



# Alamo Heights High School Students Break the Mold and the Sound Barrier!

By Kimberly A. Suta

Every great inventor knows that with innovation sometimes comes disappointment. Thomas Edison, who is known for the repeated “failures” it took to invent the light bulb once said, “I didn't fail 1,000 times. The light bulb was an invention with 1,000 steps.”

Alamo Heights High School's Aerospace Studies Class, led by teacher Colin Lange, had a similar experience this summer when they took the two rockets they had designed and built over the entire year to the White Sands Missile Testing Range in New Mexico expecting to launch them 100,000 feet (approximately 20 miles) into the sky.

According to student Erick Castillon, who is now a freshman at UTSA, “Neither one of them went off. The problem was that the rockets had been out in the rain overnight and the igniters got wet. It was kind of demoralizing that a single problem held up all our hard work, but in reality it’s not about the rocket, it’s about the students and what we’re going to do with this knowledge in the future.”

If Castillon is any indication of the trajectory of these students, they will go farther than their intended rockets. Castillon, who had considered dropping out of high school until he discovered Lange’s class, is already starting a new rocket program at UTSA.

According to Lange, students leaving his classroom are practically guaranteed promising careers. “One of my past students is building the most advanced nuclear power plant on the planet for the government, another is a robot surgeon and still another will be driving the rover on Mars this year for NASA. This program is what gets them there.”

In fact, the aerospace program at Alamo Heights High School is only one of six like it in the United States. The rockets that the advanced students build are 20 to 25 feet long, weigh about 600 lbs., fly three times higher than commercial jets and, most definitely, break the sound barrier.

Castillon was on the team of students that successfully launched a rocket last year. “Nothing can explain the emotions of what I went through the previous year,” explained Castillon. “You have companies that spend billions of dollars that don’t make it to the launch pads. I want other students to discover what theory and action can produce.”

Lange confirms that with an aerospace program, testing and re-testing is part of the normal process. “People have to understand that this kind of program is about research, design and development. You test a new prototype and most of the time it doesn’t work. So you fix the design and test it again. We get only one chance,” said Lange, who expressed far more pride than disappointment.

Regardless of whether these rockets leave the ground, one thing is certain – Lange is instilling a passion in his students that is rare to see. “We have to inspire them, light a fire under them. That’s what an engineer is, and in this industry, people are retiring faster than we can replace them.”

No doubt, the next generation of engineers will be led by Lange’s ingenious students, who are even as you read this, working on patenting some of their latest designs!

