

Impact 100 Metro Detroit Grant Summary
Grant Finalist: DAPCEP (Detroit Pre-College Engineering Program)
Project: DAPCEP Immersive: Comprehensive STEM Program for Schools

Background: DAPCEP began in 1976 with the mission to expand access to educational programs, focused on engineering, to students in Detroit. The organization grew out of an acknowledgement that for many students in Detroit Public Schools, there was limited access to supplemental academic programs focused on the engineering discipline. In our first year, we partnered with the University of Michigan and Michigan State University to serve 245 students at one middle and one high school in the Detroit public school district. Demand for the program grew rapidly and we expanded our programmatic offerings and constituent base to include youth from all over the Detroit area.

Over time, we have expanded our strategy by creating programs that introduce students from under-represented racial backgrounds to all science, technology, engineering, and math (STEM) topics. Today, we reach more than 13,000 youth annually and engage school districts, colleges and universities, and numerous corporations in academic STEM programs for Pre-K to 12th grade students.

Unmet Need: Lack of neighborhood investment has negatively impacted the expansion of out-of-school time programs and extracurricular activities for students in these neighborhoods. The DAPCEP Immersive STEM Program for Schools continues our history of engaging students in extracurricular STEM courses. Over the years, we have increased our program's reach to students outside of Detroit with programs throughout Southeastern Michigan. Despite the expansion, when we participate in partnership events in certain communities, families tell us they had no idea programs like DAPCEP were available to their students. These areas include neighborhoods in Detroit like Von Stueben, LaSalle College Park, and Joy Community.

This project presents a no-cost opportunity for families to enroll their students in a long-term series of STEM academic experiences. This program offers a STEM experience for every season, including during the summer, and eliminates affordability barriers.

Project Summary: In our proposed program, DAPCEP will build and facilitate a series of STEM academic programs over one year for two schools in the target neighborhoods. The DAPCEP Immersive STEM program will be a blend of experiences to meet the needs of families and students in the schools. Program engagements offered to students will include Saturday Series STEM courses, summer camps, Pop-Up workshops, teacher professional development, corporate partner STEM field trips, and STEM days (1/2 day series of hands-on and interactive STEM workshops led by leading STEM corporations).

Outcome: We will measure our success in the number of students who exit the program with increased knowledge in STEM topics and a stronger STEM identity. STEM identity is how a person individually views their place in STEM career paths, courses, academic experiences, and ecosystems. Metrics to measure success include: 200 students will participate in STEM programs led by DAPCEP during at least 3 of the 5 periods where STEM programs are offered to partner schools. After 3 program model engagements, 75% of participants express an increased interest in STEM and indicate they can see themselves in the STEM industry in the future. 65% of participants will improve their scores between pre- and post-tests.

Sustainability: Although this immersive program model with these schools is a new approach, the core components of the project (out of school time STEM courses) reflect what has worked in our organization for more than forty years. Our organization's history of sustaining programs is reflected in the length of history and our leadership's commitment to facilitating high quality programs that meet the needs of our target population. Understanding the importance of long-term sustainability, DAPCEP's staff and board constantly develops and implements plans to diversify our funding and sustain the funding of any new programs. We are confident we will be able to ensure this program's sustainability through a combination of strategies including work with school districts to identify how existing government funds can be applied to student participation in DAPCEP programs and allocate existing revenue to the program and adjust budgets to ensure the program continues to run.

