

Project WISE Provides Meaningful Watershed Experiences for Students

The Objective: *Explore whether students' increase their ability and gain knowledge about the scientific process, and if this contributes to personal empowerment and critical thinking.*

Project WISE means "Watersheds Inspiring Student Education". This evaluation study was completed to obtain evidence-based information for this program as an educational opportunity providing an outdoor and experiential curriculum for high school students. This is an interagency partnership between the Crissy Field Center, the Urban Watershed Project and Galileo Academy for Science and Technology in San Francisco. Program managers and teachers wanted to know more about the students' scientific/technical skill development as well as if and how their personal/social skills are enhanced.



The majority of all students indicated they have an "improved ability to work in a team" and have experienced "a new connection with nature."

The Project: *Use multiple methods to gather information about high school students participating in an experiential field program for class credit.*

Data were collected from February through July 2007 and included resources and materials from previous years. Thirty-five students completed the 2006-07 program. Six approaches included a mid-semester questionnaire, year-end survey, viewing of sample videos from previous years, program and presentation observations, review of testimonials from previous years, and intermittent interview procedures occurred with three instructors. Information gathered was used to determine if and how students acquire technical skills relating to scientific inquiry as well as verify whether students build personal self-confidence and develop a sense of stewardship for the Golden Gate National Parks.



Nearly 3/4 agreed their perspectives about science have positively changed due to their experience in the program.

The Results: *Student involvement in the Environmental Science Pathways course definitely stimulates curiosity and cognitive learning.*

92% of students completing the year-end survey agreed or strongly agreed they gained a greater understanding of the natural history of the Presidio while 88% agreed in some capacity to gaining a basic understanding of the watershed process in the Tennessee Hollow watershed from their participation in Project WISE. For students who participate in the program, from all data gathered, progress can also be measured by their personal interactions with nature and their growing knowledge of why it's important to protect it. Furthermore, field trips have a significant level of importance and value in the students' learning experience and contributed to their comprehension of both science and stewardship. Results show the core of student learning is not so much in the information, but in the interaction between these youth and the natural environment. In this case of Project WISE, while science taught contributes to meeting school standards, and definitely enhances student knowledge, the imagination being developed through involvement at the Crissy Center and their national park visits may, in fact, be more important than technical precision.

This summary is based on a General Technical Report submitted to the Crissy Field Center and the Golden Gate National Parks Conservancy. For more information on the Crissy Field Center Youth Programs, visit: <http://www.crissyfield.org>. Questions about this summary should be addressed to Dr. Nina S. Roberts, San Francisco State University at nroberts@sfsu.edu