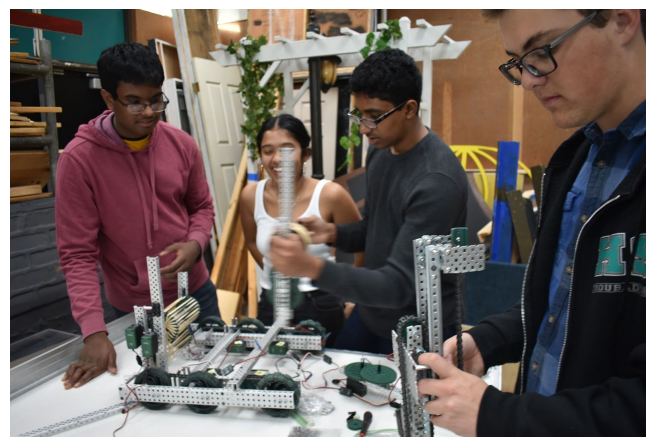


In Vex Robotics, robots are able to function with the conjunction of parts such as gears and axles and the cortex and controller. These accessories are drastically distinct by looks; however, they are crucial to each other's function. These corresponding parts allow robots to advance along the competition field. Similarly, with a diversity of individuals having different skill sets, the team was able to make strides towards success in terms of the engineering process. Among these strides, smaller steps towards female empowerment arose within our robotics team that allowed us to create a strong standing girl powered initiative which was comprised of women exhibiting their confidence and ideas within the team setting. Our team's shared persevering mindset allowed women to emerge as leaders with strong tenacious attributes. Tenacious nature is characterized as extremely determined in seeking some aspect that is desired. Women on this team were insistent on building a more than exceptional robot, willing to learn anything that was necessary. From tenacity roots emotional intelligence in the sense that without perseverance through overwhelming emotions during failure, the team productivity may have halted. The ability to comprehend emotions by women within the team, allowed the team to prosper. Eventually, the way that women seek to understand emotional conflicts diffused to the remaining team members, enhancing everyone's skill set. By introducing a girl-powered ambition within our robotics club, we created an increasingly collaborative and creative team dynamic.



In the current competition season, many women have directed their time towards bettering themselves within robotics; although, this was not always as diverse as we look into our robotics program in its previous years. In February, 2018, one of our motivated female members took her first step into the robotics spectrum. We quickly observed that the club was male dominated, which related to the lack of women in the STEM field circulating in the media. During that time, numerous articles surfaced through the internet, undermining the abilities of women to excel in STEM. Over time, our team has disregarded the topics of contention, and has channeled positive empowerment of female STEM involvement within the team. As we look back at the experience, we noticed many more females have joined the club since that time, due

to the encouragement and good experiences of previous women members, supported by the phrase “girls supporting girls.” As one of our empowered female team members says “we were in awe of seeing this phrase come to life.” During May, 2018, the new beginning arose to better the ideals of the VEX teams. At that moment, there was a singular VEX team comprised of purely men. When girls had the opportunity to be on the vex team, they seized it immediately. This was a monumental step for our Robotics Club, as girls would now be able to perform at a higher and more competitive level. As one of our board members explains, “to keep our club as inclusive as possible we expanded our teams from one to three teams. We made sure to keep our teams as balanced in term of gender because we understand that everyone has potential.” This brought more diversity to the competitive spectrum of robotics and made each team more acclimated to the characteristics of tenacity and emotional intelligence that would spur a renewed ambition of robotics for all.



When our team first assembled, each individual withheld different skill-sets in the field of robotics; however, due to the lack of experience, the members were unable to identify their strengths and weaknesses. Correspondingly, the initial responsibilities were assigned to the new members regardless of their experience to provide them with more exposure. Team members with more experience mentored new members to find their interests and build their knowledge. As time passed, the team developed the robot’s design and members were able to identify their interests in robotics. Many members were able to thrive in fields of robotics they had never encountered before. One member describes her experience by explaining how, “Before joining robotics, I never placed myself in positions to diagram projects to record progress. However, being appointed ‘Sketch Artist’ has allowed me improve upon a weakness.” Our team’s efficiency increased when each member increased mastery of these skills. Tenacity developed throughout the building process, as many of the girls built their knowledge and grit. Our team contains diverse members with various perspectives when problem solving, which allow for innovative solutions to problems to be developed ultimately helping the team’s success. These diverse skill sets stem from biological processes in the brain that push individuals to perform in

an individualized manner. According to Stanford Medicine, men and women scientifically inhibit different skills and brain processes. For example, women are found to “surpass men in fine-motor coordination and perceptual speed” and are “more adept at retrieving information from long-term memory.” Meanwhile, men “remember things in working memory” and have “greater visuospatial skills.” After reading this statistic from an acclaimed university, we noticed that the distinct motor skill sets in the men and women of our team contributed greatly to the overall goals in our VEX club. As our team became more familiar with one another, we were able to adequately navigate our way through the intensive nature of VEX and increase efficiency through new, innovative ideas.



In essence, as more females have joined robotics, the horizons of robotics and its gender specific misconceptions have expanded. As obstacles have surfaced, the grit and ability to navigate through emotions dispersed among society, allowing greater performance in STEM. Despite combating the oppression she felt as people commented on her ability to think quickly based on her gender and race, strong female figures such as Katherine Johnson used this act of unjust subjugation as a strength to make self-derived mathematical contributions to NASA. Her memorable achievements paved the way for future generations of women in STEM by portraying that regardless of race, gender, or social class, one can greatly impact lives. These strides toward diversity start small, as can be seen within our robotics club. As our Chapter President emphasizes, “we marketed that the club would be beneficial for all people, regardless of interest in engineering or stem... we garnered interest from people of many different ambitions and backgrounds.” In terms of our teams, many of the members do possess contrasting

aspirations and upbringings; however each member is connected through one underlying principle. One fundamental principle that shakes the very foundations of VEX and it's inclusivity: the eagerness that as a team, inflames a world of design, heights of innovation, release of creativity, and the consistency of hard work we possess in our STEM stimulated minds and illustrated qualities, truly embracing the girl-powered initiative.

Credits:

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Team 1351 Y

Movement Towards a Girl Powered Initiative: Our Vex Robotics Journey