

MOE 365 2007 Chairman's Award Entry

EXECUTIVE SUMMARY:

Briefly describe the impact of the FIRST program on team participants with special emphasis on the 2006/2007 year and the preceding two years.

FRIENDSHIP INSPIRATION SERVICE

- Lifelong friendships amid students from multiple schools
- Of 147 alumni 95% went to college 81% in science/tech careers 10 FIRST scholarships
- Guide students to more informed career decisions through shadowing program
- All students learn basics of robotics, teamwork & subteam skills at MOE University
- Earn up to 18 credits through local college for MOE U
- Students give back by mentoring FLL, JrFLL & FVC teams & participate in our community initiatives

Examples of role model characteristics for other teams to emulate.

- STRONG BUSINESS PLAN – set up nonprofit 501(c)3 to aid sustainability
- MENTORSHIP - cascades from adults to students, to FVC, FLL, down to JrFLL
- TEAMWORK - draw students from 32 schools & 4 states, melded into a cohesive, spirited group
- EDUCATION - share knowledge with rookie FRC teams via MOEmentum
- INSPIRATION - started 4 new FRC, 10 FVC teams
- SAFETY - permeates all team activities
- GRACIOUS PROFESSIONALISM - student present awards to other teams & MOE Personal Recognition Awards

Describe the impact of the FIRST program on your team and community with special emphasis on the 2006/2007 year and the preceding two years.

IMPACT ON EDUCATION

- 3 schools introduced robotic curricula; 1 funds team members
- Lobbied DE to fund FIRST in all schools; collected 500+ signatures
- Collected 10,000 lbs of books for donation

IMPACT ON STUDENTS

- 700 elementary students in JrFLL, 10% of US total
- 1700 middle school students in FLL
- 300 high school students on our team, FVC & other FRC teams we started

LOCAL AWARENESS

- Community events & demos - tens of thousands have attended, ~10% of local tri-state area population

Teams innovative methods to spread the FIRST message.

MORE LITERACY PROGRAM

- Team-authored coloring & early reader books in 4 languages spread excitement of engineering
- Run engineering & robot themed contests for young students

- Developed classroom lesson plans & materials about engineering & innovation, submitted to NASA website

FLL/JrFLL/FVC COMBINED TOURNAMENT

- Hold largest 1 day official FIRST event

MOEMENTUM

- Provide weekly email tips to rookies

MOE VEX CHALLENGE

- Inspired Northern Irish youth with 1 day Vex design/build competition

Describe the strength of your partnership with special emphasis on the 2006/2007 year and the preceding two years.

OUR STRENGTH IS IN OUR NUMBERS

- 8 year partnership between MOE & DuPont
- Partner with FIRST to pilot & expand FVC & JrFLL
- Co-sponsor an offseason FRC competition with FRC316 & local college
- Partnered with 5 local schools to develop FIRST programs
- Partnership involves students from 100+ schools (K-12), 3 colleges, 60 corporate sponsors, 35 professionals & 8 alumni mentors, 13 nonprofits, 5 media groups
- Nurture partnerships with diversity groups to expand FIRST programs

Teams communication methods and results.

LOCAL/ REGIONAL

- 190 community appearances over 8 yrs for recruiting, fundraising & publicity
- Distribute, read & donate team-authored coloring & early reader books at libraries
- Exposure in newspaper & other media, 30 features in past 3 yrs
- Weekly newspaper articles tracking 2007 build season NATIONAL/INTERNATIONAL
- Wrote robotics chapter in national Science Educ. Encyclopedia
- Award winning website
- Share team's collective knowledge with others through MOEU, team handbook, MOEmentum

Other matters of interest to the FIRST judges, if any.

- Non-school based organization open to students anywhere
- Aligned FIRST programs to DE educ. standards
- Enhanced sustainability via innovative funding (Community Foundation, 5K, United Way)
- 86 members volunteered at FIRST events in past 8 yrs
- Presented 5 topics at FIRST Robotics Conference past 3 yrs
- Recognized by ASEE, ASME, state gov., DuPont, Jefferson Award for Volunteerism
- 19 regional & 7 CMP FIRST awards including 2 Chairman's Honorable Mentions
- 3 Woodie Flowers Finalists

ESSAY:

Every year we not only build a robot, we build a team. Our team is vibrant & our spirit is contagious. We are evidence that teamwork, engineering skills, problem solving, & creativity can

be nurtured, & that working hard yields great results. Our key core values are safety, responsibility, gracious professionalism.

"[This program] has greatly exceeded our expectations in delivering value to DuPont, our local community, the students & their parents in the Wilmington area." - Jim Porter, VP DuPont Engineering

Team 365 evolved from an Engineering Explorer Post run by DuPont for 35 years. This began our multi-school make up & laid the groundwork for First State Robotics, Inc, a 501(c)3 non-profit corporation formed in 2004. Our team is open to students from anywhere; our only requirements are dedication & enthusiasm. In 2000 the Miracle Workerz began with 21 students from 7 high schools & 14 mentors, won a regional Xerox Creativity award & finished in 8th place at Nationals. In the last 8 yrs we've grown to an average team of 20 mentors & 34 students drawn from a total of 32 schools in 4 states. Success has continued; we've won 19 regional & 6 national awards, including the 2001 National Championship & Chairman's Award Honorable Mention in '05 & '06! We helped start 4 new FRC & 10 FVC teams, giving advice, lending equipment, & transferring experienced students & mentors to them.

DuPont provided start-up funding & inspired our Miracles theme. Our expansion continually challenges us to find new ways to grow & sustain our program & FIRST programs in our area. Students hold fundraisers & make presentations year-round to local businesses & civic groups. Mentors & parents support fundraising through their corporate connections and United Way. These efforts have resulted in support from 56 different sponsors.

Our upbeat attitude & enthusiasm for education at all ages captures attention in our schools & community. We are recognized for our gracious professionalism & as positive ambassadors for FIRST. We help other teams by lending our playing field, machine shop, FLL & FVC setups. Our expert pit crew eagerly assists in other teams' pits. Our coveted MOE Awards are presented to other teams at competitions. With FRC316 we sponsor & organize an off-season competition, Duel on the Delaware. At the FIRST Robotics Conferences mentors, parents, and students presented 5 different sessions over 3 yrs on brainstorming, managing multi-school teams, effective pit design, forming a non-profit corporation & team sustainability. We share our time-tested experience with rookies through MOEmentum, a weekly email & web update with real-time scheduling & tips for the build season. New for 2007 is a section on "Competition in a Day" and how to start a FIRST team.

We have evolved a MOE brand. The MOE signature cheer is heard at team meetings, competitions, even in the DE & PA State Houses. We build our image not just with distinctive color & infectious spirit but with service to others. Our enthusiasm coupled with our success as a team spills over into the surrounding community. Our book drives in the last 3 yrs provided 10,000 lbs of books to Success Won't Wait, Inc, who donates them to kids who have never owned a book before. For the last 4 yrs we have been the largest donor of canned food at Ramp Riot. Through our FLOW with MOE program team members donate at the local blood bank.

Six yrs ago we initiated & organized annual FLL competitions in DE. FIRST selected our event to pilot JFLL & FVC competitions which resulted in the largest one-day official FIRST event worldwide for 2 yrs. In Jan 2007 our combined JFLL/FLL/FVC tournament was characterized as "149 teams, 200 volunteers, 1500 students, 5000 attendees, cost - priceless". Our goal in 2001 was to double our team support in 5 yrs. We have exceeded that goal & contributed \$4300 to 53 teams from 6 states!

"Events like yours truly make the FIRST organization the inspiring, fun experience for young people that it was intended to be. We could not grow FIRST at the great rate that we are currently doing without highly dedicated & motivated people as you all." - Steve Chism, Sr Dir. of Programs, FIRST

Over the last 8 yrs, we've showcased the robots at 190 community events, covering over 10% of the local tri-state area. These popular & well attended events demonstrate students' enthusiasm, poise & knowledge & often result in sponsorships, new recruits, a spreading awareness of FIRST, & the formation of new teams. Our newspaper & media coverage provides us recognition & exposes FIRST programs to the community. In 2007, a local paper is running weekly articles on our robot build. Previously, the Philadelphia Inquirer & local PBS station followed our teams' build season, too.

Our FIRST outreach has resulted in robotics camps & inclusion of robotic curricula in three schools. We hosted a Vex "Competition in a Day" for Ulster Project Delaware, a program bringing students from Northern Ireland together. Our program fostered teamwork, gracious professionalism, & helped bridge cultural differences. The day, which received extensive media coverage, has been adopted by UPD as an annual event. We are sharing this format with other FIRST teams in hopes to spread the concept with other Ulster Projects.

To carry the message "Science & technology are FUN. Engineering ROCKS!" to younger children, we created the MORE (Miracles of Reading Education) program. The team has authored and donated coloring books & early reader books, published in 4 languages, about engineering & FIRST. Team members read to groups at 25 libraries & schools, distributed over 2500 coloring books, held robot coloring & reading contests. Our literacy program serves a diverse population, including local Latin American & Chinese communities as well as youth in Zambia, India, & Turkey.

"When larger than life high school kids read aloud their true story about building robots, it sparks a fire in younger listeners." - Linda Grusenmeyer, Educ. Researcher, Univ. of Del

Our ability to impact others in so many ways is all possible because of our strong team organization & communication. Starting with students from multiple & diverse schools we've created a unified, successful, spirited team, who has fun together while learning. The spirit of commitment & service flows from our adult leaders to our FRC students, who mentor FVC, FLL, & JrFLL students. Each student is asked to complete at least 8 service activities per year.

Our motto is "Making Miracles Happen - One Student at a Time." Including this year's team, 180 students have benefited from our program. Our graduates say that the confidence they developed set them apart from other college applicants, & were told that their experience on the team was a significant factor in their admission & scholarship offers. In the last 8 years 95% of our alumni have attended college, with 81% pursuing science & technical careers. Ten FIRST scholarships were awarded to Miracle Workerz.

Every fall all students attend MOE University, when our mentors teach skills & confidence at the start of an intimidating build season: pneumatics, motor theory, programming, project management, etc. All participants earn up to 18 college credits. Presentations from MOE U are available to other teams via our web site. When some of our students transferred to help start FRC1495, their mentor commented that MOE U made them the only students truly ready to take on the challenge of building a robot.

Safety has been a core value since the inception of our team. In addition to receiving a regional Safety Award, we have presented our Safety MOE Awards for 8 yrs to other FRC teams. We obtained sponsorships for our signature green earplugs & this yr for team members' safety shoes.

At the invitation of Dr. Ken Tobin, Presidential Professor of Urban Education, CUNY, we wrote a chapter on robotics for "Teaching & Learning Science: A Handbook" (Greenwood Press, 2006). FIRST is, of course, highlighted!

MOM - Miracle of Mentoring - assists students with career choices. Students explore possible careers by shadowing mentors at their companies. One student, now studying EE at MIT, shadowed several engineers, & was surprised at how close their jobs were to what he learned in MOE.

"MOE is one of the best [teams in FIRST] I've encountered in 10 years of volunteering. Great robots are only the tip of the iceberg for them. They're gracious & humble, combining leadership & enthusiasm on & off the field." - Ron Partridge, FIRST Emcee & Volunteer

Our goals for the future are to continue Making Miracles by enhancing sustainability, creative fundraising, and enabling FIRST growth. We established an endowment fund at the DE Community Foundation, increasing our exposure to the community & potential donors. We organize an annual 5K run which other teams can use as a fundraiser too. We are reaching out to state government to support FIRST via personal letters & a 500 signature petition. We are planning regional events to feed into our state tournament in order to manage the exponential growth of FLL/FVC teams in our area. We are expanding MOEmentum to include JrFLL, FLL, & FVC.

Without our core of dedicated mentors we wouldn't be able to reach these goals. Collectively they donate 7000+ hrs each year. They demonstrate the value of service - mentors & parents have filled 86 volunteer positions at FRC events in the past 8 yrs. One mentor has become a regional FVC resource & a member of the national Game Design Committee. They were honored with the DE Governor's Outstanding Volunteer Award in 2004 & multiple DuPont Volunteer Recognition Awards. They challenge & educate student engineers. They respect & expect. They scowl & counsel. In the end, we all become a team, & we Make Miracles Happen, One Student at a Time. GO MOE!