Advocating for Student Learning through Project-Based Learning and Career Pathways

An Interview with Dominique Evans-Bye, Science and GIS Teacher, Clark Magnet High School

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"Anyone can be a leader…just find something that really interests you and bring it to your school, bring it to your students and by doing that, you will be a leader. And the kids will appreciate you for it."

In a time when project based learning and career and technical education is on the tip of practically every secondary school initiative, Dominique Evans-Bye is bringing this reform to life in her Environmental Geographic Information System (GIS) class. Dominique is a science and GIS teacher at Clark Magnet High School in Glendale Unified and a recipient of a UCLA Teacher-Initiated Inquiry Project (TIIP) grant from UCLA Center X. Dominique, along with two of her colleagues at Clark, was one of 24 teacher teams from across Los Angeles County to receive a two-year, $30,000 grant to pursue an inquiry question through professional learning opportunities.

TIIP Team Clark endeavored to address "…how to develop education relevant to the long term success for students, especially for those who do not plan on going to college." In order to approach this problem of practice, Dominique and her team engaged in professional learning, collaborated with various career and university partners, and advocated for additional real-life applications for students in creating a one-semester Geology of Disasters course. In this course, students learn how to use the Hazus Multi-Hazards (MH) software used by the Federal Emergency Management Agency (FEMA) to develop science and technical skills in geology and disaster preparation and readiness.

Over the past two years, Dominique has studied, networked, and researched GIS coursework and career paths in order to create the Geology of Disasters course at Clark. While her team member, chemistry and Earth science teacher Alex Day-Blattner, focused on the science content for their course, Dominique attended coursework and conferences for those using GIS, and specifically HAZUS-MH, in a career setting. Through networking and deep content development, Dominique convinced FEMA to allow her to use the HAZUS-MH instructional materials, a key feature for teaching the Career Technical Education (CTE) portion of the Geology of Disasters course.

Dominique has worked with Glendale Unified and the UC System to receive "G" elective credit and officially begin the Geology of Disasters course next school year. Currently, Dominique has implemented her learning into her already existing Environmental GIS class. By implementing a strong career technical education component in her Environmental GIS class, students in Dominique's class have interned with the Glendale GIS department, worked in the Institute for Integrated Research in Materials, Environments and Society (IIRMES) Lab at California State University, Long Beach, supported a volunteer rescue search with the Ventura County Sheriff's

Department, and participated and published in a Cal State Northridge research journal and poster symposium. Recent accomplishments include her students presenting original research projects at the Western Society of Naturalists Annual Meeting in Washington State, alongside graduate students and top scientists. Additionally, Dominique and one of her students were selected to give a presentation highlighting the GIS Program she created for Clark Magnet High School in the plenary session of a conference sponsored by Environmental Systems Research Institute, Inc (Esri), in July 2011. The Esri International Users' Conference in San Diego, is an annual international conference bringing together an audience of over 12,000 around the latest in GIS technology.

Although a science and technology magnet, the students in Dominique's class are not always the top students in the school, yet they have engaged in learning that qualifies them for careers potentially right out of high school. Furthermore, last year, Dominique supported her students in winning the Lexus Eco Challenge, resulting in $70,000 in scholarships and grants for the students, school and classroom. With the school's portion of the winnings, Dominique and her students traded in their older remotely operated vehicle (ROV), a VideoRay Pro 3, for the new fully computerized Pro 4 model. Students use the ROV for marine life surveys, documenting abundance and distribution of species inside marine protected areas (MPAs) versus outside of MPAs. Dominique's enthusiasm for teaching and expertise in GIS drive her to pursue collaborative partnerships with outside organizations, providing her students with opportunities to become self-directed learners with skills for both the classroom and a career setting.