

CREATING AND REPLICATING HIGH-QUALITY EXPERIENTIAL LEARNING OPPORTUNITIES

A GUIDE FOR BUSINESSES AND SCHOOLS

CASE STUDY

Georgia FIRST Robotics

Experiential Learning Through Career and Technical Student Organizations



Carl Vinson Institute of Government
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Georgia FIRST Robotics is an after-school, mentor-based, competitive science, technology, engineering, and math (STEM) program that was recently added to Georgia's list of approved career and technical student organizations (CTSOs). CTSOs “provide motivation, leadership training, and career development opportunities for students and enhance their occupational, employability, and leadership skills through various activities such as conferences, award programs, service projects, and competitive events.” Georgia FIRST does this through teams that are run like small businesses. While each team includes necessary technical experts, such as engineers, programmers, and web designers, it also includes marketers, graphic designers, and financial managers, which opens the program up to students who may not be interested in the technical side of STEM. Each January, teams receive a kit of parts and guidelines for the year's competitions. They then have six weeks to build a competition-ready robot with the help of mentors and coaches. District competitions around the state begin in March and culminate with the state championships. The best teams then go on to the national competition in April where they battle it out with teams from across the country.

The Georgia FIRST competition parameters are just slightly too hard for high schoolers to accomplish on their own, which forces them to reach out to businesses, teachers, and community members for help. This is what Connie Haynes, director of Georgia FIRST, calls “mentor-based by design.” This collaboration, in combination with real-world constraints like tight deadlines and limited resources, makes Georgia FIRST a great example of experiential learning that is preparing students for career success. A common barrier is funding, but Georgia FIRST is committed to not letting a team fail due to money issues by connecting teams with sponsors. Another common barrier is transportation. Because Georgia FIRST is now a recognized CTSO, school administrators can help with travel for competitions, but, as with many after-school activities, getting students home can be difficult. Some teams and districts have partnered with other student organizations with access to transportation, like Boys and Girls Clubs or Georgia 4-H.

Haynes said that what makes Georgia FIRST work for students is that “it is like club sports teams ... it is an after-school, hands-on program with coaches and mentors and dedicated equipment provided where no grade is given.” This allows students to build confidence and figure out if a STEM career is for them. Georgia FIRST works for school and team sponsors because of the low cost of entry, organizational support, and proven experiential learning model. Employers support Georgia FIRST because it gives them a sneak peek at the upcoming talent and allows them to mentor students. Additionally, Georgia FIRST mentoring can be used as an employee incentive and a way to give back to the community and younger generations.

