

El Segundo High School students pilot AI-based tutoring system developed by Raytheon

By [Megan Barnes](#), *Daily Breeze* / January 12, 2016

For the past year, El Segundo High School physics students have piloted a new artificial intelligence-based tutoring system developed by The Raytheon Co.

Running on computers and tablets, the [BBN Learning Platform](#) walks students through complex problems, measuring how long they take to solve them, identifying where they get stuck and providing feedback in real-time.

The system developed by BBN Technologies, a Cambridge, Massachusetts, research firm acquired by Raytheon in 2009, gives teachers a better understanding of each student's learning strengths and weaknesses.

On Wednesday, Raytheon will make the Web-based platform available to schools across the country for free.

Steve Eno, a physics teacher at El Segundo High School, said his students use the system regularly to practice complex concepts taught in class.

"A lot of students get stuck and get frustrated and that's where physics gets hard," Eno said. "The BBN Platform really helps them with their problem-solving overall."

The interface features a split screen with the problem on the left and customized steps on the right. It also includes a handy table of information breaking down terms, symbols and formulas.

Eno helped develop the AP Physics problem sets with the National Center for Research on Evaluation, Standard & Student Testing at UCLA, or CRESST, but the platform can be used for numerous STEM subject areas, said Raytheon spokeswoman Brandie Gerrish.

The platform also was tested at two schools in Boston. It was developed for education as an entry for a STEM competition launched by the Office of Naval Research several years ago. Raytheon BBN based the system on best practices training the military in areas such as fighter jet maintenance and maneuvering unmanned underwater vehicles.

For the next step of the competition, Raytheon BBN will adapt the technology to teach surgeons how to use robots for laparoscopic procedures, Gerrish said.

Eno said CRESST tested his students on physics problems one week before and after using the platform, finding it significantly helped them. A group of students who did not use BBN also were tested.

“I want to say 70 percent of kids had improvement versus 20 percent who didn’t use BBN,” Eno said. “I’ve had the chance to experiment with different software platforms and BBN was probably the most well-received by my students just because of how easy it is to use. They love it.”

Gerrish said teachers in various problem-solving based subject areas can develop their own problem sets for the program.

“We designed our learning platform so it can be easily adapted to teach other subjects,” Raytheon BBN senior scientist Rohit Kumar said in a statement. “It also includes tools for teachers to generate automated reports on students’ knowledge and engagement, and authoring tools that enable teachers to create and publish new content.”

Teachers interested in using the BBN Learning Platform can email learnform@bbn.com for more

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