

Surrounded by endless tools and an ever-growing imagination, my six-year-old self sat on the floor in a state of pure bliss. My small hands carefully maneuvered each stick, considering my next move. I was approaching the production of the best moveable model of a car the world of my kindergarten classroom had ever seen. Ever since I was young, I was fascinated with the existence of Tinkertoys. The possibilities were infinite as I could create many contraptions with a simple set of pegs and wheels. This interest stayed with me as I entered the various engineering and robotics programs offered by my middle school. One day during my seventh grade year, I was in my intro to STEM class when I was suddenly hit with a realization: that the majority of my class was of the opposite sex. To my knowledge, the school was equally composed of males and females, so this classroom setup did not cohere. I thought the idea that only boys did robotics was a myth, but I later understood that many girls in my grade continued to hold this outdated belief. Soon enough, I brought the subject up to my peers who also shared the same opinion. I am proud of the initiatives my district has taken to make females feel more welcome joining the action. The phrase “girl-powered” represents the infinite opportunities available when we create an inclusive work environment. When we welcome those of every background, gender, race, or orientation to join us and disregard conventional notions of who fills each role, our team is strengthened and reaches its highest potential. Additionally, girl-powered can be teams that allow room for all members to take part in every job. The inclusion of a diverse set of people as well as flexibility in the usually traditional roles is essential to this movement.

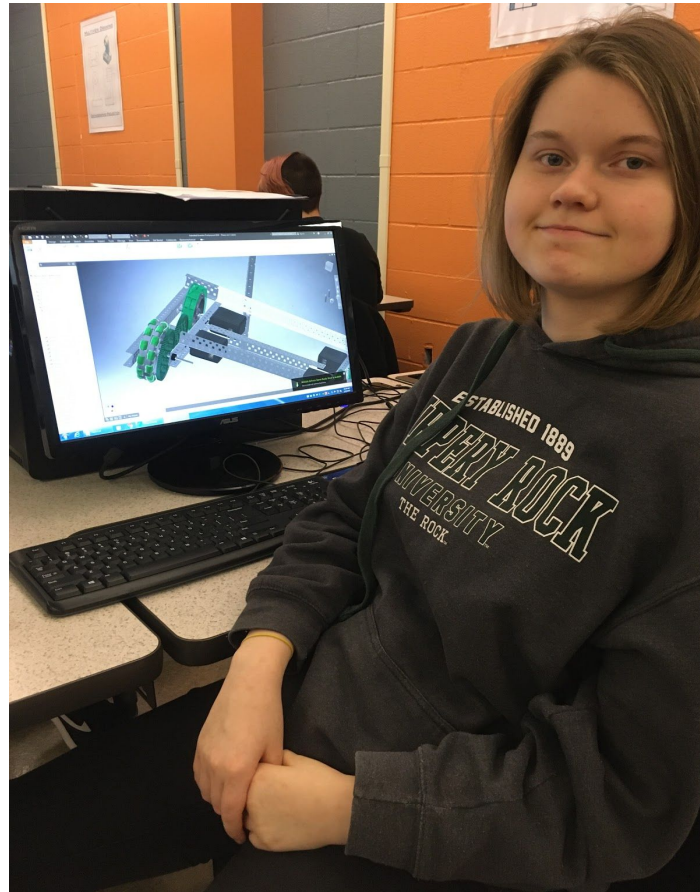


To show their support, our school sends female students to our local community college to learn about underrepresented career fields for women. This field trip offers an educational experience with guest speakers and opportunities for job shadowing.

I can affirm that our robotics program has long forgotten the traditional male-centered idea of a team. As the world has changed to be more female-empowering in the past century, there is a visible change in the faces of our school's STEM program. Few classes come close to matching the diversity the engineering department gathers. The ratio of females to males is increasingly shrinking. On our particular team, we have three girls and two boys. Though joining the robotics team at our school is accessible to anyone, many girls hesitate to commit. This reluctance is due to the inherent fear of an environment thought to be male-dominated. To increase the potential our program holds, we support underclassman girls who have a strong aptitude for the subject. There is nothing more rewarding than encouraging talented individuals who may change the world.



After all, they are the future of our VEX competitions.



When first forming the roles on the team, we looked at each person's skill set objectively rather than determine jobs based on stereotypes, even if the final decision differed with our prior expectations. For instance, when choosing the driver, instead of defaulting to the male who did it last year, we ran a decision matrix to fairly choose the most suitable for the position. The first couple of weeks served as a flexible period where every member became familiar with each role and their strengths. Likewise, those with hidden potential in certain areas of robotics were soon to be discovered. Though her original job was programming the robot, our one teammate, Mariah, found that she was the best at creating CAD models. To this day, she continues to assist our main programmer, while further exploring her newfound skill.

As another component of diversity in knowledge, allowing the lines between roles to blur is conducive of new ideas. Our team is proficient in allowing everyone to provide their unique perspective in every aspect of robotics. Sometimes a fresh eye can solve the most complex of problems. By recording every modification of the design, the notebook writer may see the issue from a larger scale. Moreover, someone who knows the robot's design by constructing the CAD models and prototypes also provides an insightful perspective.



When we call group meetings, everyone regardless of role is included to offer the largest pool of ideas. Our philosophy makes no room for carrying unnecessary weight on the team, so we guarantee that everyone is given an equal say in every matter. The key to working effectively is to show teammates that their opinion will be respected, even outside of the workshop. This builds more chemistry and cooperation as a whole.

In a grander sense, the robotics program at our high school can lead women to pursue STEM-related careers in the future. The basis of work effort and knowledge that we are developing will undoubtedly benefit us if we choose to further our education. I recognize renowned NASA mathematician Katherine Johnson as the famous individual who best represents our team's values.



In her time, Johnson fought both sexual and racial discrimination, going on to perform calculations that ultimately bring US astronauts back to Earth. Without her contributions, NASA would be far from their current technological advances. She went on to receive the Presidential Medal of Freedom from President Barack Obama in 2015. Though the inclusion of African-American women in the NASA program back then was taboo, she pushed these unfair social boundaries and set a new standard for organizations everywhere. Katherine Johnson inspires us to create a successful program by prioritizing inclusivity and not silencing certain people because of differences.

Girl power paves the future as we know it. The increasing availability in STEM programs opens opportunities for brilliant women as well as a better, innovative world. It is undeniable that more can be done to encourage young girls to enter STEM fields. Our team is proud to be a part of the movement of inclusivity, and we will strive to make further advances for the good of unheard women everywhere.

The Strength of Girl Power
Team 16101X Robotics
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