pre-diabetes in their lifetime. Faced with this reality, it is imperative to teach students about this disease, environmental disposition, genetics, and how they can create a healthy future for themselves and their families.

Native Hawaiians and Asians have an increased risk for diabetes due to genetic predisposition. Many Indigenous families live in communities enduring environmental inequity, food instability, and lack of access to health care. Students recognize that inactive individuals have a higher rate of obesity and thus diabetes risk, but the connections between diet, exercise, and environment are less apparent.

Applying the connections of diabetes in our own families and communities, students demand more rigorous content to satiate their inquiries. They revise models with additional confounding variables of overeating, malnutrition, nutrient deficiency, and physical activity. I resist immediately answering their "what if" and "how about" questions. We turn them into our day's investigations. Students are intrinsically motivated to search, make meaning, and explain their understanding to their peers. These insights and inquiry go beyond the standard content, and they appreciate the many factors involved in human health.

It is also important to recognize the inherent story of courage and struggle intertwined in the histories of wayfinding populations. While our Asian and Pacific Islander students are clearly proud of their cultural heritage, they display negative connotations to body size and structure. We analyze the feast-famine cycles of wayfinding populations during the struggle to discover new islands around the Pacific region before western



colonization. Indigenous students, who do not typically see their story represented in science and history texts, exhibit greater pride and appreciation for their courageous history. They start letting go of negative stigmas plaguing their community today in an era after the colonization of their people and culture.

I feel a responsibility to educate students about healthy choices that affect their quality of life. When working through an understanding of wayfinding populations and the propensity to diabetes, students have the opportunity to pause and think about these confounding variables. Empowered with knowledge about diabetes, courage represented in heritage, and pragmatic conversations about environmental and societal challenges, students are charged to feel pride in their wayfinding genetics, recognize the histories of colonialism, and prepare to tackle challenges that are presented by it.

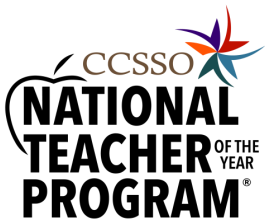
It is my mission as a teacher to develop students who will become leaders and decision-makers in our community and create avenues for all people to have equitable access to health care, education, food and housing security. When our future leaders understand the social and environmental determinants of health and safety, we will create a stronger and more connected society.

2. Describe a project or initiative you helped create which contributed to the improvement of overall school culture. What was your role, and what is the status of this project today? Please include evidence of student impact.

A sense of belonging is strengthened through relationships with a place and its people. Investment in belonging is imperative for new teacher mentorship that carries over to classroom engagement and student success. Our school is nestled directly in the middle of our town, in proximity to mountain peaks and ocean breeze. It has a reputation for academic success that honors cultural knowledge and diversity. Community and place engagement are essential components. Thoughtful and intentional cultivation of stakeholder relationships, both new and veteran, is enhanced through successful colleague mentorships.

New Warrior PLC (Professional Learning Community) emerged from my own sense of belonging to our school community and place, and a shared responsibility to facilitate this experience for others. Our school does not typically have a high teacher turnover rate. This often results in a handful of new-to-school teachers each year feeling confused with assumed practices and unsure of a teacher support system. They become recipients of misdirected frustration by veteran teachers and administrators. Lack of collegial support weakens a sense of belonging to the school community, and can negatively impact student experiences.

Four years ago, I noticed a large turnover of teachers at my school. At the same time, we were also pivoting to a deeper investment in career academies and adjusting to new



state leadership. District induction programs acutely focused on the teacher evaluation system, reducing training to checklists and triage response. I was currently serving as a career academy facilitator, but recognized our new teachers needed more support around pedagogy and site-specific praxis. With guidance from the National Education Association Teacher Leadership Institute, I created New Warrior PLC, a teacher induction and mentoring group for those new to our school to introduce and support school-based practices and priorities. The namesake was derived from our school mascot, and inclusive of new-to-profession and new-to-school teachers.

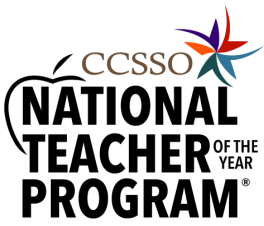
I structured our PLC to focus on the aspects of instructional design and the networking capabilities of smaller learning communities that I learned through various state and national professional development (PD) conferences and fellowships. Through New Warrior PLC, newer teachers have received training on career academies, supporting future first-generation college students, classroom technology integration, and participate in open and honest conversations to meet their immediate needs.

A thriving cadre of teachers, new and veteran, actively participate in the program. My principal continues to include it in our publicized PD offerings. This community sustains a practice that all teachers are learners, and even new teachers are leaders.

As our PLC grew and cycled cohorts, the pervasive need to compensate teachers for their professional learning remained. While I had no budget, I developed and implemented our first school-based, salary-advancement PD course so our new teachers earn credit for their learning in New Warrior PLC. Recent surveys demonstrate all 12 participating teachers recognized that New Warrior PLC improved their teaching practice, and made an impact on student learning. Responding to the needs of new and veteran teachers, I offered a course to advance the expertise of Google Apps in the next semester. This course timed perfectly with our transition to virtual learning during the global pandemic.

With the inclusion of PD credit opportunities, more veteran teachers engaged in New Warrior PLC both as participants and facilitators. We recently developed a course on culturally-responsive instruction that honors Hawai'i as a unique landscape for learning. We strive for new teachers to receive the most relevant training for their instructional needs.

Teachers have returned to meetings to demonstrate their new learning and strategy adoption, and share how student engagement has improved. For example, a teacher adopted a video technology tool discussed in the PLC to help students review math functions through peer-teaching, and homework participation rates doubled. She was so enthusiastic about her success that it inspired other teachers to implement similar techniques in their own classes.



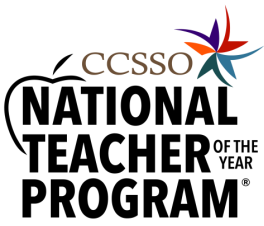
Another participant highlighted, “I learned and am still learning new things each session and also see new perspectives of things we discuss. Everyone gives input when they are familiar with something...or tried something successful or not. That is a huge help, hearing helpful things from everyone. I look forward to learning more things to utilize in class to help my students learn and be successful.”

I recognize that as a twelve-year veteran teacher, I am not the purveyor of all knowledge. I envision my role today and beyond as a mobilizer of innovation with the charge led by the instructional collective in my school and district, cultivating a sense of belonging to our school community.

3. How do you ensure that education transcends the classroom? Describe specific ways in which you deliberately connect your students with the community. How did you collaborate with others (e.g. colleagues, students, families) in this work? Please include evidence of student impact.

I believe that engaging students with their local communities helps them understand civic responsibility and become knowledgeable decision-makers. Our classroom experience is intentionally designed to mirror their home experiences and honor multiple worldviews. My pedagogy seeks to develop relationships between our classroom and our extended families. School is not a replacement or interim between time at home, but an experience that supports the intra- and intercultural development in our place. In our classroom, we hone our observational skills through reflection and storytelling. We believe both our content and community’s knowledge are worth investigating. In my role as a teacher, I strive to offer opportunities for them to find solution spaces, develop leadership, and invest in our community.

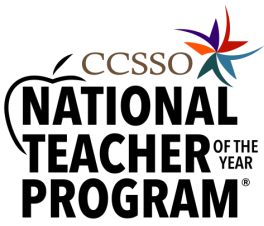
I design classroom activities around the perspective that learning happens when students find solutions for their own spaces in their own ways. In 2015, I jumped at the chance to bring the Advanced Placement (AP) Capstone program to our school, the earliest adoption in Hawaii. The course takes students on a two-year experience that develops dispositions and research skills that compare to undergraduate thesis work. To build the program, I partnered with our AP English teacher to develop a rigorous experience that honored the collaborative range of humanities and sciences. With mentoring, our students developed a wide range of solutions to problems that are emergent in our community. This included tackling the human trafficking epidemic through teacher education, discovering microorganisms for bioremediation, and assessing small business cybersecurity breaches. These investigations showcase how students question, explore, and engage in work they are passionate about. At the end of each year, learners are transformed into empathetic and informed leaders. The depth of their content knowledge is integral to the localized investment in our community.



I provide learning experiences that elevate our students as leaders in school and the community. In our Public Services career academy, we center our work around opportunities for students to visualize themselves as local leaders. For years, teachers organized career explorations and community service projects. The students lacked engagement, but more so lacked empowerment in the experience. In response, I developed our first Student Advisory Board to honor student voices from a diverse cross section of our academy, including future educators, first responders, and farmers. With coaching, students who were not typically in school leadership planned and executed a meaningful career exploration field trip for 120+ students. They made connections with local stakeholders, who in turn offered new internship opportunities. Students were engaged and energetic, and deepened their understanding of public service. As an academy, we continue to listen to and act upon input of our Student Advisory Board, and graduate our students ready to engage as public servants and leaders.

In 2016, the impending implementation of Next Generation Science Standards sent waves of unease through the K-12 science pipeline in our district. Knowing the lasting impact of a solid elementary science foundation, our AP Biology teacher and I partnered to develop Science Buddies, a program for AP science students to pull from their own science experiences, interpret the standards, and craft place-based lessons for elementary classrooms. Our goal was to have high school students make a direct impact on the next generation of science learners in their own community. What resulted were inquiry activities that were relevant, hands-on, and academically-rigorous for 250+ students for grades 3-5. Since launching, over 150 high school students have participated in Science Buddies. One participating senior reflected that this program strengthened her resolve to become a pediatrician in our community, and she learned greater patience and communication strategies while working with the youth. A few participating elementary teachers taught the AP student volunteers a decade prior. The results were three-fold. The elementary teachers saw the prolonged impact of their practice, the high school students' heightened sense of responsibility on the next generation of scientists, and the elementary students' deepened sense of belonging within our learning community.

In our work together, we invest in the impact of our reach. Each student in our class progresses through a personalized learning journey that is unique to their talents, experiences, and spirit. Our work is deepened by the applicability of learning as an extension of responsibility to others and the land. We strive to fill needs in our community, and bring attention to the attributes of our unique environment. By providing novel opportunities for students to dig deeper, they broaden their perspectives and view their educational experience as a way to contribute to societal innovation.



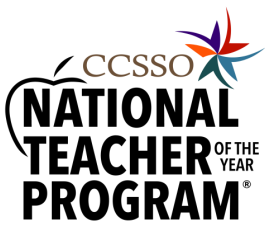
- 4. What do you consider to be a major public education issue today? Describe how you demonstrate being a lifelong learner, teacher, and innovator about this issue, both in and outside of the classroom walls.**

We must demand education that is “in place” rather than just “in case.” The foundation of our public school system is its centric location to the community it serves. At times, school is misunderstood as the gatekeeper to a successful life. Rather than repeat the colonial histories that carved hierarchy between school and home, the future of public education must recenter local communities and the land through the elevation and investment in the complexity and beauty of culture and stewardship. My call for this re-prioritization supports an “in place” model that navigates the reconnection between public education and its surrounding community.

School can no longer be where generic knowledge is passively acquired “in case.” Manufactured unit plans and boxed curricula only serve its distributor. Success is not made by distance traveled, but by the intricacies of our path. Knowledge must be cultivated with a persistent responsibility back to the communities our schools serve. As public schools transform and serve as hubs in the community, Native intelligence and generational knowledge can be held with equitable importance to the formulas and figureheads that we once memorized. Now more than ever, learning “in place” is paramount to the needs of our students, communities, and environment.

An “in place” system of learning honors the multiple layers of experience and stories within the community. Our natural environment shifts from the background setting to the main focus of our learning. Yearly, my research students and I work on a place-based project that directly serves a local need. When rescue frequencies increased on rural hiking trails, they developed an app for hiker safety. When our forest ecosystem was ravaged by an invasive fungus, they tracked the spread of native plant disease. As their work advanced, we leaned on community experts for guidance to deepen our understanding, and in turn shared our learning back to the school community. These experiences ready our students to be the listeners, thinkers, and collaborators that our community needs.

During the pandemic, responsive educational pedagogy accomplished a dramatic shift in instruction. Knowledge students might need “in case” (of standardized exam) was sent to the backburner. Teachers pared their lessons to the essentials, using innovation and personal passions to engage students in novel modes and droves. More than ever, virtual lessons relied on the lived experiences of students in their own homes. Activities shifted from a reliance on flashy technology to highlighting the stories and phenomena of our daily lives. Households and communities joined with schools to educate students in multiple locations and shared expertise. Learning (re)turned to emotion, reminding us that growth takes place in both heart and mind. Education prioritized and highlighted the resilience of families, communities, and ecosystems.



As we continue to think about how school will change in the near future, “in place” innovation will transform learning and leadership. A public school cannot be isolated from its surrounding community. School leadership, both teachers and administrators, must honor and cultivate relationships with community leaders, elders, and the land. Each of these stakeholders hold stories that have shaped the community and will continue to mold the future.

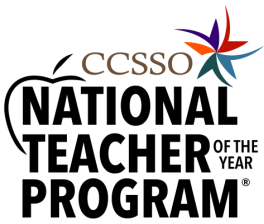
My learning and leadership are driven by my responsibility to the land and community that sustains me. My doctoral dissertation honors students as research partners in the investigation of how our identities and perceived responsibilities are informed by place-based and anti-oppression pedagogy. I partnered with the National Park Service to create a curriculum that connects geological processes and cultural stories to understand the 2018 Kilauea Volcano eruption on our island. These lessons demonstrate the coherence between Indigenous and Western science knowledge to explain geological phenomena. I continue to work with San Diego Zoo Wildlife Alliance to engage students in conservation research of the ‘Alala, the Hawaiian crow on the brink of extinction. Students are connected with innovative conservation practices stewarded by local researchers and practitioners on their own island.

Innovation “in place” has boundless opportunities. This year, I piloted professional development courses to pair Hawai‘i leaders and stakeholders with classroom teachers to create units around emergent issues of educational equity, food security, and land management. The reciprocal relationships between place and humans offer unique rigor to sustainable stewardship.

As a learner, leader, and innovator, I let go of the static “in case” framework to reconnect my learning and teaching to honor the community in its celebrated place. Strengthening “in place” conversations, practices, and systems will sustain the intimate relationship between public education, students’ homes, and all within our place.

5. As the 2022 National Teacher of the Year, you serve as a spokesperson and representative for all teachers and students. What is your message? What will you communicate to your profession and to the public?

As an environmental science teacher, I long anticipated the 50th anniversary celebration of Earth Day on April 22, 2020. We were in the midst of a global pandemic that uncovered layers of widespread inequity of health care, food security, and internet access. Yet, we depended on the commitment of scientific and social progress to see its end. This Earth Day celebration was an opportunity to reflect back and look forward. Just as our place deserves celebration, our profession needs the recognition of progress and must act on the vision towards an equitable and sustainable future.



In my birth year, the world saw the tragedy of Challenger and felt the effect of Chernobyl, events that changed trajectories of global technologies. While I was in school, the nation was reeling from Columbine and the 9/11 attacks. It invested in educational practices centered around personalization and American nationalism. I grew up strongly captivated by scientific innovation and was taught under the guise of science as the answer to global problems.

I saw science as my way out. In high school, I imagined the glory of leaving my small town in the Pacific and becoming somebody in a big city, dreaming of bigger and better ends. I was fortunate enough to experience the East Coast, 6000 miles away from home. Dabbling in engineering and computing, I found solace in biology and conservation, topics that centered around the places I left.

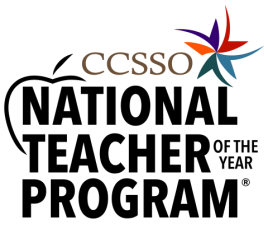
And so, science became my way back home. What I had been running from made me who I am. When I was apart from the biodiversity and cultural stories, I discovered my purpose and passion in education and place-based pedagogy. I am a product of my place, of the cultures that raised me, and the community that built my knowledge and resolve.

Teaching is a profession that looks globally and acts locally. Students studying the movement at Standing Rock can apply parallel analysis to the events at Mauna Kea. The impact of scientific innovation must be integrated with economic, political, and social implications on our environment and communities. We are now witnessing important advancements in honoring Indigenous communities and sustainability.

But there is progress to be made. As teachers, many of us were privileged to experience success in an educational system that was geared to alienate and separate. We were taught to value test scores, grades, and accolades as badges of learning. We now know better. Through our words and actions, we will dismantle the hegemony of the traditional educational system. Agency and voice is progress but certainly is not enough. We must collectively cultivate a learning culture that truly values our students' funds of knowledge and incorporates community into the classroom and content.

We teach with passion and empathy. Science and innovation cannot be devoid of that same emotion. We must support endeavors that recognize place as foundational, and continue to value Indigenous knowledge that supports sustainable futures. The first Earth Day set intentions of environmental protection, but the process deepens the product. Engaging in a practice of Earth Day everyday, a continued action, moves our impact.

My message is this: Teaching is a radical praxis of our place and our cultures. Learning is holistic. Yet, too often students are asked to leave parts of themselves at the door. We must activate the hearts and minds of our students through an immersive cultural



context that honors our place and people. My students, my two children, and I learn deepest in this way. In Hawaii, we teach (with) aloha. Not just the practice of kindness; the reciprocity of reverence with land and people. Teaching is the calling to empower a sense of responsibility in students to learn and produce meaningful artifacts of knowledge in partnership with our communities. Through this platform of service, I aspire to elevate a message of learning that recognizes place as foundational and transformational.

What world will you imagine in the next fifty years? Don't lose sight of it. Let us empower all students to not only imagine but create, question, and empathize with a world that allows their many intelligences and worldviews to be honored. We must ensure that our students see themselves represented in the curriculum and that our teaching reflects our place and our people. Let us continue to help our students to serve the communities that help them thrive. If so, in fifty years, we will see a world that is inclusive, sustainable, and filled with aloha for people and the environment.

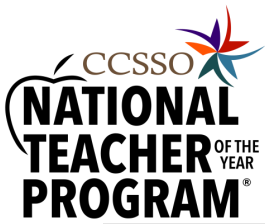
Resume

Education

School Name	Degree	Major	Years Attended
University of Hawaii at Manoa	Ph.D. (Candidate)	Curriculum & Instruction	2019-current
University of Hawaii at Hilo	M. Sc.	Tropical Conservation Biology and Environmental Science	2008-2012
Swarthmore College	B.A.	Biology	2004-2008

Certifications

Certification	Year Obtained
Hawaii Teacher Standards Board: STEM, Online Teaching	2019, 2021
Google Certified Educator, Levels 1 and 2	2017 (renewed 2020)
National Board Certified Teacher	2014



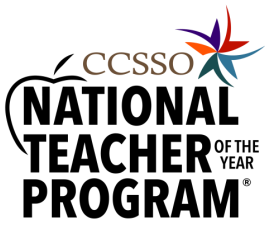
Swarthmore College Teaching Certificate, Secondary Mathematics	2008
Swarthmore College Teaching Certificate, Secondary Science	2008

Work Experience

Title	Organization	Years in position
Classroom Teacher	Waiakea High School	2011-current
E-School Online Teacher	Hawaii Virtual Learning Network	2013-current
Teacher-Ranger-Teacher	National Park Service	2019
Classroom Teacher	Hilo Intermediate School	2010-2011
Summer School Director	Waiakea High School	2009-2015

Leadership Experience

Position	Organization	Years in position
Teacher Partner	San Diego Zoo Wildlife Alliance	2018-current
New Warrior PLC Teacher Leader	Waiakea High School	2017-current
Social Media Ambassador	Hope Street Group	2018-2019
Hawaii State Teacher Fellow	Hope Street Group	2016-2018
Career Academy Facilitator	Waiakea High School	2014-2018



Award or other recognition

Award/recognition	Year received
State Finalist, Presidential Award for Excellence in Science and Mathematics Teaching	2019, 2021
State Finalist, Samsung Solve for Tomorrow	2013, 2016, 2017, 2018, 2019
Texaco Teacher of the Year, Hawaii State Science and Engineering Fair	2018
Grant Recipient, Hawaii Dept of Education Innovation Grant	2018, 2020
Honor Roll, Fishman Prize for Superlative Classroom Teaching	2016