

Treasure Valley Students Succeed in Robotic Challenge

Group surpasses others in an international game of invention

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NAMPA — Students from Nampa, Meridian and Eagle made up the only team among 23 groups worldwide to complete the Edventures Robotics Challenge by building a robotic arm and using it to move a can of soda and a bag of chips about 12 inches.

In February, the team representing Nampa's Warhawk Air Museum and others from Pakistan, Egypt, Korea, Canada, and around the United States had only six hours to complete the task. The Warhawk team finished in four hours.

"I thought what the kids did was absolutely amazing. Seven kids who don't know each other come together, look at this problem and not panic," said Kellie Dean, a Warhawk teacher.

The Warhawk team's success surprised Boise employees at PCS Edventures, a company focused on academics and learning which sponsors the program. Employees struggled to complete the same task and barely made it within the six hours, said Joe Egusquiza of PCS Edventures.

To build the winning arm, the students ages 8 to 15 used LEGOs and pneumatics (parts that move by air pressure) from the Warhawk's Academy of Engineering donated by Micron Technology Foundation and a lot of duct tape.

Adam Worsley, 15, of Eagle High School said team members used duct tape to make the LEGOs stay together while lifting the weight of the soda can.

Students said they succeeded because they split up to work on parts of the project, such as the base, the arm and the gripper.

For Elizabeth Worsley, 12, of Eagle Middle School, the gripper posed a challenge. "It was hard for us to figure out how to close it," she said. Todd Rains, 11, a Nampa homeschooler, said the difficulty with the gripper was building something that could pick up both the heavy soda can and the light bag of chips. They solved part of the lifting problem by adding counterweights, said Scott Rains, 15, Todd's brother who is also homeschooled.

Linder Elementary School student Jon Siemsen, 10, of Meridian worked to make the base solid enough to hold the weight of the arm and the motors, and designed a way to hook the motors to the arm. "I had to keep adding LEGOs to make sure the base was strong," he said.

Liberty Charter School student Chase Bower, 10, of Meridian said getting the power and the speed of the motors just right so that the gripper didn't drop the objects was difficult. But he never doubted the team would succeed. "I thought we could do it because we had six hours," he said.

Dean said about two hours into the project, the students thought they had it licked — but the arm popped off and they had to regroup.

Egusquiza said that's part of the challenge, and the kids learn by creating solutions for the problems that come up. "That really is the great thing about it — they have to invent," he said.



The Warhawk Air Museum team received certificates and prizes this week from PCS Edventures for successfully completing a challenge involving building and using a robotic arm. Front row, from left, are teacher Joe Egusquiza, Elizabeth Worsley, Chase Bower, Jon Siemsen, Nikolas Breinholt and Todd Rains. Back row, from left, are teacher Kellie Dean, Adam Worsley and Scott Rains.

The Edventures Robotics Challenge is an engineering challenge program used throughout the year by members of the global Edventures Learning Network. Quarterly Challenges are posted online. Travel is not required; teams participate from their classroom and submit data via the Internet. Materials are not limited to any specific manipulative or system, and teams can utilize everything from K'NEX or Erector sets to items found in the garage.