

Earth and Space Science Professional Development Project

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As the science department chair at a high school with 2,700 students, staffing highly qualified teachers in all subject areas is a constant and great challenge. This challenge is multiplied by the role of freshmen academies in which teachers are blocked in subject area teams, leaving one period to teach out of the subject area of their expertise. Last year, five teachers, highly qualified to teach biology, were needed to teach seven sections of earth science, effecting over 200 students. Without a major university offering sciences course work in our area these teachers struggle to provide the latest activities for their students. This is where the IRIS Earth and Space Science Professional Development Project has become a cornerstone of teacher development and training in Yuma, AZ.

The concept of the IRIS Earth and Space Science Professional Development Project was developed by Graciela Rendon-Coke, Cibola High School's lead Earth Science Teacher. Mrs. Rendon-Coke has been involved with the IRIS Seismometers in Schools project since 1998. Seeing the need of earth science professional development in our area, Mrs. Rendon-Coke contacted IRIS with the proposal for staff development. Through the efforts of Mrs. Rendon-Coke and Michael Hubenthal of IRIS, the IRIS Earth and Space Science Professional Development Project became a reality in January of 2005.

On January 26-29, 2005, Twenty-four teachers representing seven school districts in Yuma County, Arizona and Imperial County, California met at Cibola High School for training in seismology and plate tectonics. Larry Braile of Purdue University, Aaron Velasco of the University of Texas El Paso, Michael Hubenthal and John Tabor of IRIS provided three days of in services covering over 20 different activities for teachers to bring back to their students. This was followed by a local field trip to Southern California faults, obsidian cliffs and mud volcanoes. The final outcome of the project was the development of a county-wide curriculum which met the Arizona State Science Standards. A compilation of time lines, units and lab activities was provided to all the workshop participants.

From my perspective as a mentor and evaluator of teachers, the effect the IRIS Earth and Space Science Professional Development Project had on students can only be described as dynamic. Teachers who had avoided activities for the first half of the year had their students out of their seats actually doing earth science. Students were being exposed to the latest data available and analyzing this data in the manner of a true scientist. Even the teachers who were highly qualified in the teaching of earth science were renewed and energized, bringing a renewed passion to their students. Most importantly, the students became more motivated to participate in class. This was evident in the decline in the failure rate of earth science students from first semester to second semester.

