

Evaluation of Expedition – Computers and Archaeology after School

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Background, Partnerships, and Goals

The Expedition after school program partners the Interactive University Project with the Archaeological Research Facility, the Roosevelt Village Center¹ community collaborative, and the Oakland Unified School District² to address shared youth development goals. The shared program goals are: to enhance the educational opportunities of low-income children in Oakland; to provide a safe and enriching after-school environment for these children; to help develop their critical thinking and literacy skills; to provide access to computer technology; and through the use of computer-based tools, with archeology as a learning framework, to facilitate and motivate children to create their own stories and artifacts and to explore their immediate community in the broader context of the world beyond their neighborhood.

Expedition uses the UC Links after school model originally developed by researchers at UC San Diego. UC Links programs are designed to link the University with K-12 students by creating activities that promote problem-solving, decision-making, and creative thinking skills in a warm, supportive environment emphasizing learning, play and technology.³ Expedition involves UC Berkeley faculty, staff, and students directly with sixth graders through a service learning course, Anthropology 128, Archaeological Practice in a Sixth Grade After-school Program. This course provides undergraduates with a survey of anthropological, archaeological, pedagogical and social theories related to the program's goals. It also gives students a unique and socially responsible field study experience. This allows them to develop their skills in participant observation, creating ethnographic field notes, and developing research questions to be answered with their own field data. Anthropology 128 fulfills the field methods requirement for Anthropology majors.

¹ The Roosevelt Village Center Collaborative (at Roosevelt Middle School), administered by the East Bay Asian Youth Center, is the site and administrative home for Expedition. Oakland's village centers are collaborative ventures of community organizations and schools to implement coordinated, comprehensive programs and services for youth at school sites after school and on weekends. A key strategy is a vision of middle schools as community hubs for addressing several issues: there are not enough positive activities for children and youth; the hours and places surrounding school are critical to child safety; young people need more contact with caring adults; and in order to create a secure environment and significant new opportunities for children and youth, it is critical to create neighborhood-level supports and institutions.

² A California Technology Literacy Challenge Grant awarded to the Oakland Unified School District has resulted in the acquisition of computers and Internet connectivity for all middle school classrooms in the district. Part of this grant's subject focus for technology and the exercise of student's critical thinking skills is Social Studies, in particular the ancient cultures curriculum that is part of the California State Curricular Framework. The basic skills targeted in this coordinated approach are reading and writing.

³ Underwood, C., Taub, L., Bielenberg, B. & Lerner, D. (1998). UC Links: Building a pipeline to higher learning through after-school technology-based activities, 1998 Annual Report. University of California Office of the President.

Program Overview

The primary focus of Expedition is to provide an environment where children can spend time with adults in playful activities that are fun, but that also enhance their computer skills and engage them in critical thinking, reading and writing. Much of the fun atmosphere in Expedition is provided by the program itself, which is a meta-game with its own myth, rules of “citizenship” and system of rewards for achievement of structured tasks. One component of the program myth is the “Supernova”, a mythical entity who is never seen in person, but who writes to children via email. This fantasy creature inspires students to write, since writing is their only means of communicating with this powerful entity. From the children’s perspectives, their goal in Expedition is to become a Junior Nova, special assistant to the Supernova. This goal is accomplished by completing a certain number of structured activities that comprise the program.

The “hidden” educational agenda of Expedition drives the highly structured focus of our “play” activities. Each educational game or activity has a pre-defined set of tasks that must be accomplished to move on to other levels or games. These are laid out as beginner, good, and expert tasks. This structure provides children the opportunity for strategizing and planning activities that are missing in a freer play setting. Another key objective is for the children and the UC Berkeley students, known as Supernova’s Assistants (SAs), to interact and play in a nonhierarchical setting. SAs are instructed to encourage children to read the instructions themselves and to make their own decisions. SAs act as older brothers or sisters in this environment, providing hints, encouragement and companionship. They do not teach in the traditional sense or act as experts. When children work and play with university students who share some of their cultural backgrounds, we have seen an increase in self-esteem and confidence. Through role modeling, we hope to inspire Roosevelt’s students to seek higher education as an attainable and worthwhile life choice.

Expedition’s activities have been designed for Roosevelt specifically to coincide with the ancient cultures social studies curriculum in the sixth grade. All of the activities have been selected by faculty and UCB students. The Berkeley students have written and designed all of the activity card instructions that guide the play activities.

During the 1999-2000 school year, Expedition was held two days a week for 2.5 hours after school. Children arrived at the school’s computer lab and were paired up with an undergraduate SA and often some of their peers. Activity cards guided everyone’s play at each of the “stations.” Careful records, Expedition Logs, were kept in each child’s folder to document their activities throughout the school year.

The UCB undergraduates wrote and shared extensive field notes after each after-school experience. These field observations have provided a comprehensive view of the behaviors and accomplishments of the sixth grade participants over time, as well as the reflections and learning objectives of the UC students. Only a few illustrative notes from the field observation data are included in this report.

Outcomes and Results

This paper provides both a quantitative and a qualitative examination of how some of the program's objectives were met for both the sixth graders and the UCB undergraduates during the first year of the Expedition program. Program and learning objectives are bulleted and in italic typeface.

Sixth Grade Students

Demographics

Expedition is based at Roosevelt Middle School, in Oakland's San Antonio neighborhood. San Antonio is the most culturally diverse region of Oakland, with a large population of recent immigrants. Primary languages spoken by sixth graders include Spanish, Bosnian, Mandarin, Cantonese, Mien, Cambodian, and Vietnamese. Literacy is a major challenge at this school, with 57% of the students in LEP (limited English proficiency) status. San Antonio is also a community with greater than 50% of the families at or below the poverty level. Expedition participants reflected this neighborhood's diversity. Note that ethnographic and language data were not available for about half of the 61 children who participated in the program during 1999-2000.

Ethnicity / Nationality:

African American / Black	11
Chinese / Chinese American	7
Not specified	4
Mexican American	2
Vietnamese	1
Bosnian	1
Latin American	1
Tongan	1
Mien	1
Cambodian	1

Language(s) spoken at home:

English	12
Spanish	4
Cantonese	6
Bosnian	1
Laotian	1
Vietnamese	1
Spanish & English	2
Tongan & English	1
Mien & English	1
Cambodian & English	1

Computer Access and Experience

50 children had used a computer before
19 children had a computer at home

5 children had never used a computer
31 children did not have a computer at home

Attendance

Expedition served 61 sixth graders, aged 10 – 13. Attendance and retention data apply to two of the program's outcome objectives:

- *Students will have fun and want to participate.*
- *Students will have a safe place to learn and play after school.*

UC Berkeley undergraduates staffed expedition two days each week for two semesters, resulting in nineteen weeks of programming at Roosevelt. A total of 61 sixth graders were served by this program, during 902 child contact hours. Aside from a few children who moved away over the course of the year and a few children who dropped out, retention was good, with about 25 children who participated for the full year. New children joined the program at many times during the year. Aside from the 25 yearlong regulars, a significant number of latecomer kids stayed with the program to the end.

Activities and Skills

Thirty unique after school activities were designed and put into practice by the 43 undergraduates who completed the Anthropology course over two semesters. Some of the activities involved computer games, some were focussed on CD ROM resources for a particular culture, and others were hands-on archaeology activities, or improvised activities to meet a child's individual needs. Of the thirty activities:

- 7 activities involved hands-on archaeology skills
- 16 activities integrated computer games with ancient history / archaeology
- 3 explored primarily computer skills
- 18 activities incorporated reading
- 25 activities involved a writing piece
- 4 activities were primarily web-based

During the first year, sixth graders completed a total of 592 activities over 18 weeks. Each activity incorporated three levels of difficulty, beginner, good, and expert.

Activities Completed by Level:

Beginner level	259
Good level	208
Expert level	125

This level of achievement by sixth graders meets the following objective:

- *Students will learn basic computer skills, such as mouse, interface, and file manipulation, and how to play games.*

Other sixth grade skills and learning objectives included the following:

- *Students will increase their reading and writing skills.*

The children's expedition logs documented the completion of 149 writing tasks. In addition, they were required to read daily in the program, and some received individual help with reading. See *Profile of a Sixth Grader* below.

- *Students will have hands-on experience with archaeology materials.*

"We could not choose a task card fast enough for them – they wanted to handle and play with whatever was placed before them ... The garbageology task card and activities engaged them even more. They envisioned possibilities for our task cards that even I could not have imagined. They asked us if they could bring their own bag of artifacts, or their own garbage and analyze them. ... {Later} they all began telling us how they were going to be singers and archaeologists when they grew up."⁴

- *Students will learn how to work cooperatively in groups.*

"As I said, we all took turns reading, including myself. There was a lot of reading with this activity, and the girls couldn't pronounce many of the words. We all helped each other to sound out the words. I tried not to give too many hints because I felt they could help each other out, which they did. I didn't get a sense of competition between anyone." (from an undergraduate's field notes)

- *Students will learn how to teach others.*

"After she had completed the game, we joined up with her friend, Rita, and played Carmen San Diego. Rita has had more experience playing this game and made most of the decisions. However, she was not bossy. Rita explained all of the moves to Sheila, and took Sheila's ideas and thoughts into consideration." (from an undergraduate's field notes)

Qualitative Profile of a Sixth Grader

Detailed and reflective pictures of Expedition's sixth graders, their interactions with others and their learning challenges, emerge from the field notes of the undergraduate observers over the course of a year. Each child has a unique story. Included here is the story of Daniel, who in age, social skills, and academic abilities, is a typical Roosevelt sixth grader. Note that the names of all children have been changed to protect their privacy.

Daniel

Daniel is a quiet 11-year-old who had never used a computer before starting the Expedition program. He does not have a computer at home. He began with a friend in the program, Franklin. During Daniel's eleven weeks in Expedition, he played quite often with Franklin. Daniel was one of 17 children who joined the program during

⁴ Field notes of Vivian Lee Samano, October 29, 1999.

week two. Though new to computers, during his first day in the program, he and another child helped a third child, Ken, to “get familiar with using the program interface and the touch pad.”⁵

“The kids started to take turns playing the puzzles in a circular pattern. For example, Daniel would go first, Isaac, then Ken, and then back to Daniel again. They didn’t really decide how long one person would stay on the program. When they felt that a person had enough turns, they let the next guy play. The kids then decided to start a new game.”

“When I returned, the kids were having a great time trying to build an ancient Greek structure. They had now come up with a new method to share the game. They decided that each of them would have three turns. They then later modified the sharing rules and decided that one would build the pillars, while the other would build the walls or the roofs. The method worked very well. . . . Daniel was great at making sure that everyone would get his turn. Daniel was very considerate; he spoke up for Franklin and told Ken that Ken has been playing for a long time and that it should be Franklin’s turn to play.”

During week three, as Daniel played with Franklin in the Carmen Sandiego game, it became clear that his reading level was below that of some of his peers. The goal of Carmen Sandiego is to find and “arrest” a criminal by first traveling all around the world and gathering clues about the criminal’s description and behavior. Many of the clues are indirect, such as “he looked like he was on stilts.” As partners though, Daniel and Franklin helped one another and did quite well.

The following week Daniel had a chance to play with one of the non-computer, hands-on activities, Garbage Archaeology. Again, he and Franklin chose to work together. Although reluctant at first, because they both wanted to play a computer game, they did allow themselves to be persuaded to play. There was a lot of reading in the activity card, but they were willing to read it out loud together. They made decisions, strategized their object sorting categories, came up with creative inferences about the creators of the “garbage,” and wrote letters to Supernova about their insights.

A few weeks later, while playing the extremely complicated and difficult multimedia game, The Journeyman Project, an undergraduate observed “in the relationship between Daniel and Franklin, it looks like Daniel takes the lead and Franklin provides backup in a sense.”⁶ Another undergraduate, Julianne, observed:

“The game was complicated and tricky. It was not easy, but Franklin and Daniel worked very well together allowing each other to participate in both passive and active roles. . . . During the break, Daniel became frustrated with the game and the fact that they could not get passed the same point they were stuck at before. At this point, they had spent 20 minutes trying to figure out how to solve the problem. Daniel called on Supernova and Franklin kept on trying. Finally, he did it, and we were all so excited. . . . I was quite impressed with the

⁵ Field notes of Cliff Ho, October 28, 1999.

⁶ Field notes of Diego Chung, January 28, 2000.

persistence and teamwork displayed by both Franklin and Daniel. Overall they were not as concerned with the historical aspect of the game, but were having fun with the problem solving aspect.”⁷

As attached as Daniel was to his buddy Franklin, we learned that Daniel got along well with others too. One day he played Carmen Sandiego with Betsy.

“Daniel was good about sharing the hot seat with Betsy. They worked as a good team and seemed to help each other out, yet refrained from doing things for one another. At one point, Betsy made a decision to visit a place that was not the correct destination. Daniel was aware of this and made a small nudging noise, but quickly said ‘Oh, don’t worry about it, it’s okay.’ It was nice to see them sharing as well as supporting each other.”⁸

Daniel and Reading

The following week provided a break-through in Daniel’s play with Expedition’s mentors. On this week, Julianne asked Daniel to select a new activity, and he chose the multimedia game “Ancient Empires.” As Julianne told it:

“This is when things got interesting. From the very first page of the game, there was reading required. Daniel struggled greatly with the words on the page, and this troubled me. Halfway through the page, Daniel did not want to play any more. . . I guess he did not like the reading.”⁹

Julianne then decided to work with Daniel in-depth on his reading. She took him into the back room, where there are many books, and he selected the “Island of the Blue Dolphins.” Then Julianne wrote:

“We went off to the side of the room and began to read. It started off slowly. Daniel was tripping over quite a few words and was rushing through those he couldn’t make out right away. At 11 years old, he was reading at the level of a nine-year-old ... maybe. Soon, he looked up and said that he was nervous, and that he got scared when he had to read in front of others. I continually reminded him to relax and take his time ... that I was not going to rush him or laugh at him for making mistakes ... because mistakes are the best way to learn. Each time I would remind him to slow down, his reading would improve, if only for a short while. “

Julianne patiently worked with him on pronunciation. She also checked his comprehension, which was very good. The following week, Julianne arrived at Roosevelt to find Daniel grinning because he had received a personal letter from Supernova. She asked him if he wanted to read that day. He said yes right away and headed for the book room.

⁷ Field notes of Julianne Klausner, February 1, 2000.

⁸ Field note of Julianne Klausner, February 17, 2000.

⁹ Field notes of Julianne Klausner, February 2, 2000.

Daniel's reading and confidence in his own reading skills improved greatly during the spring. On February 24 Julianne reported:

"Daniel and I read for a while and I was pleased to see he is improving. His flow and overall approach to the book has improved and that is always a plus. I asked him if he liked to do the reading, and he said no at first. But then when I asked him if he wanted to call it quits on the book, he said no. I asked why, and he said because he wanted to finish the story."¹⁰

And, on March 1, Julianne wrote:

"Snack time came and went and soon after I found Daniel nagging on my arm to read. I was pleased to see his interest in the book and happy to see him wanting to finish the story. He read a chapter, and I was very happy to hear a new calmness in his voice. He was struggling less with words that he would normally struggle with, and slowing down over the words he would normally rush through. I read a chapter to him so that he could also hear how sentences sound, and that was nice. He is excited to be getting through the book and anxious to finish the story. I am too."¹¹

¹⁰ Field notes of Julianne Klausner, February 24, 2000.

¹¹ Field notes of Julianne Klausner, March 1, 2000.

Undergraduate Learning Objectives:

As stated earlier, the anthropology course and field experience in the after-school program have provided UC Berkeley undergraduates with a unique opportunity to put learning theories into practice. Volumes of field notes have revealed a dramatic picture of undergraduates' observations and reflections through their experience in this program. Only a few examples are presented here to illustrate some of the undergraduate objectives that have been met this first year:

- *an opportunity to participate in service that directly impacts the educational experience of 6th graders and contributes to neighborhood development*

"... I really began to appreciate the enrichment that this program provided for the children and the UC Berkeley students. Being able to interact with the futures of our world and play a substantial role in their development was very exciting."¹²

"Our program gave these children a chance to have a lot of focused, individual attention, which is hard to come by even in the best schools."¹³

- *experience in alternative educational/pedagogical approaches*

"In addition, free-form activities such as writing to the Supernova and choice-based activities such as exploring the study in *Cartoon History of the Universe*, helped develop feelings of empowerment and independence in many of the sixth-graders. In order to better foster these feelings, mentors should (and often did, according to my observations) allow their young partners to make mistakes and discover solutions on their own."¹⁴

- *experience in the development of teaching tools*

"For mentors, the development of an 'adventure card' was key to achieving a feeling of empowerment."¹⁵

- *an opportunity to develop and hone skills in participant observation, the creation of field notes, and the development of research questions to be answered with field data*

"The field notes served as the most rewarding aspect of the class in terms of connecting all the components. While writing the field notes, I was forced to question the motivations behind my actions. Often this led me to issues discussed in Mondays' section. I found that it was not the information presented in these discussions, but the critical thoughts they produced, which affected me."¹⁶

¹² Final paper of Jamilla Churchill, November 1999.

¹³ Final paper of Katherine Selig, November 1999.

¹⁴ Final paper of Jazmin Finnegan, November 1999.

¹⁵ Final paper of Jazmin Finnegan, November 1999.

¹⁶ Final paper of Phyllis Byars, November 1999.

- *an opportunity to build teaching and communication skills, particularly within a strongly multicultural environment*

“My interests in public archaeology and educational archaeology team up to utilize this after-school program as the model training ground.”¹⁷

“Secondly, and most importantly, my experience with Loretta has been positive for both of us. Loretta is a girl who truly loves to learn. She isn’t as advanced as some of the others in the class, but her motivation is amazing. I think she loved having a non-authoritative mentor to help her one-on-one. At first, she was a little shy about asking questions and reading aloud. Towards the end, however, it was questions, questions, questions! Loretta also had a positive effect on me. My experience with her has only strengthened my desire to teach community college someday.”¹⁸

- *an opportunity to positively impact the life of children at a particularly crucial developmental stage by providing them with college-age role models/mentors who could prove inspirational to those children in terms of furthering their education or creating new life goals.*

“Here is the greatest value of the Expedition program. I believe it can be proven that children who create friendships with others who enjoy learning, who learn to interact with people of different ages, and who become more comfortable with academic settings are more likely to learn more during the time they are in school and are more likely to stay in school longer.”¹⁹

¹⁷ Final paper of Rachel Faye Giraud, November 1999.

¹⁸ Final paper of Jennifer Trimble, November 1999.

¹⁹ Final paper of Gerald Hackett, November 1999.