

Movement
1241 Chairman's Essay 2016-17

For the last 13 years, our family has been on a journey to empower each and every individual we come across. Fueled by our passion to spread STEAM opportunities, we have reached our goal of creating a united movement in our local, national and global communities. Through our programs, we have created the foundations necessary to help individuals reach their full potential and integrate them into the *FIRST* family. As role models and ambassadors for *FIRST*, our movement is shifting traditional thinking by giving others the confidence to be difference makers in their communities. We are *FIRST* Team 1241: THEORY6, and we are channeling our passion for creating change by expanding our movement to and beyond our own community.

In 2014, we formed Team 1285, a successful second *FIRST* Robotics Competition team within our school. By catering to the demand for robotics at our school, the second team provides all members with the opportunity to pursue their interests. Last year, we introduced the junior and senior team structure that helps increase our sustainability. The junior team, Team 1285 is developing leaders who are able to teach each other and still devote time to their own learning. The two team dynamic enhances our students' experiences while encouraging them to continue with *FIRST* by return to mentor. By accelerating students' growth, we are helping them reach their fullest potential in order to become role models in the community.

We pride ourselves on our inclusive environment where females are given opportunities to grow, step outside their comfort zones, and exceed their own expectations. Since 2013, we have been participating as an all-girls team every year at an off-season competition, promoting a culture which emphasizes women in STEAM. This has proven to be a powerful tool to encourage active participation of females on our team while building confidence and creating inclusivity across all subteams. This continues to impact our female students even after they graduate, with 66% of them returning as alumni mentors; many of whom are leading subteams. We are leading a culture shift and changing mindsets by creating opportunities for women pursuing careers in STEAM related fields.

We help others in *FIRST* maximize their potential by supporting them in overcoming obstacles. Through our *FIRST* Canada Super Hub, one of three in our country, we offer our facilities to any *FIRST* teams, both rookie or veteran, that need our assistance. In the past two years, we mentored 7 teams by providing them with technical and non-technical advice. At competitions, our "A-team", assists any team to ensure they are functioning at their best. We have donated 3 of our robots to rookie teams, to use as a learning tool. Additionally, for the past four years, we have assisted new teams in the assembly of their drivetrain at the annual *FIRST* Canada Quick Build event on Kick-Off. By providing workshops at other teams' conferences, we share our expertise while building stronger connections. Our team supports our school board with *FIRST* LEGO League and *FIRST* LEGO League Junior programs through teacher workshops and expos. By sharing all of our knowledge and resources, we build confidence in other teams and individuals, enabling them to achieve their goals and improve sustainability.

In 2012, we founded the Library Program which provides opportunities for all youth to participate in STEAM through interactive workshops and one-on-one mentoring. This program broadens exposure for children to *FIRST* and STEAM. Our library curriculum includes basic mechanical concepts, simple machines, programming, and the development of interpersonal skills. Our program has impacted over 3,500 students in our community over the past five years. Through our Library Program, we have drawn attention to *FIRST* and incorporated a STEAM curriculum into libraries. The magnitude of our program led to a partnership with *FIRST* Canada in 2013. Through online "How To" guides, webinars, and 54 workshops, the program has grown to 12 other libraries across Ontario. *FIRST* Canada is now providing funding to implement this program into libraries province-wide. Our library initiative has led to the creation and mentorship of 19 community *FIRST* LEGO League teams and 6 *FIRST* LEGO League Junior teams.

We have sparked creativity in the youth of our communities by adding a hands-on learning experience to the conventional library, creating an environment focused around innovation and STEAM learning.

Our team is paving the way to providing every student in *FIRST* with recognition and tangible evidence for the skills and expertise they attain through the programs. Our Badge Program was developed to recognize personal achievement and acquired skills, based on a curriculum established in line with the standards defined by the Ministry of Education and *FIRST* Robotics Canada. In our pilot year, over 800 students earned badges based on their years of experience at the 2014 *FIRST* LEGO League Ontario Provincial tournaments. In 2015, we partnered with *FIRST* Canada to expand the program to a national level; currently impacting over 8,000 *FIRST* participants. This paved the way for our introduction of the Safety Badge at regional events across Ontario in 2016. This year, with the growing demand from other *FIRST* programs, the Badge Program expanded to include *FIRST* LEGO League Junior, *FIRST* LEGO League, and *FIRST* Robotics Competition Mentor and Safety badges in both English and French to recognize Canada's bilingual diversity. With *FIRST* Robotics Canada, we are constructing a testing system for various skills obtained in the *FIRST* Robotics Competition program. These certifications will allow post-secondary institutions and industry professionals to easily recognize accomplishments that set *FIRST* students apart from others. Through the Badge Program, we have transformed the way *FIRST* recognizes every student's achievements and skill sets.

We believe that no distance is too far when it comes to spreading our enthusiasm of *FIRST* to others. Our Beyond Borders program works with youth around the world to spread awareness of *FIRST*. Our team has collaborated with schools across the globe, in Denmark, Singapore, China, and are now working with Zimbabwe and Sri Lanka. While in Singapore, our principal presented *FIRST* to international schools as an effort to show them the monumental impact it can have. As a result of this connection, we helped facilitate a Singapore team's expedition to a Canadian regional the following season by billeting their students in our houses. To expand the international reach of *FIRST*, we have held 4 webinars with an ESL class in China to teach them about mechanisms and electrical systems using robots, which were based off our Library Program curriculum. We held Skype meetings and webinars with teachers and administration at a school in Zimbabwe and sent starter kits for robotics, creating a foundation for STEAM education in their schools. Items in our starter kit for Sri Lanka include a Championship winning drive base and other essential parts. We are virtually connecting with students to provide mentorship which will help them form a *FIRST* Robotics Competition team for the 2018 season. We want every school to have an opportunity to access STEAM education regardless of their location or resources. Our goal is to work with youth and build leaders who will empower others to drive *FIRST* programs internationally and nurture powerful movements within their own communities.

The New to Country (NTC) Program was developed to promote diversity and inclusivity, connect newcomers, and help integrate them into our community. Our team recognizes the strong immigration rates in Canada, with over 400,000 immigrants in the last year alone. Through our Peer to Peer Volunteer Program, we work with school board settlement workers to introduce NTC families to a STEAM and *FIRST* environment. This year, 27% of the volunteers at our *FIRST* LEGO League Qualifier tournament were NTC volunteers, with over 85% of them being girls. We established handbooks in multiple languages containing information about community involvement and *FIRST* opportunities. Our team also created a "New to Country Guide" that helps other *FIRST* teams bring programs to their schools to help engage and integrate newcomers into their community. We were able to meet Canada's Minister of Immigration and are working towards creating an awareness in our government to build a strong foundation for a NTC Program within more schools and communities. Through our strong partnership with our sponsors and mentors from Pratt and Whitney Canada, we are collaborating with the international organization United Way and their partner agencies. We developed and implemented robotics workshops for newcomers in order to broaden their interest in STEAM and present them with the opportunities that exist within schools in our community. Our team believes in the power of diversity. We are building an

inclusive, encouraging environment where everyone has the opportunity to be involved and engaged with *FIRST*.

Our team's story is about the differences we are making through the foundations we have established to help others build their own movements. By uniting teams we are forming communities, building on the concept of a library, propelling student achievement through recognition, fulfilling the need for STEAM beyond national boundaries, and turning immigration into integration. We have worked diligently to extend our movement and create successful sustainable programs that provide everyone with the voice they need to make a difference. As we embark on our 13th season, we see our movement continuing to grow as we ask ourselves the driving question, "Who can we impact next?" We are FIRST Team 1241: THEORY6, and we are the difference makers of today, creating the innovators of tomorrow.