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## EDUCATION



Photos by Micah Green Forsyth County News

Forsyth County homeschoolers, from left, Dusty Haney and Daniel and Annie Torre give a presentation on Insta-Braille, a device they helped design to enable blind students to read. They were invited to the 2015 First Championship in St. Louis next month.

# Simple success

# Robotics team invents new way for teaching beginner's braille

By Kayla Robins  
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It's so simple, they said. A redesigned songbook with tiny, raised dots in patterns of the alphabet in braille.

It's as easy as pressing a button and listening to the songbook say the letter on each button that matches its corresponding braille symbol.

So simple, you would think it already existed.

Six middle school-aged kids formed a robotics club, and their invention — a device to teach beginning braille to the blind — recently landed them an invitation to the 2015 First Championship in St. Louis next month.

The championship is a culmination of First Lego League teams across the world that complete projects and build robots as a way to engage children ages 9-14 in science and technology.

The Braille Boys and Annie, as they named themselves, will join 19 other teams chosen out of 527 entries from 22 countries. A final three will be selected to attend a special awards ceremony in Washington, D.C. in June.

Plus, every member from the



Garrett Barker shows off the internal workings of the machine.



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## Success

top three teams gets a robot.

"We had to do a project to come up with a solution of how we can improve the way someone learns something," said Dusty Haney, a seventh-grader on the team. "We decided we wanted to learn about braille."

He said they learned from the National Federation of the Blind that 90 percent of blind children in the United States today are not taught to read. This leads to 50 percent of them never graduating high school and 70 percent remaining unemployed.

That was the inspiration for Insta-Braille. The simple invention is currently patent-pending and has been used with blind children.

Stacy Carto, a mother of one of the teammates, said the STARS program — an Atlanta campus that teaches school-aged kids life skills to live with vision loss — is using the Insta-Braille prototype.

"The wonderful thing about Insta-Braille is that an individual can learn beginning braille without the assistance of a sighted person or a braille teacher," Carto said.

Teammates are all home-schooled in Forsyth. They are: Haney; Henry Lyle,

eighth grade; Garrett Barker, seventh grade; Christian Carto, fifth grade; Daniel Torre, seventh grade; and Annie Torre, sixth grade.

Annie joined the team after the name had been set, she said, so adding "& Annie" to the end made sense.

They figured out how to take the skeleton of a children's songbook and connect the sound module to a voice recording of each letter of the alphabet.

They then put letter buttons with the corresponding braille character on the top so that a visually impaired person can simply feel the braille symbol, press the button and hear the letter.

They are working on Insta-Braille 2.0, which will have a switching mechanism that teaches numbers and beginning contractions.

During competitions, they presented in three categories: robot programming, core values and an innovative project solution.

Insta-Braille is their project. Louie B is their robot, who they have to program to follow a set path and perform certain tasks, like throwing a ball into a goal.

Then they present the core values they learned throughout the process, which include team building, "gracious professionalism" and learning to let things go. Which makes them break out

into song to recreate "Let It Go" from "Frozen."

Daniel Torre said they want to donate many of these devices to the blind community and get one in every school.

The team met professionals within the blind community to develop and market Insta-Braille, including visits to the National Federation of the Blind and the Center of the Visually Impaired.

They also plan to hold an FLL Robotic camp in April for kids interested in robotics to raise funds for their team expenses. For more information, email fl-team4678@gmail.com.