



From July 9th-13th, twenty-six students from across Tulsa area schools participated in the SK Plymouth Engineering Camp.



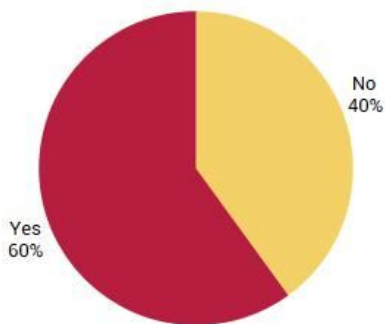
Students received numerous experiences to grow their knowledge of engineering and to better understand the roles that engineers play.

For example, students visited OU-Tulsa to meet with four separate engineering departments, ranging from transportation to digital signals. On another day, students were challenged with designing a claw mechanism with laser-cut plastic at the University of Tulsa. This camp was sponsored by SK Plymouth.

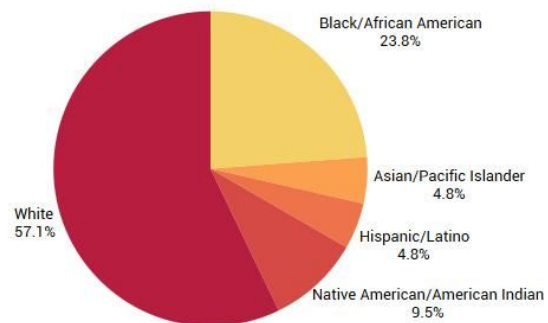
Participation

13 student participants were in middle school, and 13 were in high school. 59% were male and 27% were female, with the remaining preferring not to answer. 16 separate schools were represented, spanning across 7 northeastern Oklahoma districts.

First Time at STEM Camp?



Race/Ethnicity





Measurements

Participants were given surveys at the beginning (Monday) and end (Friday) of camp. The surveys were made in a pre-post structure. In pre-post analysis, students were given the same statements on both surveys, thus reporting any significant changes.

How did Engineering camp make you feel about yourself and STEM classes?

“It made me feel more confident that I could become an engineer.”

“Well I didn't know anything about engineering and I learned so much I feel really smart now, also I'd love to take more STEM classes.”

What was your favorite part about Engineering camp?

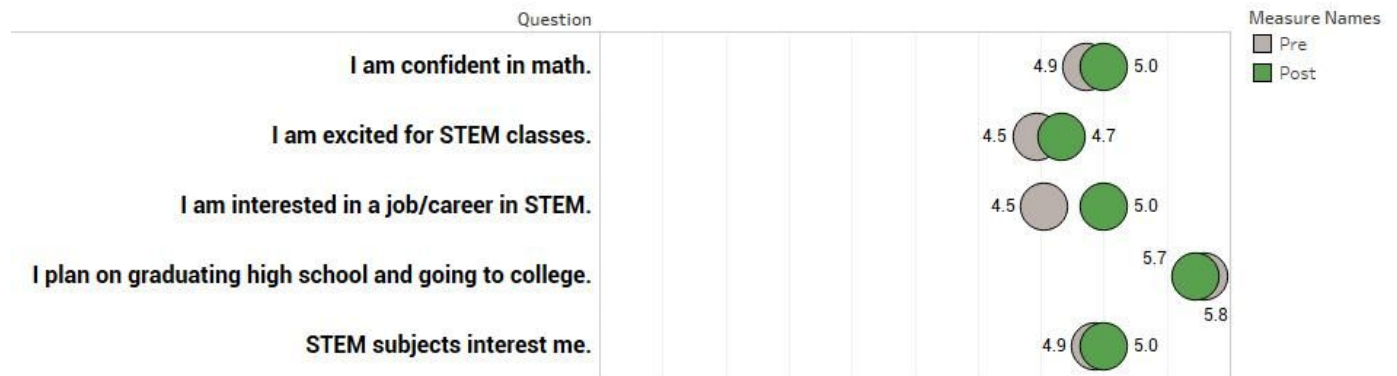
“My favorite part was when we won the oil rig competition. Let's go team applesauce!”

“I love how so many organizations come together to help kids learn about engineering.”



Results

Pre-Post Changes



Participants reported increases in math confidence, STEM subject excitement, STEM career interest, and STEM subject interest. Moreover, all students agreed they plan on graduating high school and attending college. Although no statistical significant difference between pre and post surveys, overall gains were made in student engagement with STEM and engineering. One key experience students reported was the opportunity to meet STEM professionals. In the pre-survey, 50% of participants stated they have never seen or met a STEM professional. STEM identity is an important facet for later achievement and meeting an engineer is one of the first steps for this development.¹

¹Callahan, J., Pyke, P., Shadle, S., Landrum, E. (2014). Creating a STEM Identity: Investment with Return, American Society for Engineering Education Annual Conference & Expo.