What did the teachers perceive as important outcomes from attending the program?

Survey Question: How do you hope to implement Ecology Explorers in your classroom next year?

The responses were placed into three categories:

1. Teaching Activities: Selected Quotes:
   - "I will use five activities we did in the program to open my classroom to the scientific method."
   - "…plan on setting up point counts at the school/collecting data & connecting math standards to analyze the data collected."
   - "…design & conduct an original experiment based on one of the activities/extensions such as seed trays or measuring great there too."
   - "I'll be doing the arthropods in both my bio & env bio classes - bio twice (spring w/arthropod unit fall w/classification)."
   - "I plan to run the ecology unit throughout the year… We can watch birds 2-3 times a week after the actual "Ecology" unit and I will try to connect this to what we did in the morning before classes about 5 days a week."
   - "I achieved more than I set out to. This workshop is extremely helpful in terms of the content and how it applies to many different subjects. I will use the activities and protocols (binoculars, measuring instruments, etc.)."
   - "…yes I think this unit can bring real science into the classroom. Students enter data into an existing database and can feel connected to other student scientists. This unit is also great for inquiry because it allows students to generate their own testable questions."

2. Professional Development: Selected Quotes:
   - "It is hard to put on "real life" projects that the students can do at home. They have come from various parts of the country and have a wide range of student needs. I don't think the program was effective in this aspect."
   - "I have been involved in many long-term research projects. I am ready for this type of collaborative research. This project will require more planning and organizing than I had hoped to do after interventions."
   - "…learning the students had had hands-on experiences & could discuss about the environment is important."

3. Meaningful for Students: Selected Quotes:
   - "If I can see the students becoming more involved in the scientific process. I think this will be a great experience for them."
   - "I hope to use the students and bring them to the community to find the "knowledge" and sights. I am not sure if I can make that happen."
   - "…for me it was an inspiration to others on how to use the experience… for the experience was meaningful for the students.
   - "…the overall results seem to suggest that our internships are highly successful at meeting the teacher’s desired outcomes from attending the program. Based on the academic year surveys, it seems as though a large percentage of the teachers were able to implement parts of the Ecology Explorers program during the academic year. Teachers implemented protocols and used many of the extension activities. It is interesting to see how many of the teachers who did not return surveys implemented protocols or contacted Ecology Explorers activities with their students.

Were the outcomes met at the completion of the internship?

Survey Question: Based on your pre-survey responses, what did you achieve that you set out to achieve? Why or why not?

All of the teachers stated that they did achieve what they had hoped to achieve. Teachers expressed great enthusiasm for the Ecology Explorers program and the more hands-on learning in the classroom. The learning was special moments.

Survey Question: Based on what you had planned to implement, did you achieve what you had hoped from the Ecology Explorers program? Why or why not?

The final survey was sent to teachers at the end of the spring semester (early May, early June). The results only include the 2003 and 2004 cohorts of teachers (n = 135). Fifty-three percent of the surveys were returned.

Survey Question: What did the teachers accomplish during the school year?

The following are examples of teacher implementation:

- "I would love to have my students participate in many of the E.E. lesson plans and projects. Students were thrilled to be conducting science experiments in the classroom. They learned about inquiry-based science and how to conduct experiments."
- "I plan to run the ecology unit throughout the year… We can watch birds 2-3 times a week after the actual "Ecology" unit and I will try to connect this to what we did in the morning before classes about 5 days a week."
- "I achieved more than I set out to. This workshop is extremely helpful in terms of the content and how it applies to many different subjects. I will use the activities and protocols (binoculars, measuring instruments, etc.)."
- "…yes I think this unit can bring real science into the classroom. Students enter data into an existing database and can feel connected to other student scientists. This unit is also great for inquiry because it allows students to generate their own testable questions."

Teacher Perceptions of the CAP LTER Ecology Explorers Summer Teacher Internship Program.

Monica Elser\(^1\) and Charlene Saltz\(^2\)

\(^1\)Arizona State University, \(^2\)University of Arizona

Ecology Explorers prepares teachers (grades 4 through 12) to learn and teach about ecological principals and phenomena to their students by employing a scientific protocol methodology in data collection. In turn, this approach to teaching and learning about science aims to make students more aware of the scientific process and issues involved in studying urban ecology. In this poster pre- and post-internship surveys from 2003-2004 were analyzed to gain insight into the effectiveness of the Ecology Explorers summer teacher internship program.