

2016 Annual Board of Directors Report



TalentSparks

TalentSparks teacher professional development workshops are designed to model high-quality classroom instruction aligned with Common Core and Next Generation Science Standards (NGSS). Activities are hands-on, inquiry-based and designed to help teachers and students explore real-world problems and the application of STEM skills by industry.

Since 2008, over 1200 Illinois teachers have participated in TalentSparks workshops impacting an estimated 100,000 students.

2016 Accomplishments

- 9 TalentSparks workshops held for over 180 teachers.
 - Six 1-day NGSS workshop
 - Two 1-day STEM focused workshops in partnership with ADM
 - Nutrition Science for Improved Human Health: Carbohydrates
 - Engineering Hydrogel Polymers for Healthcare and Agriculture
 - One 5-day STEM focused workshop
 - From Farm to Flight: Can Biofuels Green Aviation
 - Four high-need schools will receive United-funded implementation kits
- Teachers gained an average of **12 percentage points** on their understanding of Next Generation Science Standards (NGSS)
- Teachers gained an average of **8 percentage points** in STEM content
- Second custom Nutrition Curricular Unit, *Fats and Oils* currently in development



stellargirls

Stellar Girls introduces girls to “Big Ideas” in STEM fields. Through weekly hands-on after-school activities, students explore how science, technology, engineering, and mathematics are used to feed, fuel, heal and save the world. Students interact with STEM professionals to learn about STEM careers and apply STEM skills to real-world problems.

Since 2011, Over 1400 girls have participated in Stellar Girls programming. School-level data show from 2012-2016 show that 75% of girls are minority and 72% of participants are from low-income homes that qualify for free and reduced lunch at school.

2016 Accomplishments

- Fifteen volunteers provided 35 career presentations and Stellar Girls site visits to schools this year.
- 80% retention rate for 2015-2016 schools.

Stellar Girls program participation:

	2012 - 2013	2013 - 2014	2014 - 2015	2015 - 2016	2016 - 2017
Schools	10	9	15	26	24
Programs/Sites	10	9	22	21	19
Coaches Trained	13	12	32	32	21
Total Stellar Girls	180	100	350	400	475

Stellar Girls participants by grade band: (Only students who took pre- and post-tests are included in this table)

	2012 - 2013	2013 - 2014	2014 - 2015	2015 - 2016	2016 - 2017
Grades 3-5	58	39	181	203	TBD
Grades 6-8	65	42	148	117	TBD
Totals	123	81	329	320	TBD

Average Percentage Point Content Gains from Pre-test to Post-test

	2012 - 2013	2013 - 2014	2014 - 2015	2015 - 2016	2016 - 2017
Grades 3-5	16%	19%	20%	20%	TBD
Grades 6-8	6%	13%	10%	10%	TBD
Total Average Gains	11%	16%	15%	15%	TBD

This year we personally interviewed Stellar Girls participants for their feedback on the program and about their interest and future plans in STEM careers. 92 girls (23% of total participants) were interviewed.

Interview Results:

- 100% girls said they were **learning new things**, liked the program, wanted to continue participating in the program and would recommend the program to a friend.
- 95% said they were **more interested in learning** Science and Math because of Stellar Girls.
- 98% said they felt **more confident** with science and math topics after participating in Stellar Girls.
- 90% said they **thought they were good** at science and math.
- 97% said the program helped them learn more about **career opportunities** in STEM.
- 99% said they thought **science and engineering offer good careers for women**.
- 93% could **see themselves** working in a STEM field.
- 95% of 8th graders planned to **enroll in advanced placement** courses in high school.



To improve access to summer STEM exploration, we developed and delivered two 5-day summer camps for 123 3rd-8th grade students in rural southern Illinois and for high needs students in the North Chicago/Waukegan area. Programming will consist of fun, hands-on activities, sessions with STEM professionals and field trips.

2016 Accomplishments:

- A remarkable 83 total volunteers assisted the EDUCATE Center in delivering program content, leading field trips or exhibiting at the STEM Fair and Family Day.
- The 5-day camps resulted in campers reporting statistically significant increases in the following:
 - I think science lessons are fun (9%↑)
 - I look forward to science lessons (12%↑)
 - I like to do science in my free time (12%↑)
 - I think a job as a scientist would be interesting (10%↑)
 - **I would like to be a scientist when I leave school (17%↑)**
- Parents agreed about the quality of the camp.
 - 100% said camp made STEM seem fun for my daughter
 - 97% said camp helped their daughter **feel more confident** learning about STEM
 - 92% said camp introduced their daughter to STEM careers
 - 94% said camp encouraged their daughter to continue studying science and math in school.
 - 86% said camp prompted their daughter to begin thinking about a career in STEM
 - 100% said they would enroll their daughter in camp if it were offered next year.



- **2016 Accomplishments:**
 - 32 applications in 2016
 - Illinois Winner, Jilly Cronin, won the International Competition Environmental Challenge category for her project: *Effects of Salinity and Temperature on Adsorption of Zinc by E. gracillis*.