The students wrote request letters and even created an online presence for the project on the forum 'Reef Central'. Inspired adults would see them in action and contact Brandon to contribute.

This classroom learning program required students to perform various 'hands-on' activities on a regular basis. These included: water testing and water quality maintenance, daily measurements of pH and salinity, water changes & mixing saltwater, feeding the livestock, cleaning & adjusting skimmer/calcium reactors, basic aquascaping and placement of coral, basic coral propagation including fragging, glass cleaning, and killing aiptasia.

Several student leaders nominated themselves the '*reef bosses*', a title which conveyed their expertise in all areas of aquarium care and required sacrifice of free time to learn more complex tasks. These included adjusting and maintaining the equipment, interpreting the water test data, and proper placement & care of the corals. It was also their duty to effectively communicate and share their knowledge with the other students and to delegate & supervise other students with daily tank chores. These students were also tasked as '*reef ambassadors*', teaching other classrooms how to take care of their new tanks when they received them.

Brandon first launched his Aquatic program in Garden Hills Elementary, a Title One school with over 80% of the students receiving free and reduced lunch (indicator of poverty). His third-grade gifted class had 23 students. Following Brandon's success, two additional tanks were setup at Garden Hills Elementary. The first classroom display tank was 120 gallons with a homemade 40 gallon long sump and a mud refugium.

Initially, Brandon was unsuccessful in receiving grants and donations. He decided to fund the project himself and invested 25% of his annual salary. This was critical in getting the project started and building belief & support for receiving donations. Initially skeptical teachers that complained about the mess became supportive after witnessing the level of student engagement.

Students originally not interested in learning have become fascinated with science, and shy students have taken on leadership roles all around the school. Third grader Scott is one stellar example of the huge impact this program can make on a student's life. Scott was not one of Brandon's students, but he would come to see the tank every morning before class started. Despite Brandon's identification of a 'spider crab', Scott insisted it was actually an 'arrowhead crab'. He was so passionate about the subject, Scott walked to the library in order to prove his assertion. Since then, he has become a most informed source for information on marine invertebrates at the school. His new thirst for knowledge has encouraged him to read college-level texts and share his insights with others.

Similarly, students were also pushed out of their comfort zones and even learned bravery. When the class hermit crab, infamous for its large claws and fast speed, needed to be transported from quarantine, none of the students were brave enough to pick it up. After an awkward silence, the once shy Julio suddenly found his courage. He rolled up his sleeves, pushed his way through the crowd, and picked up the crab without hesitation. This meaningful moment made Julio a class hero and gave him a new confidence.

Brandon built up his reefs and spent his money wisely by focusing on corals and invertebrates instead of fish. Tank inhabitants were predominately soft or LPS corals, mushrooms, and polyps. They also had orange tree sponges, several different gorgonians, and a large tentacle anemone. Fish included ocellaris clownfish, chromes, blenny, and damselfish. Invertebrates included brittle & serpent starfish, reef cleaner shrimp, coral banded shrimp, spine urchins, lobsters, and various crabs & snails. Almost all of the livestock were donated or purchased locally from Craigslist.com.

To help reduce problems caused by overfeeding, Brandon strategically chose to invest in large skimmers. The tanks were designed for learning purposes, rather than for display. Making sure all equipment was readily accessible for the students was essential.

FOR MORE INFORMATION : www.MrRutherfordIsAwesome.weebly.com

"Our project couldn't have grown without reef keepers selflessly donating money or products. Most of the support we've gotten has been from individuals or small family-owned companies like ***Aqua Craft****. These were people taking a cut out of their profits or a portion of their paycheck to help out kids they'd never met before. It has renewed my faith as both a teacher and a person."*
-Brandon Rutherford

" It was fun but I knew that if we didn't take it seriously, something bad would happen to it. The corals might die, I really like them. " - Jenna Purnell

"We had to be very careful not making mistakes like accidently knocking the coral over or smashing something. You have to be really gentle if you're cutting the coral when you frag them." - Elisha Ebes

"I like that we can actually have science projects, it doesn't feel like we're learning because it's so much fun, but we actually learn a lot. I really liked being a reef boss, it's sort of like being a teacher, you have to explain everything step-by-step. My friends were good students, because they would make listening faces when I would tell them things. I felt like I was being a leader because I had to teach everyone else and make sure they did the right thing. I want to be a vet when I grow up, so this helped me learn more about different animals. -Kaylee White

Brandon has ambitious goals for the future. He has recently transitioned to Stratton Elementary, a school that shares his vision. Stratton's aquariums are centrally placed in common areas so teachers can have access without disturbing other classrooms. The last classroom period at Stratton is set aside for schoolwide instruction, where students leave their homerooms to learn specialized lessons from other teachers. Interested students from all different grade levels can participate in the Aquatic Learning curriculum.

Locally, he is launching a K-5th grade marine biology program and creating a fully integrated aquarium curriculum so others can reproduce his success. He is also writing an instructional manual teaching the beginner aquarist how to care for reef tanks. ◆