

# Sustainability Hero



November 2023



## Clare Ng

**Science Teacher, Marine Academy of Science and Technology  
Monmouth County Vocational School District**

For the past 18 years, Clare Ng has been a science teacher at [Marine Academy of Science and Technology](#) (M.A.S.T.). Her commitment to teaching and mentorship, combined with the hands-on educational environment at M.A.S.T., inspires students to be sustainability leaders and equips them with the knowledge and skills they need to excel in a dynamic world.

The daughter of a diplomat, Clare has lived around the world and speaks five languages. Her appreciation of different cultures and diversity is one of the many strengths she brings to her teaching. She is the Monmouth County Vocational School District Curriculum Coordinator and coach for Diversity, Equity, Inclusion and Access training for all staff. With the help of a [Sustainable Jersey for Schools grant](#), she developed programs for the high school that celebrate diverse voices and cultures. Clare explained, "M.A.S.T. recognizes the importance of creating safe and brave spaces in our classrooms and fostering inclusivity in our community. We work to equip staff and students with important 21st century skills to hold critical discussions surrounding our identity and learning environment." Clare has been a co-presenter at [Sustainable Jersey for Schools events](#) on topics that range from school diversity to climate change education. She shared her experiences as a speaker on the [Advancing Equity in our Schools and Communities](#) panel at the 2023 New Jersey Sustainability Summit.



Located within Gateway National Park in Sandy Hook, M.A.S.T. is a four-year college preparatory program with a thematic, research-based focus on technology and the marine sciences. Clare was the 2021 M.A.S.T. Teacher of the Year and a nominee for the Presidential Awards for Excellence in Mathematics & Science Teaching in 2019 and 2021. Passionate and hardworking, she is a standout educator who continues to raise the bar for academic standards and the learning experiences at her high school.



Clare said, "Students are aware of climate change but can feel helpless. It's my job as their teacher to facilitate projects and direct them to the actions that enable them to have an impact. The reward is to see a student take this first step and then take it to the next level on their own." All M.A.S.T. students take three years of expanded laboratory science and marine technology/engineering courses. Clare takes her classes on the R/V Blue Sea, a 65-foot research vessel owned and operated by M.A.S.T. Clare said the high school's lecture, laboratory experiences and vessel activities are incorporated into each marine science and technology course.

Clare is a M.A.S.T. advisor for the National Honor Society, the Marine and Environmental Science Club, and the current Senior Class advisor. She is a coach for the National Ocean Sciences Bowl and Envirothon. She serves on the executive board of the [New Jersey Marine Education Association](#), [Alliance for New Jersey Environmental Education](#), and on the Stakeholder Advisory

Board for the [New Jersey Sea Grant Consortium](#). She is a member of the [New Jersey Science Teachers Association](#) and the [National Marine Educators Association](#). Clare is a professor at Brookdale Community College. She is a Flipgrid and Google educator and is EdPuzzle and PearDeck certified.

**2023 Sustainable Jersey for Schools Certification:** Clare led her green team and school to achieve Sustainable Jersey for Schools certification in 2023. “Sustainable Jersey for Schools provides actionable tasks that schools and districts can do to incrementally increase their sustainability program. Working toward certification is the perfect way to tackle something that can seem daunting,” said Clare. Achieving certification was a team effort by administrators and teachers including Superintendent of Schools Dr. Charles Ford; M.A.S.T. Principal Earl Moore and Research/Oceanography teacher Liza Baskin. For more detail on the sustainability actions the school completed review the [2023 M.A.S.T. Sustainable Jersey for Schools Certification Report](#).



**Diverse Voices Book Club and Diverse Cultures Food Club:** Knowing that she wanted to expand the diversity, equity and inclusion at M.A.S.T., Clare applied for and received a \$2,000 [Sustainable Jersey for Schools grant](#) funded by the [New Jersey Education Association](#) to support her vision. Using the grant, Clare attended a summer conference, offered by the [Institute for Teaching Diversity and Social Justice](#), to receive professional development. “After my training, I was able to offer instructional delivery and content material to all staff to better support diversity, equity, and inclusion initiatives at our school,” she explained. The grant funding also allowed the staff to purchase multi-cultural books that highlight both diverse authors and perspectives, through LGBTQ+, BIPOC, immigrant, non-Christian lenses in Young Adult literature. English Language Arts teacher Christine Rockwell-Wardlow and Clare, along with the support of administrator Kelly Harmon, established a Diverse Voices Book Club that meets regularly during lunch to discuss the different themes and perspectives. This year, the school is supported by a grant from the [Monmouth County Retired Educators Association](#) that continues to support the work to expand the book club’s reading collection. Clare explained, “The book club allows us to engage students in civic issues and a positive learning environment where all can thrive.” The school plans to build a free library on campus so students will have access to many diverse literatures at all times.

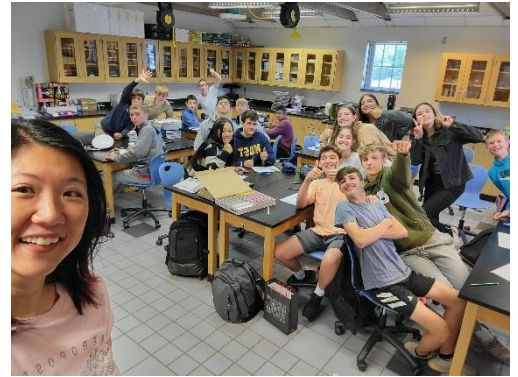


In addition to the book club, Clare and Christine established a Diverse Cultures Food Club. Like the book club, the Diverse Cultures Food Club brings the community together to learn about cultures and food. Clare said, “Food is at the heart of our celebrations and traditions. It’s the perfect way to share another’s culture and perspectives, and everyone comes out for good food!” The food club thus far has celebrated German Oktoberfest, Indigenous People Harvest, Lunar New Year, Lebanese Fest and more.

**M.A.S.T. Partnership with Clean Ocean Action:** M.A.S.T. works closely over the course of the year with [Clean Ocean Action](#), a non-profit organization located on Sandy Hook. M.A.S.T. has partnered with Clean Ocean Action for decades on statewide beach clean-ups, called beach sweeps. The high school provides volunteer leaders who spearhead and guide the public on the sweeps. Led by Research/Oceanography teacher Liza Baskin, M.A.S.T. students are the bus captains, beach captains and registration captains who organize, direct and supervise the public in the beach cleanup efforts. “The student volunteers are empowered to serve as advocates for the ocean at this event,” Clare said. “Clean Ocean Action provides leadership and the opportunity for the MASTies to put their marine science knowledge and their career soft skills to work. Engaging students with civic and stewardship service organizations and projects provides real-world skills and creates personal connections to sustainability causes.”

M.A.S.T. also provides all the educational delivery for the annual Ocean Student Summit, which aims to educate middle school students on ocean awareness and conservation for a two-day conference at Sandy Hook. M.A.S.T. students actively volunteer as the youth advocates leading and teaching each booth and activity, in partnership with Clean Ocean Action. M.A.S.T. received ten Sustainable Jersey for Schools certification points for this work through completion of the action: [Civic & Stewardship Volunteer Initiatives](#).

**Curriculum Mapping and Education for Sustainability (EfS):** Teachers and administrators in the Monmouth County Vocational School District (M.C.V.S.D.) came together to document and share with each other the methods they are delivering curricula for different subjects, grade levels and classrooms. For the curriculum mapping exercise, M.C.V.S.D. adopted the Rubicon Atlas and Understanding by Design framework. Clare developed and delivered the curriculum map for Marine Biology and Environmental Science curriculum, working with Science Coordinator Danielle Jensen and science teacher Mae Skrba.



Clare said, “We examined the existing curriculum that was developed and integrated Education for Sustainability standards and performance indicators into the curriculum map for Environmental Science across multiple units.” The mapped curriculum makes the process of integrating Education for Sustainability into PreK-12 curriculum more effective.

Education for Sustainability is based on the premise that the world is made up of various systems—natural systems, such as streams and forests, and human-made systems, such as economies, societies and built infrastructure—that are all inextricably linked. It prepares students for their roles in creating a sustainable future by engaging them in solutions-based design and action that integrates knowledge across different disciplines and that considers diverse social, economic and cultural perspectives. These skills and approaches also position students to perform more successfully across the school curriculum and prepare them for higher education and careers. M.A.S.T. received 15 certification points for completing the Sustainable Jersey for Schools action: [Curriculum Mapping](#), and an additional 30 certification points for completing six different Education for Sustainability actions under the Student Learning category.

**M.A.S.T. Summer Camp:** In summer 2023, Clare, and her teaching colleagues Liza Baskin and John Cuttrell, with the support of M.C.V.S.D. administrators Kelly Harmon and Earl Moore, led two, free week-long summer camps for eligible middle school students from Asbury Park, Neptune City and Neptune Township. The camp took place at M.A.S.T. and students were provided bus transportation from their town and lunch as part of the camp. The summer camp was made possible through a grant initiative to increase science, technology, engineering and mathematics (STEM) in the community. The camp provided students with unique experiences like beach seining, hands-on engineering and learning on the 65-foot M.A.S.T. research boat.



M.A.S.T. research boat.

**More About Clare:** Clare was born in Cologne, Germany and graduated high school with an International Baccalaureate diploma from Taipei American School in Taiwan. She moved to the United States when she was 18 years old to attend Barnard College of Columbia University. She has a B.A. in Biological Sciences from Columbia University, an M.S. in Ecology and Evolution from Rutgers University, and a M.A.Ed. in Natural Sciences and Environmental Education (NSEE) from Hamline University. Clare has been a recipient of a NJ Department of Education Climate Change education grant, Hamline University NSEE leadership scholarship, and [Manasquan Marlin and Tuna Club Scholarship](#). Clare is a mother of two children and enjoys photography, cooking, hiking and walking her rescue dog, a Labrador mix, named Kelly. Clare has also been a member of [Mensa](#) since she was 10 years old.

