La Mirada High’s “Green Jobs” Program Focuses on the Future

Students concentrate on learning real-world job skills for the 21st-century economy

From the beginning, IFT Grant recipient, Norma Williamson and the Teachers Association of Norwalk-La Mirada (TANLA) have kept their focus directly on the future. After all, it is where the students of La Mirada High School will be spending the rest of their lives. The purpose of their Green Jobs grant is to strengthen their knowledge of engineering and alternative energies. To do that, Norma and her cross-curricular team of educators from the fifty-three year old high school, have partnered with state education officials and local business leaders. At a recent event honoring the program sponsors, the Energy Engineering Technology Academy (E²TA) leaders unveiled their 2nd year engineering project- a three-wheel, highway-ready “switch vehicle.”

Beyond the IFT funding, students and teachers have also benefitted from a $10,000 donation in curricular materials and teacher training from program partner Electric Auto Shop (www.electricautosshop.com). They provide coursework for educating students about alternative fuel transportation and their courses bring electric cars right into the classroom. An Electric Driveway Party fundraiser, sponsored by partners Plug in America and Our 1 World, raised an additional $1,800 for an EV field trip.

At a Back-to-School event in early September, program sponsors were recognized by teacher and former Assemblyman Tony Mendoza, a representative of Rep. Linda Sánchez and LMHS administrators for their contributions to the E²TA program. The Air Quality Management District was on hand with an EV display and information on things students can do to help clear the air.
2013-14 IFT Grants Support STEM Learning Opportunities Statewide

**Robotics – Alword EA**  
*Chapter Grant- $17,500*  
We want to prepare students for programming robots and to enter a yearly robotics competition. Robotics involves a particular group of students that are overlooked more and more often because of the absence of industrial tech classes. Students at *Hillcrest High School* work on a team that assembles, programs, experiments, and decorates a robot. 3 teachers from the backgrounds of math, science, and computer technology coach the students as they learn to build. 4 additional community experts in design and robotics will assist students.

**Moreno Valley Math League (MVML) – Moreno Valley EA**  
*Chapter Grant- $17,000*  
The Math Department at *Palm Middle School* is pleased to implement a project to establish the Moreno Valley Math League to promote student passion and interest in mathematics with choice and collaboration rather than compulsion and comparison. We envision MVML as a robust, vibrant and holistic mathematical program that will engender excellence in students. It shall also foster a stress-free learning environment that will develop competent, confident and enterprising students.

**Roary’s Laboratory – Pleasant Valley EA**  
*Educator Grant- $4,978*  
*Camarillo Heights Elementary* has been chosen to pilot a STEM program with the hope of becoming a STEM magnet school. We plan to build on our current strengths, including a motivated staff with a common goal, a supportive principal, collaboration time and an opportunity to visit schools already implementing this exciting program. The grant will be used to develop a well-equipped lab class. This would be a place where students would be transformed from elementary students to a team of budding scientists and engineers.

**Build a Space Exploration Vehicle – Rialto EA**  
*Educator Grant- $3,631*  
*Eisenhower High School* will be the development site of a long term, student-centered project-based instructional sequence. This sequence will be used to determine the effectiveness of project based learning on student performance, positive peer interaction and appropriate classroom behavior. Students will have the option of predetermined projects, such as creation of a space satellite or planetary rover, with the goal of a final presentation and exhibition. Students will acquire the technology skills and space science concepts necessary to complete the final project.

**Boosting Science Mastery with Braincandy and Language Development – Sequoia District TA**  
*Chapter Grant- $20,000*  
Our plan is to develop innovative materials in the form of a workbook and online resources to promote the use of Braincandy and Peer Instruction in life science courses, particularly tailored to English Language Learners. This project builds on over three years’ research and practice in developing the Instructional model which has significantly boosted student content knowledge in physics. We will also continue our action research and data collection to measure effectiveness. This project will impact an estimated 800 *Carlmont High School* students in years 1-2.

**Solar for Success – Temecula Valley EA**  
*Educator Grant- $5,000*  
This project uses real-world applications in math and science to build a hands-on "school-to-work" program at *Rancho Vista Continuation High School*. At-risk students get authentic learning and experience that translates into a meaningful and environmentally-friendly career. Through teacher teamwork, math and science instruction is aligned with work applications. This is particularly relevant to our at-risk students, who have not experienced success at a comprehensive high school. Through our program of hands-on, real-world, job-oriented learning experiences, our students gain confidence in their abilities, and this in turn allows them to become positive, functioning members of our local community. In our first year of this program, we have seen an increased graduation rate, an increased attendance rate, and higher grades for participants. We have our first student, about to graduate, who has become a full-time employee at a solar company, where he interned as part of this program.

**Aquaponics – Val Verde TA**  
*Educator Grant- $5,000*  
This grant will help establish an aquaponics system for the Plant and Soil Science class in the CTE Agscience Pathway at *Rancho Verde High School*. Grant funds would be used to purchase all consumable materials needed to design, build, and create scientific experiments in regards to using aquaponics as a medium for vegetable and crop production. Many of these materials, although listed as "consumables", can be reused several times before their shelf life expires. Not only does this program target students not going to college, it also fuses the development of scientific thinking with the actual production of goods, making it intrinsically motivational. Students will also develop business and marketing skills for their products.

Region 1 Staff Meeting- October 17, 2013- Redwood City  
IFT Workshops at CTA Region 2 Leadership Conference- October 18-19, 2013- Reno  
Parent/Teacher Home Visit Project Nat’l. Conference- October 24-26, 2013- Burlingame