

Dabbling in physics: Sacred Heart gets a head start

Written by By Melinda Russell Sun Correspondent
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“We are studying simple machines” started Sr. Christi Ann Landolff, C.S.A. as she began to describe, enthusiastically, the new curriculum she is using for teaching physics starting in sixth grade at Sacred Heart Cathedral School. She goes on to explain that physics is the base science and math is the language. If you get physics, chemistry and biology come easier because you already know the language.

The curriculum was developed largely by Dr. Anatoliy Glushchenko a physics professor at the University of Colorado. He was discouraged by the number of students dropping out of his classes and realized they were coming to college totally unprepared.

So, Glushchenko and his colleagues developed «See The Change USA,» which introduces physics in grade six, and builds upon those skills in grades 7 and 8. In 8th grade, Landolff says they are studying «waves, sound, magnetism and nuclear.» Computer programming is introduced in the seventh grade and chemistry is introduced in the eighth grade.

Landolff started using the curriculum in 2014.

She explained that the first year is an introduction of science. Students learn what physics is: basic motion, Newton’s laws, forces and matter. She displayed her lesson plans, a thick three ring notebook filled with everything she needs to present a cutting edge program including time guidelines for each exercise.

When asked why this teaching model is not being used more widely, Landolff said, «It’s new. It’s been, the third or fourth year. They started rewriting the curriculum last year. I’m probably the most, definitely the most senior teacher they are working with, the most educated. I am a

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physics teacher.»

Other teachers using this model are not physics teachers so the See the Change USA developers are teaching teachers before the teachers are able to teach the kids.

Her teaching experience includes high school science across the United States, typically working in lower middle class, multi-racial neighborhoods where the students are likely to be the first generation to attend college. Her dedication, enthusiasm and skills were rewarded in 2013-2014 when she was named Middle School Science Teacher of the year in New Mexico.

Landolff said that the first year they implemented this program their science scores soared.

The school uses the Iowa Test of Basic Skills. This test is helpful because the scores are cumulative over the life of the student. Every year you can see the student's progress in relation to the years before.

Eight Sacred Heart students advanced to the regional science fair, and two of the students qualified to attend the state science fair in Socorro.

Yoli Nicholson exhibited a project about music changing the rate of speed when running. She won an award from the American Psychological Society for her project.

Di'Zhon Chase built a solar car and tested it on varied surfaces.

According to Anna Biava, parent and alumnus at Sacred Heart Catholic School, See The Change USA is not the only great thing about the school.

The school was first established in 1912, the same year New Mexico became a state. And

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though has had some interruption in services it is strong and growing. Sacred Heart offers cheerleading, basketball and chess club. They also have a full music program including choir and band.

Encouraging older students to mentor the younger students is an important part of the culture at Sacred Heart. Dylan Vargas, karate expert and student at Sacred Heart offers classes to his fellow classmates.

Older students have mass buddies (preschool and kindergarteners) who help each other focus during services. Through National Junior Honor Society there is a tutoring program between the older and younger students as well.

"These programs create a real bond between the middle school and elementary kids," Biava said.

The students are also encouraged to participate in service projects. This year they collected over 400 pair of socks to give to the needy, gave 3 car loads of baby items to Hands of Hope Pregnancy Center, and raised hundreds of dollars for Catholic Charities.